ESE Indicator Summary Table

Element Type	Element Name	Indicator Name
		Percent of ecosystem dominated by
Ecosystem	Acidic Cove Forest	characteristic canopy species
F = = = = = = = = =	A sidia Causa Farrant	Percent of ecosystem exhibiting old growth
Ecosystem	Acidic Cove Forest	conditions
– .		Percent of ecosystem exhibiting young
Ecosystem	Acidic Cove Forest	forest conditions
		Percent of ecosystem occupied by
Ecosystem	Acidic Cove Forest	nonnative invasive plant species
_		Total open road density within the acidic
Ecosystem	Acidic Cove Forest	cove forest ecosystem
		Percent of ecosystem dominated by
Ecosystem	Beech Gap/Boulderfield Forest	characteristic native vegetation
		Percent of ecosystem NOT occupied by
Ecosystem	Beech Gap/Boulderfield Forest	invasive species
		Percent of ecosystem dominated by
Ecosystem	Calcareous Oak-walnut Forest	characteristic native vegetation
		Percent of ecosystem NOT occupied by
Ecosystem	Calcareous Oak-walnut Forest	invasive species
		Percent of ecosystem NOT occupied by
Ecosystem	Carolina Hemlock Forest	invasive species
		Percent of ecosystem occupied by Carolina
Ecosystem	Carolina Hemlock Forest	Hemlock
Ecosystem	Carolina Hemlock Forest	Percent of ecosystem representing high
		quality habitat
Ecosystem	Carolina Hemlock Forest	Percent sites not impacted by hemlock
		wooly adelgid
Ecosystem	Caves and Abandoned Mines	Percent of known caves and abandoned
		mines identified as Biologically Significant
Ecosystem	Caves and Abandoned Mines	Presence of WNS in bat populations within
·		abandoned caves and mines
Ecosystem	Caves and Abandoned Mines	The percent of occupied mines or caves (by
		rare bats) adversely impacted by
Ecosystem	Dry Oak Forest	Percent of ecosystem dominated by the
		ecologically characteristic canopy species
Ecosystem	Dry Oak Forest	Percent of ecosystem exhibiting old growth
Leosystem		conditions
Ecosystem	Dry Oak Forest	Percent of ecosystem exhibiting young
LCOSystem	Dry Oak Torest	forest conditions
Ecosystem	Dry Oak Forest	Percent of ecosystem in open canopy
ECOSystem	Dry Oak Forest	condition
F	Dry Oak Forest	Percent of ecosystem NOT occupied by
	Dry Oak Forest	invasive species
Ecosystem		
		Total open road density within the dry oak
Ecosystem	Dry Oak Forest	Total open road density within the dry oak forest ecosystem
	Dry Oak Forest Dry-mesic Oak Forest	

Dry-mesic Oak Forest Dry-mesic Oak Forest	Percent of ecosystem exhibiting old growth conditions					
Dry-mesic Oak Forest						
I)ry-masic ()ak Forast	Percent of ecosystem exhibiting young					
Dry mesic Oak I Olest	forest conditions					
	Percent of ecosystem in open canopy					
Dry-mesic Oak Forest	condition					
	Percent of ecosystem NOT occupied by					
Dry-mesic Oak Forest	invasive species					
	Total open road density within the dry-					
Dry-mesic Oak Forest	mesic oak forest ecosystem					
	Percent of ecosystem dominated by the					
Floodplain Forest	ecologically characteristic canopy species					
	Percent of ecosystem exhibiting old growth					
Floodplain Forest	conditions					
	Percent of ecosystem exhibiting young					
Floodplain Forest	forest conditions					
	Percent of ecosystem NOT occupied by					
Floodplain Forest	invasive species					
	Total open road density within the					
Floodplain Forest	floodplain forest ecosystem					
	Percent of ecosystem NOT occupied by					
Floodplain Pools	invasive species					
	Percent of floodplain pools experiencing at					
Floodplain Pools	least one flood annually					
	Percent of ecosystem in open canopy					
Grassy Balds	condition					
	Percent of ecosystem NOT occupied by					
Grassy Balds	invasive species					
	Percent of ecosystem occurrences within					
Grassy Balds	100 feet of road or trail					
	Percent of ecosystem NOT occupied by					
High Elevation Granitic Domes	invasive species					
	Percent of ecosystem occurrences within					
High Elevation Granitic Domes	100 feet of road or trail					
	Percent of ecosystem dominated by the					
High Elevation Red Oak Forest	ecologically characteristic canopy species					
	Percent of ecosystem exhibiting old growth					
High Elevation Red Oak Forest	conditions					
	Percent of ecosystem exhibiting young					
High Elevation Red Oak Forest	forest conditions					
	Percent of ecosystem in open canopy					
High Elevation Red Oak Forest	condition					
	Total open road density within the high					
High Elevation Red Oak Forest	elevation red oak ecosystem					
1						
High Elevation Rocky Summits	Percent of ecosystem NOT occupied by					
	Dry-mesic Oak Forest Dry-mesic Oak Forest Floodplain Forest Floodplain Forest Floodplain Forest Floodplain Forest Floodplain Pools Floodplain Pools Grassy Balds Grassy Balds Grassy Balds Grassy Balds High Elevation Granitic Domes High Elevation Red Oak Forest High Elevation Red Oak Forest High Elevation Red Oak Forest High Elevation Red Oak Forest					

Element Type	Element Name	Indicator Name
		Percent of ecosystem occurrences within
Ecosystem	High Elevation Rocky Summits	100 feet of road or trail
F		Percent of ecosystem burned at desired
Ecosystem	Low Elevation Glades	return interval
	Levy Flavetian Clades	Percent of ecosystem NOT occupied by
Ecosystem	Low Elevation Glades	invasive species
Ecosystem	Low Elevation Glades	Percent of ecosystem occurrences within
Ecosystem	Low Elevation Glades	100 feet of road or trail
Ecosystem	Low Elevation Granitic Domes	Percent of ecosystem NOT occupied by
Leosystem		invasive species
Ecosystem	Low Elevation Granitic Domes	Percent of ecosystem occurrences within
Leosystem		100 feet of road or trail
Ecosystem	Low Elevation Rocky Summits	Percent of ecosystem NOT occupied by
Leosystem		invasive species
Ecosystem	Low Elevation Rocky Summits	Percent of ecosystem occurrences within
Leosystem		100 feet of road or trail
Ecosystem	Low Elevation Rocky Summits	Percent of system acres burned at desired
		return interval
Ecosystem	Mesic Oak Forest	Percent of ecosystem dominated by the
		ecologically characteristic canopy species
Ecosystem	Mesic Oak Forest	Percent of ecosystem exhibiting old growth
		conditions
Ecosystem	Mesic Oak Forest	Percent of ecosystem exhibiting young
		forest conditions
Ecosystem	Mesic Oak Forest	Percent of ecosystem in open canopy
		condition
Ecosystem	Mesic Oak Forest	Percent of ecosystem NOT occupied by
		invasive species
Ecosystem	Mesic Oak Forest	Total open road density within the mesic
,		oak forest ecosystem
Ecosystem	Montane Calcareous Cliffs	Percent of ecosystem NOT occupied by
,		invasive species
Ecosystem	Montane Calcareous Cliffs	Percent of ecosystem occurrences within
		100 feet of road or trail
Ecosystem	Montane Cliffs	Percent of ecosystem NOT occupied by
Ecosystem	Montane Cliffs	Percent of ecosystem occurrences within
•		100 feet of road or trail
Ecosystem	Montane Red Cedar Hardwood	Percent of ecosystem NOT occupied by
	Woodlands	invasive species
Ecosystem	Montane Red Cedar Hardwood	Percent of ecosystem occurrences within
-	Woodlands	100 feet of road or trail
Ecosystem	Northern Hardwood Forest	Percent of ecosystem dominated by the
		ecologically characteristic canopy species
Ecosystem	Northern Hardwood Forest	Percent of ecosystem exhibiting old growth
-		conditions

Element Type	Element Name	Indicator Name					
		Percent of ecosystem exhibiting young					
Ecosystem	Northern Hardwood Forest	forest conditions					
		Percent of ecosystem NOT occupied by					
Ecosystem	Northern Hardwood Forest	invasive species					
		Total open road density within the northern					
Ecosystem	Northern Hardwood Forest	hardwood forest ecosystem					
		Percent of ecosystem dominated by the					
Ecosystem	Pine Oak-Heath Forest	ecologically characteristic canopy species					
_		Percent of ecosystem exhibiting old growth					
Ecosystem	Pine Oak-Heath Forest	conditions					
		Percent of ecosystem exhibiting young					
Ecosystem	Pine Oak-Heath Forest	forest conditions					
		Percent of ecosystem in open canopy					
Ecosystem	Pine Oak-Heath Forest	condition					
		Percent of ecosystem occupied by invasive					
Ecosystem	Pine Oak-Heath Forest	species					
		Total open road density within the pine oak-					
Ecosystem	Pine Oak-Heath Forest	heath ecosystem					
		Percent of ecosystem dominated by the					
Ecosystem	Rich Cove Forest	ecologically characteristic canopy species					
		Percent of ecosystem exhibiting mature					
Ecosystem	Rich Cove Forest	forest characteristics					
	1	Percent of ecosystem exhibiting old growth					
Ecosystem	Rich Cove Forest	conditions					
		Percent of ecosystem exhibiting young					
Ecosystem	Rich Cove Forest	forest conditions					
	1	Percent of ecosystem occupied by invasive					
Ecosystem	Rich Cove Forest	species					
		Total open road density within the rich cove					
Ecosystem	Rich Cove Forest	forest ecosystem					
		Percent of ecosystem experiencing periodic					
Ecosystem	Rocky Bars and Shore	flooding					
		Percent of ecosystem NOT occupied by					
Ecosystem	Rocky Bars and Shore	invasive species					
		Percent of ecosystem NOT occupied by					
Ecosystem	Seeps	invasive species					
Ecosystem	Seeps	Percent of ecosystem occurrence within					
		100 meters of road or trail					
Ecosystem	Serpentine Woodlands	Percent of ecosystem burned at desired					
		return interval					
Ecosystem	Serpentine Woodlands	Percent of the ecosystem with unpermitted					
		rock or mineral harvest					
Ecosystem	Shortleaf Pine Forest	Percent of ecosystem dominated by the					
		ecologically characteristic canopy species					
Ecosystem	Shortleaf Pine Forest	Percent of ecosystem exhibiting old growth					
, í		conditions					

Element Type	Element Name	Indicator Name						
		Percent of ecosystem exhibiting young						
Ecosystem	Shortleaf Pine Forest	forest conditions						
_		Percent of ecosystem in open canopy						
Ecosystem	Shortleaf Pine Forest	condition						
		Percent of ecosystem occupied by invasive						
Ecosystem	Shortleaf Pine Forest	species						
		Total open road density within the shortleaf						
Ecosystem	Shortleaf Pine Forest	pine ecosystem						
		Percent of ecosystem in open canopy						
Ecosystem	Shrub Balds	condition						
		Percent of ecosystem NOT occupied by						
Ecosystem	Southern Appalachian Bogs	invasive species						
		Percent of ecosystem occurrences within						
Ecosystem	Southern Appalachian Bogs	100 feet of road or trail						
Ecosystem	Southern Appalachian Bogs	Shrub to herbaceous species ratio						
Leosystem		Percent of ecosystem NOT occupied by						
Ecosystem	Spray Cliffs	invasive species						
		Percent of ecosystem occurrences within						
Ecosystem	Spray Cliffs	100 feet of road or trail						
		Percent of ecosystem exhibiting old growth						
Ecosystem	Spruce-fir Forest	conditions						
Ecosystem	Spruce-fir Forest	Percent of ecosystem exhibiting young forest conditions						
Ecosystem	Spruce-fir Forest	Percent of the ecosystem dominated by the						
		ecologically characteristic canopy species						
Ecosystem	Spruce-fir Forest	Percent of the ecosystem impacted by						
		balsam wooly adelgid						
Ecosystem	Spruce-fir Forest	Total open road density within the spruce-						
		fir forest ecosystem						
Ecosystem	Swamp Forest-bog Complex	Percent of ecosystem NOT occupied by						
-		invasive species						
Ecosystem	Vernal Pools	Percent of ecosystem NOT occupied by						
-		invasive species						
Ecosystem	Vernal Pools	Presence of fish in seasonal wetlands						
Ecosystem	White Pine Forest	Percent of ecosystem dominated by the						
		ecologically characteristic canopy species						
Ecosystem	White Pine Forest	Percent of ecosystem NOT occupied by						
,		invasive species						
Ecosystem	Woodlands and Shale Slopes	Percent of ecosystem burned at desired						
,		return interval						
Ecosystem	Woodlands and Shale Slopes	Percent of ecosystem NOT occupied by						
		invasive species						
Ecosystem	Woodlands and Shale Slopes	Percent of ecosystem occurrences within						
		100 feet of road or trail						

Element Type	Element Name	Indicator Name
		Ecological system acres in late and old
Species Group	Bark and Leaf Epiphytes	growth seral classes (mesic ecozones)
		Ecological system acres with mid-aged trees
Species Group	Bark and Leaf Epiphytes	(mesic ecozones)
		Percent of NP with at least moderately
Species Group	Closed Canopy Associates	closed canopy
	Coarse Woody Debris and Downed Wood	
Species Group	Associates	CWD density
Species Group	Dispersal-limited Species	Barriers to Aquatic Species Movement
		Barriers to movement of small-ranging
Species Group	Dispersal-limited Species	species (gap size)
		Barriers to movement of small-ranging
Species Group	Dispersal-limited Species	species (road density)
		Potential effects of forest management on
Species Group	Dispersal-limited Species	TE/SCC
		Potential effects of forest management on
Species Group	Dispersal-limited Species	terrestrial salamanders
		Percent ecozone burned at desired return
Species Group	Fire-adapted Species	interval (Buck Creek Serpentine Barrens)
		Percent ecozone burned at desired return
Species Group	Fire-adapted Species	interval (Low Elevation Glades)
		Percent ecozone burned at desired return
Species Group	Fire-adapted Species	
		interval (Low Elevation Rocky Summits) Percent ecozone burned at desired return
Species Group	Fire-adapted Species	
		interval (Woodlands and Shale Slopes)
Species Group	Fire-adapted Species	Percent open forest conditions within fire-
Caracian Caraca		adapted ecozones
Species Group	Fire-intolerant Species	Acres burned within mesic ecozones
Species Group	Forest Edge and Transition Associates	Acres of edge and transitional habitat
Species Group	Forest Edge and Transition Associates	Miles of forest edge
Species Group	Hard and Soft Mast Dependent Species	Miles of forest edge (soft mast)
Species Group	Hard and Soft Mast Dependent Species	Percent of oak ecozones in mid- and late-
	· · ·	seral forest
Species Group	Hard and Soft Mast Dependent Species	Pounds per acre of acorn production (hard
		mast)
Species Group	Interior Forest Associates	Acres of interior forest habitat
Species Group	Interior Forest Associates	Edge to Interior Forest Ratio
Species Group	Interior Forest Associates	Percent of Forest with Canopy Cover >/=
		60%
Species Group	Old Growth Forest Associates	Percent of each ecozone contributing to old
		growth forest characteristics

Element Type	Element Name	Indicator Name				
Species Group	Recreation Traffic Sensitive Species	Cave/Mine Gate Indicator				
Species Group	Recreation Traffic Sensitive Species	Roads & Trail Indicator				
Species Group	Road Density Sensitive Species	Open road density				
Species Group	Road Density Sensitive Species	Percent of animal element occurrences (T&E/SCC) within 100 feet of an open road				
Species Group	Snag and Den Tree Associates	Snag Density				
Species Group	Species Persistence and Recovery	Amount of NHNA (top 3 ranks) in MA Group 1 (or density estimate)				
Species Group	Species Persistence and Recovery	Dam and Stream Crossing Density				
Species Group	Species Persistence and Recovery	Riparian Road and Trail Density				
Species Group	Species Persistence and Recovery	Roads & Trail Indicator				
Species Group	Species Persistence and Recovery	Salamander core habitat and connectivity				
Species Group	Species Persistence and Recovery	Susceptibility to Climate Change				
Species Group	Species Persistence and Recovery	Susceptibility to Forest Management				
Species Group	Woodland Associates	Percent of acres burned at desired return interval				
Species Group	Woodland Associates	Percent of acres burned at desired return interval (Buck Creek Serpentine Barrens)				
Species Group	Woodland Associates	Percent of NP exhibiting open forest characteristics				
Species Group	Young Forest Associates	Percent of NP exhibiting open forest characteristics				
Species Group	Young Forest Associates	Percent of NP exhibiting young forest characteristics				

ST-Sim Charts

STSimObservations STSimTables 2 through 5 STSimTables 6 through 14 December 2021 Kauffman ; Hayden Sensing Project: Seral States using ST-Sim (initial estimate)

Introduction

Over the timeframe for addressing public comments on the NP Plan and Draft EIS, we were assigned the project of re-considering how natural disturbances were addressed in the analysis. To do this, we attempted to re-construct the disturbance regime over the past 50 years and apply that historical period for the near future. This was deemed a reasonable approach since the timeframe for the decision is 10-15 years, and that, the likelihood of disturbance patterns of the near future would mimic the disturbance regime of the recent past. A set of scenarios that varied the disturbance regime was then applied in order to evaluate the sensitivity and uncertainty in the disturbance regime assumptions. Alternative disturbance regimes for the scenarios were evaluated in separate runs using the Spectrum model. Further explanation of this approach is documented in FEIS, Appendix D and process record Development of Disturbance Scenarios.

We were curious what the pattern of seral states would be using ST-Sim and the disturbance probabilities assumed for the historical range of variability (HRV) for ecozones. However, the timeframe to restart an entire new approach was not feasible. Instead, we have taken an incremental approach to building out ecozone models with ST-Sim over time, as such, this is an initial estimate. What follows is the status of ecozone modelling using with ST-Sim. The results of any analyses are preliminary, as we have not performed error checking and verification, but instead, we considered this exercise as an initial sensing project.

Model Development

The first step was to get the ecozone models used for the HRV assessment running in ST-Sim. The Landfire staff (Jim Smith, Kori Blankenship) generously took on the task of updating the ecozone models with the most recent SyncroSim software.

Next, the initial conditions in the HRV model needed to be updated to reflect the conditions of the NP lands. The original HRV assessment used the entire western NC region with equal proportions of the 7 seral states for each ecozone model. The estimated amount of each seral state for each ecozone was updated for the initial conditions on the NP. These initial conditions were consistent with acreages used in the ESE evaluation. An updated run using initial conditions was made and reported, along with the original HRV estimates in Table 6 through 14.

The next step was how to modify the existing models to include management activity. To do this, additional information about model behavior was needed. Assistance was provided by Jim Smith (TNC, Landfire), Kori Blankenship (TNC, Landfire), Leonardo Fried (Apex RMS), and Jennifer Costanza (SRS). At this stage, it was decided to keep the models as non-spatial, keep it simple, and learn how to include harvests in the model. We decided to take the Alternative E runs of Spectrum harvest outputs and attempt to crossover into ecozone models using ST Sim.

The crossover from Spectrum outputs to ST-Sim inputs was difficult because there is no direct link to the land stratifications used for each model, and therefore assumptions about a crosswalk were necessary. Spectrum modelling used FIA forest types because reliable plot data from FIA was used to generate tree growth and yields for outputs. ST-Sim modelling uses ecozones that rely on a 3rd approximation model. The assumptions in Table 1 were used as first estimate of FIA types to Ecozones. As such, an exact match of Alternative E Spectrum harvest outputs using the ecozones in ST-Sim is not possible.

The amount of harvest was computed from the Spectrum Alt E (Tier 1 & Tier 2) for the forest types in Table 1 and distributed across the ecozones. The harvest amount was assumed to be the regeneration acreages, including the openings created by group selection. The harvest amount was divided by 200 and set as an annual transition target in ST-Sim with a probability of 1. The 200 timesteps in ST-Sim was used to be consistent with the planning horizon used in Spectrum. This is another deviation from how Alt E is modelled in ST-Sim vs. Spectrum, which has a set of timing combinations and schedules that is selected by the algorithm to meet the objectives and constraints in the model, rather than, an annual even-flow used in ST-Sim.

The next step was developing a method to confine harvests to a portion of the land base. Most of the harvests in Spectrum are constrained for the matrix and interface management areas. These management areas are grouped into what is called Management Area Group 1. A description of the management area groups is documented in the FEIS, Terrestrial Ecosystem Section.

Table 2 (attachment) displays the assumptions about where harvests are likely to occur as well as burning for young forest. These assumptions were applied as transition targets in ST-Sim. Most harvests are confined to management area group 1, along with a much lower amount in management area group 2. No harvesting was estimated for management area groups 3 & 4. In addition, no harvesting was estimated in the designated old growth network.

Tables 3 through 5 show the estimated probabilities that harvesting would occur in different age groups. The first row shows our initial estimates, and the modified row is our revised estimates of the likelihood of tree ages that would be harvested. The tables that follow have used the modified probabilities. The transition pathways in ST-Sim were updated with these age groups and probabilities.

The models were run for "no harvest", "Tier 1", and "Tier 2" using 200 timesteps. Tables 6 through 14 shows the results of the seral states at timesteps 10, 50, 100, and 200 years. The "proportion" measure is used rather than acres because the HRV assessment used a different land area that was larger than the NP.

Table legend: Tables 6 through 14

Row 1: Identifies the ecozone model for making the scenario runs

Row 2: Identifies the type of run, HRV = Historic Range of Variability; Update Initial = re-assigned initial conditions for the amount of land on the NP; Scenario = the scenario used to calculate the seral states; Year = the specific timesteps by seral state; Early = young forest; Late1 = late successional stage; Late2= old forest; Mid1= mid successional stage. Cls=closed canopy; OPN = open canopy; All= both open and closed.

Discussion

Tables 6 through 14 are arranged by moisture class from mesic to moderate to dry. For the drier ecozones, it is not appropriate to review the open states because the prescribed burning has not been introduced into the models yet. Prescribed burning is one of the next steps in the model build out process.

General observations

Model Behaviors

Spectrum : The models using spectrum software use 20 timesteps that are 10-year increments. This is favorable for modelling forestry operations as a 10-year order of entry has been the usual practice for managing forest stands. However, with only 20 timesteps, it limits the amount of temporal variability that could be predicted. The ten-year timesteps also limit the flexibility of when forest succession occurs, such as when some ecozones have young forests that succeed to mid-age at year 15.

Also, the models have prescription allocations and timing choices. When allocated to a prescription, lands must stay in that management mode for the entire planning horizon. For example, when allocated to a prescribed fire prescription, lands stay locked in to that management mode and will not be regenerated throughout the planning horizon. Those lands would change the state from closed canopy to open canopy, but would continue to age throughout the planning timeline, and never have the opportunity of contributing to young forests. Also, the timing choices in these models tend to have wider high and low variations (wide swings) in activity for a forest type from one planning period to another.

In Alternative E, with a high amount of prescribed fire and a disturbance regime that is close to recent observations, the xeric forest types have fewer acres of young forests and an overabundance of lands that age over time. The mesic forest types also have fewer acres of young forest and the aging tends to occur rapidly, especially after 50 years.

In Scenarios 2,4, and 5 that adjusted the disturbance regimes, the models had to be reformulated because there were too little amounts of xeric forest types to handle the amount of disturbances from the expansive wildfire predictions. The reformulated models had to dampen the wildfire effects on xeric types but increase the effect on moderate moisture classes. More scenarios of different disturbance regimes could be examined. There are endless possibilities of what could be predicted, however, the purpose of the analysis was to provide a broad range potential effects.

ST-Sim: The models in the HRV assessment were revived using updated software in SyncroSim. The HRV models used 1000 years (timesteps), so they are adjusted to use 200 timesteps that is comparable to the planning horizon used in Spectrum. The regeneration harvest amounts that reset the age to zero for Alt E were estimated for the ecozones, but as noted earlier, there is not a direct crossover of forest types to ecozones. The regeneration amounts were estimated annually over the 200 timesteps. This is not a likely management mode, but this assumption allowed for a way to get the models up and running.

Each ecozone has its own model, and regeneration harvests were allocated to nine of the 11 ecozones (Spruce Fir and Floodplains were excluded). The initial conditions in each model had to be adjusted to estimate current conditions by intersecting the ecozone model and FSVeg database age classes . And, the cove model, that had both rich and acidic cove, had to be split into two models. Given that more activities occur in rich cove forest compared to acidic cove forest, the harvest runs utilized 80% of the Spectrum cove harvest outputs for the rich cove model and 20% for the acidic cove model (Table 1). For Alt E with 2 tiers, there were 18 harvest model runs. The HRV runs tend to have some wide swings early in the timeline but stabilize quickly. For the harvest scenarios given the even-flows, the seral states tend to stabilize quickly as well.

The HRV disturbance regime affects the xeric ecozones as there is a relatively high proportion of young seral states, and then, with harvests the young seral states can be as much as 15 percent. Young forest is higher within these types with more historic replacement fires compared to current rates of stand replacement fires. This tends to modulate the mid and older seral states of xeric ecozone models.

The mesic ecozones also have a moderate proportion of young seral states, which also tends to modulate the mid and older seral states. The rich cove and mesic oak harvest scenarios tend to have higher proportions of young forest in comparison with HRV runs.

Next Steps We have not made direct comparisons of the results from the model runs between Spectrum and SyncroSim ST -Sim because the assumptions are different in model formulations and model behaviors. Instead, we provide a range of possible outcomes in the face of uncertainty, especially with the expectations of a changing climate.

If the monitoring program and the development of monitoring guides call for continuation of building out SyncroSim to include prescribed fire, it could be useful for predicting and tracking of seral stages through the monitoring program. It would also be useful in wildfire predictions. Several SRS scientists have expressed interest in working with us on future wildfire predictions using SyncroSim.

A possible follow-up could be another iteration of disturbance patterns that reflect more recent observations as well as factoring in the human effects of land use changes using SyncroSim. This could provide useful predictions and help with formulating mitigation strategies and guidance on how to work with the flow of change.

		Burning for Young Forest 0
	Harvest	Forest
Management Group 1	85-90%	0
Management Group 2	10-15%	33-40%

0

0

Table 2. Assumed amounts of harvest amounts occurring by Management Area Group

Table 3. Probability of harvest occurring by age group for 7 ecozones.

Management Group 3

Management Group 4

	50-70	71-120	121-140	140+
Rich Cove, Acidic Cove, Northern Hardwood, Mesic Oak, Dry-Mesic Oak,				
High Elevation Red Oak, Shortleaf Pine	0.1	1	0.5	0.1
Modified	0	1	0.1	0

60-66%

0

Table 4. Probability of harvest occurring by age group for Pine-Oak/Heath Ecozone

	60-70	71-120	121-130	111-130	131+
Pine-Oak/Heath	0.1	1	0.5	0.1	0
Pine-Oak/Heath Modified	0	1	0.1	0	0

Table 5. Probability of harvest occurring by age group for Dry Oak ecozone.

	60-70	71-100	101-110	111-140	141+
Dry Oak Typical	0.1	1	0.5	0.1	0
Dry Oak Modified	0	1	0.1	0	0

Table 6. Rich cove forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Ric	h Cove														
	HRV, even start, Scenario	HRV, existing conditions,													
	12598	Scenario 13010		No	Harvest, S	cenario 12	996		Tier1, Scer	nario 1 300 3	8		Tier2, Scer	nario 1 300 4	ł
	Y	Year			Ye	ear			Ye	ear		Year			
State Class	200	200		10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	4.7%	5.0%		4.3%	4.6%	5.1%	5.1%	5.3%	5.9%	5.6%	6.0%	8.3%	8.3%	7.8%	7.5%
Late1:CLS	9.7%	10.0%		24.5%	22.6%	13.5%	10.0%	23.6%	19.1%	10.3%	9.4%	23.5%	13.9%	6.0%	7.4%
Late1:OPN	1.4%	0.7%		1.8%	1.8%	1.4%	0.9%	1.9%	1.7%	1.0%	0.8%	2.3%	1.0%	0.7%	0.6%
Late2:ALL	50.0%	50.1%		9.6%	28.9%	46.5%	48.6%	9.7%	28.5%	42.0%	43.4%	9.0%	26.7%	33.2%	32.9%
Mid1:CLS	29.0%	31.7%		54.8%	38.2%	30.8%	32.3%	54.3%	40.8%	37.4%	37.2%	51.8%	45.4%	47.6%	47.1%
Mid1:OPN	5.3%	2.6%		5.1%	3.9%	2.8%	3.1%	5.2%	4.0%	3.6%	3.3%	5.1%	4.7%	4.7%	4.6%

Table 7. Acidic cove forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Ac	idic Cove													
	HRV, even start, Scenario 12598	HRV, existing conditions, Scenario 13009	No	Harvest. S	cenario 12	999		Tier1, Scer	nario 13005	i		Tier2, Scer	nario 13006	i
	Y	ear		Ýe	ear			Ý	ear			Ý	ear	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	4.7%	4.7%	5.1%	4.8%	4.7%	5.2%	5.0%	5.1%	5.3%	5.4%	5.5%	5.3%	5.8%	5.2%
Late1:CLS	9.7%	10.3%	23.8%	22.4%	13.9%	10.0%	23.8%	22.1%	12.9%	10.0%	23.7%	20.8%	11.8%	9.8%
Late1:OPN	1.4%	0.8%	2.0%	1.8%	1.3%	0.8%	1.6%	1.6%	1.1%	1.0%	1.9%	1.8%	1.0%	0.6%
Late2:ALL	50.0%	48.8%	8.7%	28.5%	46.0%	50.5%	9.1%	28.4%	44.7%	48.2%	9.6%	28.3%	44.2%	45.9%
Mid1:CLS	29.0%	32.2%	55.3%	39.0%	31.3%	30.6%	55.3%	39.4%	32.9%	32.3%	54.7%	39.7%	34.5%	35.7%
Mid1:OPN	5.3%	3.2%	5.1%	3.6%	2.8%	3.0%	5.2%	3.5%	3.0%	3.0%	4.7%	4.0%	2.7%	2.9%

Table 8. Northern hardwood forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Nor	rthern Hardwood													
	HRV, even start, Scenario 12702		No	Harvest, S	cenario 13	3002	-	Tier1, Scer	nario 1300	7		Tier2, Scer	nario 13008	3
	Ye	ear		Ye	ear			Ye	ear			Ye	ear	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	6.3%	6.1%	4.6%	5.9%	6.1%	6.1%	6.7%	8.7%	9.7%	8.3%	5.5%	7.1%	6.6%	8.1%
Late 1:CLS	13.2%	12.8%	53.9%	12.5%	9.1%	12.2%	50.3%	9.7%	10.3%	12.0%	51.9%	12.1%	8.4%	13.3%
Late1:OPN	2.3%	2.4%	4.2%	3.0%	1.4%	2.8%	4.2%	1.4%	1.6%	2.8%	4.2%	2.1%	1.1%	2.6%
Late2:CLS	46.1%	45.9%	22.2%	49.7%	50.4%	47.5%	22.9%	46.4%	41.5%	38.8%	24.0%	49.5%	48.0%	41.5%
Late2:OPN	10.2%	10.5%	2.0%	11.8%	10.6%	10.0%	2.3%	9.8%	9.9%	8.2%	2.1%	11.8%	9.8%	8.8%
Mid1:CLS	20.7%	21.1%	12.9%	16.4%	21.3%	20.0%	13.2%	22.8%	25.5%	28.3%	11.5%	16.5%	24.2%	24.3%
Mid1:OPN	1.2%	1.2%	0.3%	0.7%	1.1%	1.5%	0.4%	1.1%	1.5%	1.6%	0.7%	1.0%	1.9%	1.4%

Table 9. Mesic oak forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Mesi	ic Oak													
	HRV, even start, Scenario 12834	HRV, existing conditions, Scenario 12974	No	Harvest, S	cenario 12	971		Tier1, Scer	nario 12976	;		Tier2, Scer	nario 12975	i
	Y	ear		Ye	ear			Ye	ear			Ye	ear	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	4.6%	5.0%	4.8%	4.9%	5.1%	4.8%	6.0%	5.7%	5.0%	5.5%	8.8%	6.3%	6.6%	6.5%
Late1:CLS	8.7%	8.7%	43.2%	8.2%	7.1%	8.9%	41.3%	5.9%	4.8%	7.1%	39.5%	2.3%	2.8%	5.0%
Late 1: OPN	5.8%	5.8%	10.3%	5.3%	4.6%	6.1%	10.3%	4.4%	4.4%	6.1%	9.7%	2.7%	3.9%	5.9%
Late2:CLS	31.3%	31.2%	17.1%	32.9%	32.6%	29.4%	17.1%	31.7%	27.9%	25.9%	17.2%	27.8%	23.4%	18.5%
Late2:OPN	22.8%	22.5%	4.0%	25.4%	23.3%	23.5%	4.2%	22.5%	20.6%	17.9%	3.4%	19.8%	16.9%	13.5%
Mid1:CLS	13.2%	13.0%	17.5%	10.7%	14.1%	13.1%	17.6%	14.4%	19.1%	20.3%	17.9%	23.1%	26.4%	28.6%
Mid1:OPN	13.7%	13.7%	3.1%	12.7%	13.3%	14.2%	3.6%	15.4%	18.1%	17.4%	3.5%	17.9%	20.1%	21.9%

Table 10. Dry-mesic oak forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Dry	-Mesic Oak														
	HRV, even start, Scenario 12835	HRV, existing conditions, Scenario 12906	No	Harvest, S	cenario 12	907			Tier1, Scer	nario 12919			Tier2, Scer	nario 12918	5
	Y	ear		Ye	ear				Ye	ear			Ye	ear	
State Class	200	200	10	50	100	200		10	50	100	200	10	50	100	200
Early1:ALL	6.3%	6.1%	5.9%	6.4%	6.4%	7.3%	1	5.8%	7.6%	7.2%	6.6%	6.9%	8.6%	8.0%	7.9%
Late1:CLS	7.7%	7.6%	48.3%	10.9%	7.4%	8.0%		45.7%	7.8%	4.7%	7.2%	43.6%	2.7%	3.7%	4.4%
Late1:OPN	8.3%	8.1%	10.7%	9.4%	6.7%	8.9%		11.2%	8.9%	6.8%	9.7%	10.4%	6.6%	8.3%	10.3%
Late2:CLS	24.7%	25.0%	12.3%	25.1%	26.0%	23.3%		12.5%	23.8%	22.7%	19.3%	12.5%	20.0%	16.6%	14.4%
Late2:OPN	30.0%	30.2%	3.0%	28.0%	30.4%	30.3%		2.6%	27.6%	27.8%	25.9%	3.0%	23.4%	22.2%	19.6%
Mid1:CLS	7.8%	8.1%	16.2%	6.0%	6.8%	8.1%		18.1%	9.9%	12.6%	12.7%	19.5%	18.0%	18.8%	20.9%
Mid1:OPN	15.2%	15.0%	3.6%	14.3%	16.3%	14.2%		4.2%	14.4%	18.3%	18.7%	4.2%	20.8%	22.4%	22.5%

Table 11. High elevation red oak forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

Model: Hig	h Elevation Red	Oak												
	HRV, even start, Scenario 12833	HRV, existing conditions, Scenario 12910	No	Harvest, S	cenario 12	911		Tier1, Scer	nario 12917	,		Tier2, Scer	nario 12914	L
	Y	ear		Ye	ear			Ye	ear			Ye	ear	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	15.8%	16.0%	9.1%	14.9%	15.1%	13.9%	9.1%	16.0%	16.2%	15.7%	10.5%	14.3%	14.5%	15.3%
Late1:CLS	11.6%	10.6%	6.0%	2.2%	2.8%	3.2%	7.6%	2.1%	2.6%	4.3%	7.6%	1.3%	2.0%	2.6%
Late1:OPN	12.0%	11.5%	49.7%	11.0%	13.4%	21.1%	46.0%	10.3%	12.9%	18.9%	46.8%	10.1%	15.6%	20.1%
Late2:CLS	7.8%	7.4%	3.1%	7.2%	4.3%	3.7%	3.7%	6.0%	5.7%	3.3%	2.6%	5.8%	4.1%	2.5%
Late2:OPN	22.1%	23.0%	25.8%	42.7%	33.6%	26.3%	25.1%	42.0%	28.9%	24.1%	23.0%	39.1%	29.7%	24.9%
Mid1:CLS	18.3%	17.8%	0.7%	4.6%	6.8%	5.9%	1.7%	5.7%	6.8%	7.8%	2.1%	7.7%	6.5%	5.6%
Mid1:OPN	12.5%	13.9%	5.7%	17.3%	24.1%	26.0%	6.8%	18.0%	26.8%	26.0%	7.4%	21.8%	27.8%	28.9%

Table 12. Dry oak forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL: Dry C	Dak														
	HRV, even start, Scenario 12647	HRV, existing conditions, Scenario 12814		No	Harvest, S	cenario 12	842		Tier1, Scen	ario 12823	6	т	ier2, Scer	nario 1282	22
	Y	ear			Ye	ear			Ye	ar			Ye	ear	
State Class	200	200		10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	12.9%	13.3%		6.4%	13.3%	12.7%	12.3%	6.6%	13.6%	11.3%	13.9%	8.5%	17.5%	16.0%	15.9%
Late1:CLS	2.2%	1.6%	2	20.5%	1.9%	2.3%	2.2%	19.7%	1.5%	2.0%	1.9%	21.2%	1.5%	2.0%	1.9%
Late1:OPN	7.7%	7.6%	1	10.8%	5.0%	6.4%	8.1%	10.5%	4.0%	7.9%	7.7%	10.4%	3.6%	8.5%	8.7%
Late2:CLS	9.5%	8.4%		33.0%	14.8%	10.9%	9.6%	35.0%	13.2%	8.5%	9.7%	31.9%	10.8%	7.9%	8.4%
Late2:OPN	49.0%	50.2%	1	17.5%	54.4%	48.5%	48.7%	17.7%	54.5%	47.3%	47.7%	17.0%	50.3%	42.0%	41.2%
Mid1:CLS	3.6%	2.7%		9.2%	1.9%	3.4%	3.6%	8.4%	2.4%	4.6%	3.6%	8.6%	3.5%	4.7%	5.0%
Mid1:OPN	15.2%	16.1%		2.6%	8.8%	15.8%	15.4%	2.1%	10.8%	18.5%	15.5%	2.4%	12.8%	19.1%	18.9%

Table 13. Pine-oak/heath forest model state class percentages in selected years under different scenarios from historical range of variation (HRV) to management under Tier1 or Tier2 objectives.

MODEL:Pine	-Oak/Heath													
	HRV, even start, Scenario 12787	HRV, existing conditions, Scenario 12835	No	Harvest, S	cenario 12	845		Tier1, Scer	nario 12834	Ļ		Tier2, Scer	nario 12833	3
	Y	ear		Ye	ar			Ye	ear			Ye	ear	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	14.7%	14.7%	14.3%	13.8%	14.5%	13.3%	15.4%	16.0%	14.2%	14.0%	14.3%	15.9%	14.6%	14.9%
Late1:CLS	1.5%	1.7%	41.0%	2.8%	1.8%	2.1%	40.2%	1.9%	1.2%	1.5%	39.3%	2.3%	1.6%	1.3%
Late1:OPN	24.4%	24.3%	14.1%	9.2%	24.7%	23.6%	13.3%	9.1%	24.5%	25.5%	13.8%	9.0%	24.6%	23.6%
Late2:CLS	1.2%	1.5%	12.2%	7.1%	1.8%	1.4%	12.3%	6.2%	1.9%	1.1%	12.2%	6.8%	1.7%	1.2%
Late2:OPN	18.8%	18.5%	3.8%	23.3%	17.4%	19.0%	3.8%	23.0%	16.7%	18.5%	4.1%	21.5%	16.2%	17.4%
Mid1:CLS	1.6%	1.7%	6.5%	1.4%	1.5%	1.6%	6.6%	1.7%	1.8%	2.2%	7.6%	1.8%	1.9%	2.1%
Mid1:OPN	37.9%	37.7%	8.3%	42.5%	38.6%	39.0%	8.5%	42.2%	39.8%	37.3%	8.7%	42.8%	39.6%	39.6%

Table 14. Shortleaf pine forest model state class percentages in selected years under different scenarios from historical range of variation (HRV)
to management under Tier1 or Tier2 objectives.

MODEL: Sho	HRV, even start, Scenario	HRV, existing conditions.												
	12649	Scenario 12831	No	Harvest, S	cenario 12	846		Tier1, Scer	nario 12830)	1	lier2, Scen	ario 12829	
	Y	ear		Ye	ear			Ye	ear			Ye	ar	
State Class	200	200	10	50	100	200	10	50	100	200	10	50	100	200
Early1:ALL	10.7%	11.5%	11.4%	11.6%	12.0%	10.3%	14.8%	11.2%	10.8%	11.3%	14.4%	12.1%	11.6%	11.1%
Late 1:CLS	1.5%	1.1%	26.2%	3.7%	2.2%	1.2%	23.0%	0.9%	0.6%	0.4%	22.8%	0.7%	0.5%	0.2%
Late1:OPN	24.0%	23.9%	7.3%	14.9%	23.6%	24.2%	6.6%	13.4%	29.3%	23.6%	6.2%	11.7%	30.3%	25.6%
Late2:CLS	1.8%	1.7%	20.3%	9.2%	3.1%	2.2%	18.6%	6.9%	1.8%	1.4%	19.9%	4.9%	1.6%	0.7%
Late2:OPN	22.6%	22.5%	4.4%	18.0%	16.8%	21.6%	5.1%	15.7%	16.4%	21.3%	4.1%	13.2%	12.3%	20.6%
Mid1:CLS	1.5%	1.2%	16.3%	2.2%	1.7%	1.9%	17.4%	3.2%	2.1%	1.9%	17.9%	3.4%	2.3%	2.5%
Mid1:OPN	37.9%	38.2%	14.1%	40.4%	40.7%	38.6%	14.6%	48.7%	38.9%	40.1%	14.7%	53.9%	41.4%	39.3%

Statement from Peter White on the Nantahala Pisgah Forest Plan

A statement on the Nantahala-Pisgah Forest Plan

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The Nantahala-Pisgah Forest Plan uses two modeling approaches: 1. the first model is used to determine the natural range of variability (NRV) of this complex forest landscape and 2. a second model (Spectrum) is used to predict the potential future conditions of the landscape and for comparisons with the natural range of variability. As an author who is cited in the Plan ("White 2011" which is: White, P.S; Collins, B.; and Weins, G.R. 2011), especially in Appendix D, I am expressing my concern that the NRV model and Spectrum models are based on different assumptions and that, as a result, a comparison between the two models is misleading and leads to a plan that anticipates a higher creation of early successional habitat than is scientifically justified. The two models have a critical difference that means they should not be used for comparisons that are the basis for forest management actions.

Science tells us that there is an inverse relationship between disturbance magnitude and frequency: larger disturbances are rare and small disturbances are frequent. This scale dependence should be the scientific basis for interpreting natural disturbance probabilities (probability is the inverse of return interval). Looking at the literature used in its derivation, the NRV model uses a disturbance probability based on all disturbance magnitudes, including gap phase dynamics involving the death of one or small groups of trees, a small-scale disturbance probability that does not create early successional habitat. Thus, the NRV incorporates a disturbance probability is to create early successional habitat, because not all of the disturbances on which the NRV is based create early successional habitat and the ones that do create early successional habitat would necessarily have a lower frequency than the frequency based on all disturbance sizes (here size is used as the variable representing disturbance magnitude). In short, gap dynamics does not produce early successional habitat, a key benchmark for forest planning, and yet gap dynamics dominates the disturbance rate in the NRV model.

In contrast to the NRV model, the Spectrum model specifically focuses on the creation of early successional habitat of 0.5 acres or more—the NRV includes no such threshold. The clear danger is that the NRV model is based on a high disturbance frequency that includes all patch sizes, including ones below 0.5 acres, but that high frequency is then used to justify the creation of patch sizes of 0.5 acres. While that 0.5 acre threshold is a good one to have, the natural disturbances that create such successional change are less frequent and have longer return intervals than are used in the NRV model. The danger comes when we use the NRV return intervals to suggest the frequency of creation of early successional communities of 0.5 acre or more. If we do this, we greatly inflate the expectation for the creation of early successional habitat. If used to guide management, the plan will likely decrease the median age of the

landscape, as well as the amount of old forest. There is some uncertainty in this, but the two modeling methods appear to be compared in a qualitative way which leaves too much room for interpretation.

In summary, the rate of natural disturbance in the NRV model inflates the expectation for disturbance creation of early successional habitat on the landscape. Further, the rates of natural disturbance in the Spectrum model are too low to achieve the amount of early successional habitat that has been inflated, in part because the NRV model uses natural disturbance rates that are too high. The net result seems to be the potential for harvest to be used to fill in the gap between natural and presumed targets for early successional habitat. My concern is that the flawed comparison between the two models will be used to justify higher rates of forest harvest because the rates of natural disturbance in the Spectrum model will be erroneously judged to be insufficient in the creation of the amount of early successional habitat that is used as a benchmark in this plan based on the NRV model. Apart from this problem, future natural disturbance rates may themselves increase with climate change, an expectation not covered in the USFS NRV analysis—if rates of natural disturbance increase, there will be less need for forest management in terms of the goal of creation of early successional habitat. Thus, an increasing rate of natural disturbance may compound the problem of an increasing rate of harvest to create a presence of early successional habitat that is too high.

Thanks to the large-scale logging of the early 1900s (with Chestnut blight and fire suppression thrown in), the Southern Appalachians have too much middle-aged forest and not enough of either old growth or young (early successional) forest. But it is harder to create old growth than it is to create young growth. And, in general, there was once a preponderance of old forest, so protecting older forests and setting the right goal for the proportion of early successional forest is critical.

Disturbance Regimes in Temperate Forests

Chapter 2

Disturbance Regimes in Temperate Forests

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I. INTRODUCTION

Different forest types can be characterized by the mortality patterns of their canopy trees. This chapter will begin by defining the parameters necessary to characterize the pattern of death of dominant individuals (canopy trees) in a community, also referred to as that community's "disturbance regime." "Disturbance" is defined here as a force that kills at least one canopy tree. The disturbance regimes of two particular forest types will then be described. Finally, descriptions of natural disturbance regimes will be compared with the results of manipulative studies or artificial disturbance regimes. Special attention will be given to the relative importance of large-scale versus small-scale disturbance.

THE ECOLOGY OF NATURAL DISTURBANCE AND PATCH DYNAMICS

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James R. Runkle

II. COMPONENTS OF A DISTURBANCE REGIME FOR FORESTS

A. Average Disturbance Rates

The average rate at which trees die can have important consequences for the species composition and structure of a forest. High disturbance rates should select for fast-growing species that reproduce early and are short-lived (Grime, 1974, 1977). If disturbance rates are too high, the tree lifeform is no longer viable and community dominance switches to shrub or herb lifeforms. Natural disturbance rates for forests also have theoretical minimum values set by the maximum age and size limits of tree species. As a tree ages and increases in size, its efficiency in transporting water, nutrients, and photosynthate usually decreases (Spurr and Barnes, 1973; Oldeman, 1978). Its roots must support a proportionally greater aboveground biomass (Borchert, 1976), and its photosynthetic tissues must support a proportionally greater mass of nonphotosynthetic tissue (Harper, 1977). These factors, plus the tendency of the tree to develop a more massive crown, render it increasingly susceptible to smaller and more common disturbances. This relationship between the external environment (frequency of disturbances, e.g., wind speeds of a certain magnitude) and the plant itself (the rate at which aging increases its susceptibility to disturbances of smaller magnitude) diminishes the usefulness of terms such as "allogenic" or "autogenic" in connection with natural disturbances.

As a result of the above factors, forest disturbance rates seem to be constrained to a fairly small range of potential values. As one consequence, forest dominants in most parts of the world have a range of life spans of 100–1000 years (Budowski, 1965; Fowells, 1965; Ashton, 1969). For temperate deciduous forests the normal range is even smaller: 300 years is the age often reached by dominants with few individuals living more than 500 years (Jones, 1945).

The average rate of forest disturbance also shows fairly little variation, despite wide differences in vegetation and types of disturbance. Northern conifer forests affected primarily by fire (Heinselman, 1973; Zackrisson, 1977) and temperate and tropical forests affected primarily by the death of scattered individuals (Leigh, 1975; Abrell and Jackson, 1977; Hartshorn, 1978; Naka, 1982; Runkle, 1982) all show average rates of disturbance of $\approx 1\%/year$ (ranging from ≈ 0.5 to $\approx 2.0/year$ in large samples). Although these forests are different from each other in many ways, they are similar in that most canopy individuals die due to the one mechanism studied—fire or wind throw. Disturbance rates for some specific agents of tree death (e.g., 0.02-0.16%/year for tropical landslides; Garwood *et al.*, 1979) may be lower than $\approx 1\%$ because many trees die due to factors other than the one studied.

Disturbance rates of 0.5-2.0%/year give natural return intervals (average time between disturbances for a given site) of 50-200 years. These values can be reconciled with 300- to 500-year average tree longevities for the following reasons. First, certain trees live longer than average due to their presence in more protected locations or to chance deviations from normal weather conditions. Second, many

2. Disturbance Regimes in Temperate Forests

important forest dominants often persist for many years under a closed canopy, growing very slowly. For instance, using age-size (diameter at breast height, dbh) regressions, trees in mesic sites in the Great Smoky Mountains National Park averaged about 91 years to reach 25 cm dbh, the approximate minimum size at which they reach the canopy (Runkle, 1982). The average time spent by individuals in the canopy, again using age-size regressions, was 127 years, in good agreement with the natural rotation periods noted above.

The somewhat surprising conclusion is that different mesic forests probably do not show very great differences in their average rates of disturbance. Therefore, important differences among the disturbance regimes of different forests are more likely to occur in the distribution of tree deaths in time and space and in the severity of the disturbance.

B. Distribution of Disturbance in Space

Over a broad geographic area, a given level of disturbance can affect either many adjacent individuals, creating a few large disturbed patches, or many scattered individuals, creating many small disturbed patches. Because patch size affects the nature of the vegetation's response to the disturbance, these two alternatives should yield different results (see Section II,B,2).

Before proceeding, one note on terminology is useful. The term "gap" was used by Watt (1947) to refer to a site at which a canopy individual had died and at which active recruitment of new individuals into the canopy was occurring. The emphasis was on relatively small within-community disturbance patches. This emphasis has generally been maintained in later usages of the term (see, e.g., Bray, 1956; Williamson, 1975; Whitmore, 1978; Ehrenfeld, 1980; Barden, 1981; Runkle, 1981, 1982; Shugart and West, 1981; Nakashizuka and Numata, 1982a,b). This chapter will retain this usage, although clearly a gradient exists between disturbances affecting a single tree and those affecting many square kilometers of forest.

1. Relation of the Environment to the Size of the Disturbed Area

The physical environment within a small open area surrounded by forest differs from that under the canopy or in a large open area. In a small opening, temperatures fluctuate more and light and soil moisture are both more abundant than under a closed canopy. As the opening size decreases, humidity increases, wind speed decreases, and temperatures remain more constant (Geiger, 1965). Opening size is frequently quantified as the D/H, ratio, where D is the diameter of the open area and H is the mean height of the surrounding stand (Geiger, 1965). Several studies (Jackson, 1959; Minckler, 1961; Berry, 1964; Minckler and Woerheide, 1965; Minckler *et al.*, 1973) have shown light to increase with increased opening size, reaching a maximum when $D/H \approx 2$. March and Skeen (1976) found that differences in light between a small opening and a closed forest persist throughout the growing season. Minckler *et al.* (1973) found the opening size to determine the number of years the increase in soil

moisture persists, although not the size of the initial difference. Tomanek (1960) found that the shape and orientation of openings, as well as their size, can be important in determining their microclimate.

2. Relation of Species Composition to the Size of the Disturbed Area

Many forestry studies and general reviews state that the selective cutting of individual trees will favor shade-tolerant species such as American beech (*Fagus grandifolia*), eastern hemlock (*Tsuga canadensis*), and sugar maple (*Acer saccharum*) (see, e.g., U.S. Forest Service, 1973; McCauley and Trimble, 1975; Leak and Filip, 1977; Tubbs, 1977). However, openings as small as 400 m² have been found to be sufficient for tuliptree (*Liriodendron tulipifera*) and yellow birch (*Betula alleghaniensis*) to maintain themselves in a forest (Merz and Boyce, 1958; Tubbs, 1969; Trimble, 1970; Schlesinger, 1976; Beck and Della-Bianca, 1981). Tryon and Trimble (1969) found a 1000-m² opening sufficient to regenerate several intolerant species, with relatively few adverse affects of border trees on the growth of saplings near the edge of the opening. Runkle (1982, 1984) found significant differences in the response of potential canopy species to differences in gap size for naturally formed gaps $\leq 1000 \text{ m}^2$ and generally $\leq 400 \text{ m}^2$. Williamson (1975) found evidence that gaps 50–250 m² were sufficient to regenerate tuliptree and white ash (*Fraxinus americana*).

C. Distribution of Disturbance in Time

A given average annual disturbance rate can be achieved by a low level of disturbance occurring in most years or by occasional years of very high disturbance followed by many years of few or no disturbances. Forests at either extreme are known. On a local level, differences in the periodicity of disturbance often parallel differences in the spatial distribution of disturbance. If most tree mortality is concentrated in a few years, then probably much tree mortality is concentrated in large openings. Therefore, species composition at sites where disturbance is concentrated in time should resemble species composition at sites where disturbance is concentrated in space. The temporal distribution of disturbance is more important on a landscape level than on a local level because it determines the synchrony of the regeneration processes occurring over a broad area. The level of synchrony of regrowth is important because of the close relationship between tree population dynamics and ecosystem changes in biomass and production (Peet and Christensen, 1980; Peet, 1981).

D. Severity of Disturbance

In addition to varying in temporal and spatial distributions, disturbances can vary in their severity. "Severity" measures the degree to which the predisturbance vegetation has been damaged and ecosystem properties have been disrupted. It is

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equivalent to the term "magnitude" used by White (1979). The vegetation of a site will develop more slowly after a severe disturbance than after a mild disturbance. The size and severity of a disturbance are two different properties. It is possible to have a small, severe disturbance or a large, mild one.

Several compilations of species regeneration strategies have been made (e.g., Bormann and Likens, 1979; Oliver, 1981; Canham and Marks, Chapter 11, this volume). In general, individuals growing after disturbance are present at the time of disturbance as suppressed seedlings and saplings, as seeds buried in the soil, or as seeds newly dispersed into the area. The severity of disturbance determines which of these strategies is most likely to succeed. A mild disturbance, e.g., windthrow of just the canopy trees, probably favors the suppressed sapling strategy. A more severe disturbance may eliminate suppressed saplings but leave the soil intact and favor species such as pin cherry (*Prunus pensylvanica*), which are well represented in the seed pool (Marks, 1974). A disturbance that is both very severe, e.g., long-term agriculture (eliminating saplings and the seed pool) and is conducted over a large area (greatly diminishing the potential seed rain) can result in a very protracted recovery time.

Some types of disturbances can enhance the success of certain regeneration strategies through the creation of special microhabitats. Uprooting of trees creates pits and mounds that differ in several properties from soils that have not been overturned (Lyford and MacLean, 1966; Armson and Fessenden, 1973; Stone, 1975). In particular, pits have more litter and standing water and mounds have less than do other soils. Some species differ in the part of the pit and mound surface on which they grow (Hutnik, 1952). Decomposing logs also provide a specialized habitat on which some species, such as yellow birch and eastern hemlock, reproduce (Fowells, 1965). Other examples in which the type of disturbance determines the pattern of species replacement are given by Grubb (1977).

The severity of disturbance can also be measured as the effect on ecosystem functioning. The primary influence is on soil properties and long-term nutrient dynamics. A severe disturbance results in substantial erosion and nutrient losses, which may take decades for the ecosystem to replace (Bormann and Likens, 1979). For example, low-intensity fires may have no long-term effect on ecosystem properties, but intense fires can volatilize much nitrogen, cause severe erosion, and greatly diminish future productivity at the site (Wells *et al.*, 1979).

E. Rates of Recovery from Disturbance

The rate at which a community recovers from disturbance depends upon the characteristics of the disturbance discussed above. For small and mild disturbances, recovery is determined primarily by the rates at which bordering canopy trees expand into the opened area and seedlings and saplings grow into the canopy. For larger and more severe disturbances, a more varied and elaborate process of vegetation development occurs.

In general, the latter process has been studied as ecological succession, while the

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former has been considered as characterizing gap dynamics. The division between the two processes is arbitrary, with "succession" being used primarily when whole communities change and "gap dynamics" when the disturbances occur within a single community. "Community" here refers to a site of sufficient size to be studied by itself. Dynamics within a gap caused by a single treefall are usually studied in relation to the surrounding forest, whereas recovery of a large area in which trees were blown down by a large storm or burned in a fire is often studied without mention of the surrounding areas.

This section will concentrate on the recovery processes most important in gap dynamics, as defined above, that is, lateral growth of canopy trees bordering the gap and height growth of seedlings and saplings within the gap.

1. Lateral Extension Growth

Several studies differing in location, species, and technique have measured reasonably similar rates of branch growth by trees bordering openings (Trimble and Tryon, 1966; Phares and Williams, 1971; Erdmann *et al.*, 1975; Hibbs, 1982; Runkle, 1982). Average rates generally range from 4 to 14 cm/year. Some trees expand at rates of up to 20 to 26 cm/year. The impact of these branch growth rates on gap regeneration depends upon the rate of sapling height growth and the size of the gap. Smaller gaps have a large ratio of edge to interior. Therefore, lateral extension growth should be proportionally more important in small gaps than in big ones.

2. Sapling Height Growth

The rate at which a gap closes due to the height growth of saplings depends on both the rate of height growth of saplings and the heights of the saplings at the time the gap was formed.

Many species from different areas in the eastern deciduous forest show average growth rates of 0.5–1.0 m/year following cutting or in naturally created (usually large) openings (e.g., Kramer, 1943; Downs, 1946; Kozlowski and Ward, 1957; Tryon and Trimble, 1969; Marks, 1975). Minckler *et al.* (1973) found species height growth to range from 9 to 73 cm/year near the centers of gaps of different sizes (less than or equal to two times the height of surrounding trees). Hibbs (1982) measured sapling height growth (the average of the three largest stems) in a hemlock–hardwood stand in Massachusetts. In small gaps (\leq 5-m radius), saplings of different species grew 10–50 cm/year; in open field conditions, species grew 25–50 cm/year. Hibbs (1982) related the rates of sapling growth to the rates of canopy branch growth calculated for the same woods and concluded that few or no tree seedlings will reach the canopy in openings with a radius of <5 m. Some seedlings may reach the canopy in larger gaps because of the increased time until canopy closure occurs via branch growth.

Small gaps may still close primarily due to sapling height growth if sufficiently large, suppressed saplings are present in the gap when it is formed. Good descriptions of the height distribution of saplings in gaps immediately after formation are

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not available. However, many forests contain large numbers of suppressed saplings. If the disturbance is mild, then one of these saplings may grow to become the next canopy tree in less time than it would take for a new seedling to reach the canopy, especially if taller individuals grow faster than small ones, as at least occasionally occurs (Laufersweiler, 1955; Burton *et al.*, 1969; Tubbs, 1977).

To include the effects of both initial sapling size distribution and growth rates, Runkle (1982) compared the rate at which the total gap area disappeared for small gaps (average, 100 m²) with the rate expected if branch growth by canopy trees were the only mechanism of gap closure. After the fifth year, height growth was the primary mechanism of gap closure. Even small gaps can result in successful tree regeneration if they include a large, formerly suppressed individual.

F. Importance of Multiple-Gap Episodes

One last component of a forest disturbance regime is the extent to which a tree may be affected by two or more different gaps in the course of its growth into the canopy. Such multiple gap effects should be more common after mild disturbances than after severe ones, which might kill the regenerating individual. Such multiple episodes are also more important when disturbances are small and scattered rather than clustered. Small, scattered disturbances have the greatest ratio of edge (areas affected but not injured) to internal area.

Such multiple gap episodes may be fairly common. Individuals of several species, notably hemlock, often show multiple release and suppression of ring widths, implying several episodes of gap formation and closure (Henry and Swan, 1974; Oliver and Stephens, 1977). Also, if, as mentioned earlier, average tree mortality rates are approximately 1%/year, repeated disturbances should be fairly common. For example, 36 gaps examined in Hueston Woods State Park, Ohio (Runkle, 1981, 1982) had 257 border trees, or 7.1 border trees per gap. Given those values (1%/year, mortality; 7.1 border trees per gap), about half of the gaps should be affected by a new disturbance (death of at least one border tree) within 10 years of initial gap formation. The Hueston Woods gaps were revisited 4 years after their original census (Runkle, 1984); 11 border trees had died or become moribund during that time, a value close to the 10 predicted from average rates of disturbance. Therefore, for this forest, return rates of disturbance may be common and generated primarily by deaths not influenced by the proximity of a previous tree death. In other forests, e.g., high-elevation forests of balsam fir (Abies balsamea) (Sprugel and Bormann, 1981), repeated disturbances are even more common because the environment next to a disturbed area is more severe than elsewhere, and so new tree deaths occur primarily among border trees.

That such multiple-gap episodes are common for at least some forest types may be very important for forest regeneration and species evolution. Species may be able to reach the canopy fairly often by using a series of small gaps rather than a single large one.

Species specializing in this mode of reproduction should be able to take advan-

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tage of temporary openings in the canopy and then should suffer only slightly after the canopy closes, thereby increasing the chance that they will still be able to respond while awaiting a new gap in the vicinity. High rates of multiple gap occurrence can also imply that individuals of tolerant species will usually be exposed to one or more gaps at some stage before reaching the canopy.

The question of whether understory-tolerant species can occasionally reach the canopy without benefiting from gaps is not resolved. To my knowledge, no species under a closed canopy has been shown to have a steady increase in height to reach canopy status. Several lines of evidence suggest that this phenomenon will rarely if ever occur. Seedlings and saplings in complete shade grow very slowly. For example, Morey (1936) found that on average it took beech 12 years and hemlock 29 years to reach a height of 1.2 m. Sugar maple and beech seedlings in Ontario grew only 2-4 cm/year both under shaded conditions and in a 200-m² gap (Cypher and Boucher, 1982). In small gaps (10-50 m²), Hibbs (1982) found hemlock to grow only 10-20 cm/year. Presumably growth under a closed canopy would be even less. As a result of these very slow growth rates, these species would take ≥ 200 -300 years to reach the canopy without occasional spurts of faster growth. This time interval is at the outer limit of the lifespan for most of these species (Fowells, 1965). Similar conclusions can be reached for diameter growth. Many tolerant trees show little or no diameter growth under shaded conditions. For example, one study in Pennsylvania found a 9-cm dbh beech missing rings for 46 of the previous 70 years and a hemlock missing rings for 39 of the previous 70 years (Turberville and Hough, 1939). Given the rates of disturbance that occur in these forests, however, the probability that a gap will affect one spot at least once within a 100- to 300-year period is extremely high.

III. NATURAL DISTURBANCE REGIMES FOR SPECIFIC TEMPERATE FORESTS

Workers in the eastern deciduous forest of North America have had several advantages in the determination of natural disturbance regimes. Although the majority of the original forest has been logged or severely disturbed, several remnants do remain on which the formerly widespread processes of forest regeneration can be studied. Historical records of other primeval forests and natural disturbances exist. Some of these historical records are remarkably quantitative, such as those of the General Land Office Survey (Bourdo, 1956). Also, North American plant ecologists have long been interested in the processes of forest disturbance and succession, and so much information is available in the literature.

This section will describe the disturbance regime associated with two different forest types and locations. The cove forests of the southern Appalachians are affected almost entirely by small-scale, mild disturbances. The forests of the Allegheny Plateau, in Pennsylvania, are affected by both small-scale and large-scale, usually mild, disturbances. The description of the Allegheny forests will also in-

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clude the distribution of disturbances over the landscape, including the effect of topographic position on both disturbance regime and vegetation.

A third type of disturbance regime exists in the white pine (*Pinus strobus*)– northern hardwoods section of northern Minnesota and adjacent Canada. For these forests, fire is the primary source of large-scale forest disturbance (Frissell, 1973; Heinselman, 1973) and has been important for 10,000 years (Swain, 1973). Heinselman (1973) found average rates of burning of $\approx 1\%$ /year before widespread fire suppression was adopted. Disturbance was clumped in time and space, with most of the area burned in one of only a few major fire years. All present stands within the 415,782-ha Boundary Waters Canoe Area owe their origin to fire. Therefore, smallscale disturbances seem to be relatively unimportant. Because this disturbance regime has been adequately summarized elsewhere (Heinselman, 1973, 1981a), it will not be discussed further here.

A. Cove Forests of the Southern Appalachians

Cove forests occur in sheltered areas near creeks at middle elevations throughout much of the southern Appalachian mountains (Braun, 1950; Whittaker, 1956; Golden, 1981). They are dominated by differing combinations of mesophytic tree species, particularly sugar maple, yellow buckeye (*Aesculus octandra*), yellow birch, American beech, silverbell (*Halesia carolina*), white basswood (*Tilia heterophylla*), and eastern hemlock.

The disturbance regime for the cove forests is determined by their regional and local topographic positions. Fire occurrence rates on a county basis are very low to moderate for most of the mountainous counties of eastern Tennessee and western North Carolina, in contrast to higher rates nearer the coast (Nelson and Zillgitt, 1969). Within the mountains, fires are uncommon, occurring primarily on southfacing slopes near ridge tops, especially on lower ridges (Barden and Woods, 1976; Harmon, 1982). North-facing lower slopes and sheltered ravines have the lowest incidence of fire (Harmon, 1982).

Wind-related disturbance tends to be dominated by small-scale events. Glaze storms are more common than large-scale, damaging tropical storms (Nelson and Zillgitt, 1969). Tornadoes are not as common or severe as they are in most of the rest of the eastern deciduous forest (Fujita, 1976). Occasional tornadoes do occur, however.

Human disturbance of most sites once dominated by mixed mesophytic species has been extensive. Therefore, most work on the long-term dynamics of mixed mesophytic forests has been done in one of the remaining old-growth remnants, either the Great Smoky Mountains National Park (GSMNP) of Tennessee and North Carolina or unlogged coves in one of the nearby national forests. These areas were protected from extensive logging by their regional inaccessibility until about 1900 and by the formation of the GSMNP in 1940. Between 1900 and 1940, however, virgin timber was removed by commercial loggers from most of the present-day park. Also, substantial areas of the GSMNP had been cleared and selectively cut by

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local people (Frome, 1966). Despite these human influences, enough undisturbed forest remains at middle and high elevations to allow a meaningful characterization of the natural disturbance regime.

The exact locations of the sites to be discussed below were further constrained by two additional factors. Most sampling was done far enough away from streams or near small enough streams so that *Rhododendron maximum* was nearly or entirely absent. The presence of a dense shrub layer of rhododendron influences regeneration by greatly diminishing the success of an advance sapling regeneration strategy. As a consequence, cove forests with rhododendron have more red maple (*Acer rubrum*) and more hemlock and *Betula* spp., which regenerate on fallen logs, and less sugar maple, yellow buckeye, beech, silverbell, and basswood, all of which depend on advance sapling growth than do cove forests without abundant rhododendron (Oosting and Bourdeau, 1955; Barden, 1979, 1980; Lorimer, 1980). The second local restriction in sampling was to avoid slope communities in which American chestnut (*Castanea dentata*) had been important before its demise (Woods and Shanks, 1959).

The disturbance regimes of the cove forests are thus influenced by their regional and local positions. Deaths of canopy trees occur primarily as scattered small-scale disturbances affecting only one or a few trees at a time in any one location. Likely causes of tree mortality are glaze storms, lightning strikes, or occasional very high winds. Disturbances are not very severe. Surrounding vegetation diminishes the loss of nutrients from the site, so that long-term ecosystem functioning should not be harmed. Many saplings and other advance regeneration are present, so vegetation recovery should proceed rapidly.

The following data on the disturbance regime parameters for cove forests are summarized primarily from Runkle (1982), unless otherwise stated.

Overall, in the cove forests, 0.5-2.0% of the land surface area in individual sites was converted from forest to new treefall gaps per year. The average for all sites studied was 1.2-1.3%/year, in agreement with figures from other forest types, as discussed above. Romme and Martin (1982) found lower disturbance rates (0.25-1.0%/year, depending on the method of calculation) for an old-growth mixed mesophytic forest in Kentucky. They did not include very small gaps created by parts of still living canopy trees, so the two results are not strictly comparable.

Gap areas followed a lognormal distribution, with many small and a few large gaps. The average size of a canopy opening was $\sim 31 \text{ m}^2$ if the very small gaps caused by the fall of large branches or small canopy trees were included. Canopy opening sizes ranged up to 1490 m², with $\approx 1\%$ of the total land area in gaps of >400 m². Most gaps were created by the death of single trees, but multiple treefalls accounted for most of the larger gaps. Similar values for gap size in these forests are given in Barden (1981). Similar values for gap size were also found in a climax stand of Japanese beech (*Fagus crenata*) and other mixed mesophytic species in Japan (Nakashizuka and Numata, 1982a,b). Because the gaps were fairly small, with diameter/canopy height ratios <1, the difference in environmental conditions between the gap and the forest understory is smaller than for a forest dominated by

large-scale disturbances. However, small gaps have greater edge/area ratios than do larger openings. Therefore, cove forests should contain very large fractions of land area partly affected by disturbance.

Yearly fluctuations in the rate at which gaps are formed occur but are minor. For example, for 10 different sites in the southern Appalachians and for 15 years per site, the maximum fraction of land area per year in gaps was only 7.4%. Every year, several storms in the general area down enough trees to cause notable economic damage (Environmental Data Service, 1975). The rugged topography results in different areas having different peak years of disturbance, with no sign of regional synchrony in gap formation.

A disturbance regime characterized by many small gaps with a large ratio of edge to area might be expected to show high rates of repeat disturbance. New gaps should often form close enough to old gaps to maintain the changed environmental conditions associated with gaps and to slow the processes of gap closure. In one study designed to test this hypothesis (Runkle, unpublished data), high rates of repeat disturbance were found. For 273 gaps revisited 6-7 years after originally being sampled, one or more canopy trees surrounding the gap had died or been severely injured in 114 gaps, a former large stump from the tree creating the gap had fallen in 62 gaps, and new gaps were created near but not immediately adjacent to the original gap 35 times. In only 112 gaps did none of these new disturbances occur. Canopy trees surrounding gaps died at about the same rate as canopy trees in general. Multiplying the number of original surrounding canopy trees by a 1%/year disturbance rate by 6 or 7 years gives a predicted number of deaths of 151 trees versus 164 deaths or severe injuries actually recorded. For these forests, therefore, repeat disturbances are common and are a property of the size and age distributions of gaps. The evolutionarily important consequence of this result is that tree species should be favored whose saplings are able to alternate between periods of moderate to rapid growth while in gaps and periods of slow growth during the times between gaps.

Gaps close both by the branch extension growth of trees surrounding the gap and by the height growth of saplings in the gap. For these small gaps, both processes are important in gap closure. Small gaps close primarily by lateral extension growth, except where large, previously suppressed saplings are present. Large gaps close primarily by sapling height growth.

Species responses to gap size form a gradient. At one extreme are tolerant species, whose life cycle usually includes a lengthy suppressed sapling stage. These species, e.g., sugar maple, yellow buckeye, beech, and hemlock, are adapted to alternating periods of growth and suppression, and therefore seem especially able to benefit from small but repeated disturbances. They can also grow well in some larger gaps. At the other extreme are intolerant species, e.g., tuliptree, which can grow very rapidly in large gaps but cannot grow in small gaps and cannot withstand suppression. These species are therefore restricted to gaps large enough to preclude closure by lateral extension growth or by previously suppressed saplings.

Given these species differences, are processes presently occurring in the range of

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gap sizes studied sufficient to account for the canopy composition of the stands studied? Is there evidence that episodic large-scale disturbance events need to be involved to generate the species composition present? Runkle (1981) and Barden (1981) both found very good matches between the species composition of saplings in gaps and the species composition of the canopy in several different cove forests. Therefore, small-scale disturbance does seem adequate to perpetuate these forests. The distribution of gap sizes results in forests dominated by tolerant species, with intolerants persisting at low densities.

This analysis suggests that the relative abundance of tuliptree may be a good indicator of the disturbance regime present in a stand. Its importance should be related to the frequency of gaps >400 m² or so. Support for this suggestion comes from the fact that of the sites studied by Runkle (1981), Joyce Kilmer had both the largest gaps and the highest importance of tuliptree. Lorimer (1980), in a more intensive study of Joyce Kilmer, found average rates of disturbance (3.8–14.0% of total land area/decade) similar to those of other cove forests but concluded that tuliptree originated primarily after occasional large windthrows. The widespread distribution of tuliptree in climax forests of the Piedmont (Skeen *et al.*, 1980) implies that such intermediate-size disturbances (say, 400 m² to 1 ha) are fairly common there. The virtual absence of tuliptree in most cove forests studied in the GSMNP implies that disturbances >400 m² are relatively rare there.

B. Forests of the Allegheny Plateau, Pennsylvania

The forests of the Allegheny Plateau in northwestern Pennsylvania differ from the cove forests of the southern Appalachians in their disturbance regime. The Allegheny forests are affected more often by large-scale disturbances. However, smallscale disturbances also occur and are important. Thus, the Allegheny forests represent a disturbance regime intermediate between the cove forests and forests whose dynamics are dominated almost completely by occasional large disturbances, such as the pine-dominated forests of northern Minnesota. Also, the literature on the Allegheny forests relates more clearly how topographic position and soil structure influence the disturbance regime and the vegetation.

The Allegheny Plateau contains broad, level uplands interspersed with narrow river valleys (Hough and Forbes, 1943). The uplands are 600–750 m above sea level south of the glacial border and held up by the hard sandstones of the Pottsville and Pocono series. The valleys are V-shaped, narrow, and winding, with a relief of \geq 120–240 m. Slopes are usually steep and rocky. A mantle of surficial materials of varying thickness completely covers the bedrock of almost the whole region, becoming generally thicker on lower slopes (Goodlett, 1954).

Differences in soils and topography are reflected by differences in vegetation. Of several types of presettlement forests that occurred in this area, two will be examined here. Stands dominated by white pine occurred on sandy river flats and terraces and on lower slopes where the soil was loose and sandy, particularly on southfacing slopes (Hough, 1936; Hough and Forbes, 1943; Marquis, 1975b). American

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chestnut, red maple, northern red oak (*Quercus rubra*), and white oak (*Q. alba*) were confined mainly to these stands. A second major vegetation type was dominated by eastern hemlock and American beech. This vegetation type was the most widespread climax type, occupying most north-facing slopes and poorly drained upland sites (Hough, 1936; Hough and Forbes, 1943; Marquis, 1975b; Bjorkbom and Larson, 1977). Common associates of hemlock and beech in these stands were sugar maple, black cherry (*Prunus serotina*), and yellow birch.

These two different vegetation types were characterized by substantially different disturbance regimes, which interacted with the soils and topographic positions to determine the vegetation. White pine was associated with disturbances such as fires and windthrows large enough to allow light to reach the forest floor and severe enough to expose mineral soil. Fire frequency in the region is greater than in the Appalachian mountains, although less than in the forests of northern Minnesota (Bormann and Likens, 1979). In sites near Heart's Content, Lutz (1930b) found fire scars on 86 trees, accounting for 41 different years in the interval 1727-1927. Five fire years were noted on six or more trees each. Such fires are thought to have given rise to white pine stands in Heart's Content and Cook Forest, two of the only extant pine stands in the region (Lutz, 1930b; Hough and Forbes, 1943). In other places, white pine originated primarily after windthrows uprooted trees and exposed mineral soil on treefall mounds (Goodlett, 1954). Large white pine stumps are still abundant on treefall mounds in various stages of settling (Goodlett, 1954). This mechanism of establishment also helps explain the existence of white pine in several areas as scattered individuals rather than as a pure stand originating after one largescale disturbance (Lutz and McComb, 1935; Goodlett, 1954).

The disturbance regime of the moister uplands varied considerably from that of the pine-dominated stands. Fires were rare or absent due to the moist forest floor and lack of inflammable undergrowth (Lutz, 1930a; Hough, 1936; Goodlett, 1954; Bjorkbom and Larson, 1977). Even at Heart's Content, the section without pines, which was cooler and moister than the section with pines, contained no evidence of fires (Lutz, 1930b). Occasional large-scale windthrows do occur (Hough, 1936; Goodlett, 1954). For instance, large storms in 1808 and 1870 uprooted trees in areas many hectares in extent in the Tionesta tracts (Bjorkbom and Larson, 1977). Areas affected by such large-scale disturbances regenerate into stands dominated by species with intermediate tolerance and long-lasting dormant seeds, such as red maple, black cherry, black birch (*Betula lenta*), and yellow birch. Surviving saplings of hemlock, beech, and sugar maple may also be present.

Despite the existence of these large-scale disturbances, "a widespread blowdown during a single intense storm is probably less common than the loss of a single tree here and there throughout the stand over a long period" (Hough 1936, p. 19). Many of the major sources of regional disturbances affect trees singly or in small clumps. Prolonged periodic droughts occur and result in heavy mortality of shallowrooted trees species such as hemlock and yellow birch (Hough and Forbes, 1943; Bjorkbom and Larson, 1977). However, the effects of such droughts might be expected to be restricted to scattered individuals that are already weakened or located on unfavorable microsites. Similarly, ice or glaze storms occur but cause loss primarily of branches or scattered trees, particularly because the dominant species are fairly resistant to ice damage (Bjorkbom and Larson, 1977).

The regime of small-scale disturbances or gaps presently occurring in protected old-growth hemlock-beech stands is very similar to the one described earlier for the southern Appalachian cove forests (Runkle, 1981, 1982). Gaps were smaller on average than in the cove forests and rates of disturbance were only 0.5% of land surface area per year, near the low end for eastern forests although close to measurements from some parts of the southern Appalachians (Runkle, 1982). This low rate of disturbance is perhaps related to the more complete dominance in the Tionesta sites of two of the longest-lived species, beech and hemlock. Also, occasional cutting or large-scale disturbances may have decreased the number of old trees likely to form gaps. Beech dominated the gap regeneration for all gap sizes, but there was some tendency for hemlock to reach its maximum abundance in small gaps and sugar maple to reach its maximum abundance in intermediate-sized gaps. Overall, the species composition of saplings in gaps was very similar to the species composition of the canopy (Runkle, 1981). Therefore, a disturbance regime characterized by small-scale disturbances seems sufficient to maintain the beech-hemlock forests.

The effect of non-Indian settlement on the area was to disrupt the natural disturbance regime, with major direct and indirect consequences for the vegetation. These disruptions were not uniform, but affected some areas and some species much more than others.

The white pine-dominated areas were the most severely affected. White pine was the most prized timber species and was eliminated from the canopy almost completely by 1900 (Goodlett, 1954; Marquis, 1975b). Extensive fires from the logging slash eliminated the seedling pines (Marquis, 1975b). As a result, white pine is virtually absent from the forests today and is unlikely to return in the foreseeable future. A second important species, American chestnut, has been almost completely eliminated due to an introduced disease. As a result of these two species eliminations, the drier sites today are dominated by various species of oak (Goodlett, 1954).

The effects of human settlement on the upland forests have been less striking and more indirect, but still important. Hemlock remains important but less so than in the primeval forests, due partly to extensive logging for its tannin-rich bark. Hardwoods have increased in relative density due to their ability to sprout or survive as buried seeds following logging and fires (Marquis, 1975b). A large deer herd has become established due both to increased protection from hunting and to abundant forest growth following cutting, resulting in much available browse (Marquis, 1975b). Deer populations are now high enough to impede the growth of seedlings and saplings following natural or human-caused disturbances (Hough, 1965; Jordan, 1967; Marquis, 1974, 1981; Bjorkbom and Larson, 1977; Marquis and Brenneman, 1981). The net impact of deer browsing has been to favor beech at the expense of hemlock and other hardwoods. Because beech is one of the dominant

2. Disturbance Regimes in Temperate Forests

species, the effect on the vegetation overall may be small. However, the elimination of many small hemlock stems is a concern and may result in sharp decreases in hemlock density in the future. On the other hand, hemlock regeneration in much of the region occurs irregularly, so the species may be able to survive a prolonged period of very little regeneration (Hough and Forbes, 1943).

Another change in disturbance regime affected by human use has been the elimination of large stems and therefore a decrease in the rate of gap formation. Forests characterized by small-scale disturbances have a sizeable fraction of their total area in or near gaps. Repeat disturbances are common. Therefore, saplings of many species are able to become established and be ready to respond to new openings. A second growth stand does not possess as many opportunities for saplings to become established. Unfortunately, especially given high deer-browsing pressure, the success of all cutting methods in establishing a favorable new stand requires that an abundance of seedlings already be established beneath the canopy of the existing overstory (Marquis and Brenneman, 1981). The most effective response of foresters is to mimic the primeval disturbance regime through shelterwood cutting, in which the canopy is removed in stages, gradually increasing light to the understory and increasing the number of saplings available to grow when the last of the old canopy is removed (Marquis and Brenneman, 1981).

In summary, the forest composition of the Allegheny Plateau is determined by the interaction of the natural disturbance regime, topography, and soils. South-facing slopes and sandy soils are affected by fires and blowdowns that uproot trees, both of which disturbances favor white pine and associated relatively shade-intolerant species. Upland moist sites are affected primarily by small-scale disturbances that favor shade-tolerant species. Large-scale blowdowns on these sites favor species of intermediate shade tolerance. Human influences on the area have disrupted the natural disturbance regimes, producing several changes in the species composition of the area.

IV. ARTIFICIAL DISTURBANCE REGIMES

In the preceding section, forest type and disturbance regime were found to be somewhat correlated. The causal relationship is not clear. Do the species otherwise adapted to an area (due to soils, climate, etc.) determine the disturbance regime, or does the potential disturbance regime in an area determine the vegetation? Both factors may interact simultaneously and reciprocally, so that simple causation is impossible to detect. To identify the chain of causation, it would be useful to conduct field studies, varying the disturbance regime to determine whether the pattern of disturbance by itself can affect species composition and the forest as a whole. Fortunately, such studies have been done many times at many different locations by foresters concerned with maximizing the harvest while selecting for a certain species composition in the new growth following disturbance. In the forestry literature, artificial disturbance regimes are referred to as "silvicultural systems." Many such systems have been proposed and tested for particular locations and particular species (see, e.g., Smith, 1962; U.S. Forest Service, 1973, 1978; Tubbs, 1977). Two examples follow.

Trimble (1965) compared the effects of two different cutting regimes on cove hardwood forests in West Virginia. Uncontrolled clear-cutting on good sites had produced stands that included a high proportion of shade-intolerant species. Tuliptree, northern red oak, and black cherry made up more than half of the stems in the overstory. In contrast, Trimble (1965) used selection cuttings on 40- to 50-yearold stands to harvest individual trees. The trees removed were either large and salable or of poor quality (culls). The result of this cutting regime after 10–15 years was to favor sugar maple, which eventually seemed likely to make up over half of the stand. American beech would also greatly increase, except that it is heavily culled by foresters. The three relatively intolerant species listed above would shrink in importance to $\leq 20\%$ of the future stand.

Leak and Filip (1977) obtained similar results from a stand of northern hardwoods in New Hampshire subjected to group selection. Groups of trees were removed, leaving openings averaging about 2000 m². This disturbance regime was sufficient to allow intermediate and intolerant species to maintain their relative importance in the stand at 25–35%. In contrast, under single-tree selection cuts, tolerant species came to represent 92% of canopy individuals.

One of the general conclusions of these and similar studies is that to reproduce the original species composition of the northern hardwood forest region, it is necessary to use a mixture of selection cuts (of one or a few trees at a time) and larger patch cuts or clearcuts. Selection cuts favor tolerant species such as American beech, sugar maple, and eastern hemlock. Larger cuts favor relatively intolerant species such as yellow birch and tuliptree. This mixture of gap sizes is precisely the one that characterized much of the primeval forest. Another useful silvicultural system for this forest type is the shelterwood system, in which scattered trees remain after the first cut and are removed only when the sapling layer is established. The scattered trees help shade and protect the young saplings. This system seems similar to damage by mildly severe natural windstorms or to glaze storms in which scattered trees are left standing.

The responses of individual species to different silvicultural systems can also be used to estimate the natural disturbance regime of forests originally dominated by those species. For instance, because beech and sugar maple are favored by selection cutting, it seems reasonable to hypothesize that the beech-maple forest region (Braun, 1950) was characterized by a prevalence of small-scale gap disturbance. Also, because beech is very susceptible to damage by fire (Fowells, 1965), the small-scale disturbances most common to this forest region must have been due to wind or glaze storms.

V. SUMMARY

Temperate zone forests such as those discussed here differ in species composition and structure. However, some broad similarities in their disturbance regimes exist.

2. Disturbance Regimes in Temperate Forests

Usually, these forests are affected by both large-scale and small-scale disturbance, with the relative importance and spatial distributions of each having great consequences for the regional vegetation (Whittaker and Levin, 1977; Pickett, 1980). The interplay of disturbances of different sizes is probably more important than the existence of a single intermediate type of disturbance (to oversimplify Connell, 1978) in determining species diversity and other community properties. Some forest types fit the generalization of Horn (1981a) and Oliver (1981) that large-scale (clumped in time and space and often severe) disturbances occur frequently enough so that most canopy individuals originate following such disturbances. However, small-scale gap disturbance is of primary importance for many areas and forest types. Most forests probably follow the pattern of cyclic development (succession) and steady state (climax) described by Loucks (1970), with great variations in the time and number of canopy tree generations between cycles, ranging from decades to millennia.

Further study is needed to clarify several aspects of the disturbance regimes of temperate zone forests. The primeval and therefore evolutionarily important disturbance regimes for many forest types need to be described in more detail. In North America, oak-dominated forests in particular require more study to determine the relative importance of fire, large- or small-scale windthrows, insect defoliation, and other factors. The effects of disturbance regimes greatly modified by human activity also need to be documented. The disturbance regimes associated with particular successional stages need to be clarified to determine at which successional stage a treefall provides sufficient resources for a sapling to reach the canopy instead of allowing solely for the crown expansion of its neighbors. It is also important to know the tolerance of different species of plants and animals to deviations in their primeval disturbance regimes so as to manage best their continued existence.

In summary, the concept of a disturbance regime has proved a useful way to summarize much information on the natural dynamics and regeneration of temperate zone forests. It also lends itself well to the continued development of a management theory for those forests.

RECOMMENDED READINGS

Bray, J. R. (1956). Gap phase replacement in a maple-basswood forest. *Ecology* 37, 598-600.
Loucks, O. L. (1970). Evolution of diversity, efficiency, and community stability. *Am. Zool.* 10, 17-25.
Watt, A. S. (1947). Pattern and process in the plant community. *J. Ecol.* 35, 1-22.
White, P. S. (1979). Pattern, process, and natural disturbance in vegetation. *Bot. Rev.* 45, 229-299.

Return Intervals spreadsheet

	early	0.001	itial condition by age class disturbance probability x 0.155	0.000155	0.004555	rn interval for reset ev 219.5389
	late closed	0.007	0.1	0.0007	0.004333	219.330
			0.065			
	late open	0.001		0.000065		
	old closed	0.007	0.405	0.002835		
	old open	0.001	0.14	0.00014		
	mid closed	0.006	0.105	0.00063		
	mid open	0.001	0.03	0.00003		
RO	early	0.01	0.16	0.0016	0.0089825	111.327
	late closed	0.0106	0.12	0.001272		
	late open	0.0093	0.12	0.001116		
	old closed	0.0106	0.08	0.000848		
	old open	0.0093	0.22	0.002046		
	mid closed	0.0073	0.185	0.0013505		
	mid open	0.006	0.125	0.00075		
W	early	0.0015	0.06	0.00009	0.004365	229.095
	late closed	0.0045	0.125	0.0005625		
	late open	0.0045	0.025	0.0001125		
	old closed	0.0045	0.45	0.002025		
	old open	0.0045	0.125	0.0005625		
	mid closed	0.0045	0.2	0.0009		
	mid open	0.0045	0.025	0.0001125		
e	early	0.001	0.045	0.000045	0.004745	210.74
-	late closed	0.005	0.1	0.0005	0.004743	210.74
		0.005	0.015	0.000075		
	late open					
	old closed	0.005	0.5	0.0025		
	old open	0.005	0	0		
	mid closed	0.005	0.295	0.001475		
	mid open	0.003	0.05	0.00015		
	early	0.0033	0.05	0.000165	0.007115	140.548
	late closed	0.0075	0.09	0.000675		
	late open	0.007	0.06	0.00042		
	old closed	0.0075	0.305	0.0022875		
	old open	0.007	0.225	0.001575		
	mid closed	0.0075	0.135	0.0010125		
	mid open	0.007	0.14	0.00098		
10	early	0.0033	0.06	0.000198	0.0046305	215.959
	late closed	0.005	0.075	0.000375		
	late open	0.0045	0.08	0.00036		
	old closed	0.005	0.25	0.00125		
	old open	0.0045	0.305	0.0013725		
	mid closed	0.005	0.08	0.0004		
	mid open	0.0045	0.15	0.000675		
		0.04			0.010246	07 5000
	early		0.155	0.0062	0.010246	97.5990
	late closed	0.0063	0.02	0.000126		
	late open	0.005	0.075	0.000375		
	old closed	0.0063	0.105	0.0006615		
	old open	0.005	0.485	0.002425		
	mid closed	0.0033	0.045	0.0001485		
	mid open	0.002	0.155	0.00031		
н	early	0.033	0.15	0.00495	0.015196	65.8067
	late closed	0.018	0.03	0.00054		
	late open	0.0133	0.235	0.0031255		
	old closed	0.0213	0.02	0.000426		
	old open	0.0133	0.185	0.0024605		
	mid closed	0.018	0.03	0.00054		
	mid open	0.0083	0.38	0.003154		
	early	0.033	0.105	0.003465	0.0127905	78.1830
					0.012/903	/0.105
	late closed	0.018	0.025	0.00045		
	late open	0.0117	0.24	0.002808		
	old closed	0.018	0.025	0.00045		
	old open	0.0117	0.225	0.0026325		
	mid closed	0.013	0.025	0.000325		
	mid open	0.007	0.38	0.00266		
	early	0.004	0.07	0.00028	0.00776	128.86
	late closed	0.008	0.085	0.00068		
	late open	0.008	0.035	0.00028		
			0.26	0 00208		
	old closed	0.008	0.26	0.00208		
			0.26 0.11 0.33	0.00208 0.00088 0.00264		

Natural Disturbances and Early Successional Habitats

Chapter 3 Natural Disturbances and Early Successional Habitats

Peter S. White, Beverly Collins, and Gary R. Wein

Abstract Largely a legacy of stand-replacing human disturbances, today's central hardwood forests exhibit a narrower range of stand ages and structures than those in the presettlement landscape. Although natural disturbance types and frequencies vary within the region, large stand-replacing natural disturbances have always been infrequent; typical return intervals in excess of 100 years are longer than current forests have existed. Many present-day stands are dominated by early to mid-successional species in the overstory and late successional species in the understory; natural disturbances often serve to increase dominance of the understory late successional species, unless they are severe enough to disturb the canopy, forest floor, and soil. In any case, only the most severe natural disturbances or combinations of disturbances (including human disturbance) initiate large patches of early successional vegetation. Will the amount and spatial arrangement of early successional habitats created by natural disturbances be sufficient to meet management goals? We do not have the information to answer this question at present; the answer is further complicated by the potential effects of climate change on the rates and intensities of natural disturbances.

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C.H. Greenberg et al. (eds.), *Sustaining Young Forest Communities*, Managing Forest Ecosystems 21, DOI 10.1007/978-94-007-1620-9_3, © Springer Science+Business Media B.V. 2011

3.1 Today's Forests – A Legacy of Human Disturbance

Today's central hardwood forests are largely a legacy of stand-replacing human disturbances that began in the 1700s and intensified in the 1800s and early 1900s (Lorimer 2001). Many of these forests owe their origin to large scale logging that took place between 1850 and 1940, while others date from farm abandonment that has occurred, at different times in different parts of our study area, from 1880 to the present (Fralish and McArdle 2009; Hart and Grissino-Mayer 2008). Peak agricultural clearing occurred between about 1880 and 1920, and post-farming stands from that period are similar in age to the post-logging forests.

Logging and agricultural disturbance were often accompanied by soil erosion, so the significance of these disturbances was more than a simple resetting of the successional clock; productivity and successional trajectories were affected on some sites. Burning and understory livestock grazing also were widespread during the 1800s and early 1900s, and occurred over landscapes variously cleared, farmed, or burned by Native Americans (Owen 2002).

Because of their roots in historical, widespread stand-initiating human disturbances, most of today's central hardwood forests are 70–100 years old, creating a landscape with reduced structural heterogeneity and age diversity compared to the presettlement landscape (Shifley and Thompson, Chap. 6). These forests are now reaching sawtimber size over large areas. Some stand characteristics, such as leaf area and basal area, have reached levels similar to presettlement forests, but composition, maximum tree sizes, and downed woody debris remain out of presettlement norms (Flinn and Marks 2007; Trani et al. 2001).

Present day stem densities generally are greater than densities in old-growth forests for three reasons: (1) Trees are mostly only about one-quarter to one-half their maximum sizes and forest understories were more open in the past due to (2) frequent fires, and (3) understory grazing. Shade-tolerant, fire sensitive, and mesic species often dominate in these denser forest understories and the forests are slowly converting from greater dominance by oaks (*Quercus* spp.) and hickories (*Carya* spp.) (with pines (*Pinus* spp.) in some areas) to maples (*Acer* spp.) and beech (*Fagus* grandifolia) as these species regenerate after the death of overstory trees (Cowell et al. 2010; Fralish and McArdle 2009; Hart and Grissino-Mayer 2008; Hart et al. 2008). Nowacki and Abrams (1997) refer to the widespread increase in mesic fire sensitive species across the deciduous forests of eastern North America as "mesophication." Although invasive pests and diseases (e.g., chestnut blight (*Chryphonectria parasitica*), gypsy moth (*Lymantria dispar*)) became important throughout the 1900s, they also served to increase canopy turnover rates and release advanced regeneration rather than initiate early succession composition and structure.

The maturation of central hardwood forests, the roughly synchronous nature of the large scale human disturbances that produced them, and the current smaller-scale disturbance regime, mean that early successional habitats within these forests are declining. This, in turn, raises concerns about the persistence of biodiversity supported by early successional habitats. In this chapter, we address the questions: What natural disturbances are important in these forests? Will these natural disturbances recreate the heterogeneity and patchiness of the past? Do natural disturbances initiate early successional habitats, which we consider to include new stands, young forest patches, or habitat within forests for open site, early successional plants, in the present landscape? Other chapters in this volume focus more specifically on vegetation response to disturbance; for example, Elliott et al. (Chap. 7) examine disturbance effects on herbaceous vegetation composition and diversity, and Loftis et al. (Chap. 5) examine effects of silvicultural disturbances on species composition of regenerating hardwoods.

In addition to natural disturbances within forests, there are other sources of open habitats and the biodiversity they support in the Central Hardwood Region. They include rock outcrops, glades, barrens, fire-dependent prairies that develop on certain bedrocks, and floodplains and stream channels affected by flood scour and beaver populations (Anderson et al. 1999). These habitats have slow rates of succession (rock outcrops, glades, and barrens), high rates of disturbance (floodplains, prairies) or both. For example, frequent fire can expand open grasslands and savannahs beyond the immediate boundaries of the bedrock islands that underlie some of these open communities. These open sites are also early successional habitats, but in this chapter we focus only on early successional habitats within upland forests, including new stands, patches of young forest, or open patches with early successional species. Anderson et al. (1999) have described the other kinds of open and successional communities in the North American forests.

3.2 Natural Disturbances and Early Successional Habitats

Large-scale or intense disturbances above a threshold of severity (Romme et al. 1998; Frelich and Reich 1999) initiate succession or maintain early successional forest habitats and allow the periodic regeneration of shade intolerant species. Frelich and Reich (1999) concluded severe or high cumulative disturbance maintain early successional species or initiate rapid conversion from late successional species to early successional species (a compositional catastrophe). Roberts (2004, 2007) linked disturbance severity to the percent of cover or biomass removed or disrupted through canopy, understory, and forest floor layers. We have adapted the Roberts model (Fig. 3.1, *left panel*) to link natural disturbance type and severity to early successional habitats. Disturbances are likely to have different impacts through forest strata (reviewed by Roberts 2004) and the threshold of severity to initiate succession is likely to differ both among strata and disturbances. For example, fire and flooding are 'bottom up' disturbances, with ground layer, understory, and canopy impacts at increasing severity. In contrast, wind disturbance, ice storms, and pathogens are often 'top down' disturbances. As windstorm severity increases, effects move from the canopy to soil and understory disturbance through tip-ups, thereby increasing the importance of seed dispersal relative to sprouting and seed bank in recruitment of understory stems (e.g., Busing et al. 2009; Clinton and Baker 2000). In general,

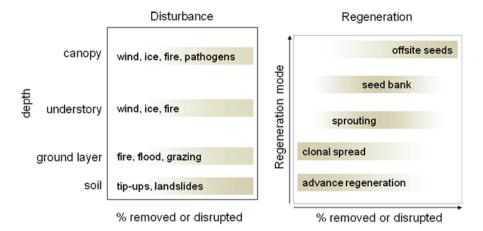


Fig. 3.1 On the *left*, a conceptual model (adapted from Roberts 2004, 2007) relates increasing severity of natural disturbance – as percent cover or biomass removed or disrupted through forest strata – to extent of early successional habitats, which is represented by the progressive shading and includes young forest and open patches with early successional plant species. Disturbance above some threshold of severity (Romme et al. 1998; Frelich and Reich 1999) may be required to initiate early successional habitats. On the *right*, the relative importance (*indicated by the shading*) of different regeneration modes changes with disturbance severity; regeneration from seed sources increases as disturbance severity increases

the establishment of shade intolerant species in the Central Hardwood Region depends on both canopy and ground layer disturbance.

Although severity of individual and multiple disturbances has been related qualitatively to forest conversion or maintenance of early successional species (e.g., Frelich and Reich 1999), few studies have quantified the severity of individual natural disturbance types needed to initiate succession or maintain early successional habitats in upland central hardwood forests. Most evidence is indirect. For example, hurricane damage that resulted, on average, in 25% basal area reduction in a mixed oak-hickory-pine forest did not shift composition toward shade-intolerant tree species (Busing et al. 2009). Natural disturbance alone also had little effect on habitat availability for early successional songbirds in a 60 year simulation study (Klaus et al. 2005). In a west-central Tennessee site that experienced moderateseverity windthrow and limited subsequent salvage logging, establishment of shade-intolerant tree species was more related to pre-disturbance forest composition than to disturbance severity (Peterson and Leach 2008). In contrast, however, Clinton and Baker (2000) found that gaps up to 4.043 m^2 could facilitate establishment of shade-intolerant species in Southern Appalachian forest. Vigorous sprouting (Clinton and Baker 2000) likely contributed to early successional forest structure, since these forests were young enough to have such species in the overstory. Elliott et al. (2002) also found that 84% reduction in basal area, through wind disturbance and subsequent salvage logging, allowed a heterogeneous mix of shade tolerant species, shade intolerant species, and opportunistic early successional understory species to establish in Southern Appalachian forests. Variation in forest composition, differences in disturbance severity over the landscape, and interaction of multiple disturbances (including interactions of natural disturbances and management) are most likely to create within-forest heterogeneity, with local patches of early successional habitats.

Differences in regeneration mechanisms among forest types and over disturbance severity gradients can contribute to the extent and, possibly, duration of early successional habitats. Figure 3.1 (right panel) is a conceptual model of the relationship between disturbance severity and predominant regeneration mechanism following disturbance. In general, contribution of seed sources increases with disturbance severity, although contribution from the seed bank will diminish if soil surface layers are removed (Aikens et al. 2007; Clinton and Baker 2000; Harrington and Bluhm 2001; Turner et al. 1998). Greater contribution from seed sources can increase abundance of early successional and shade-intolerant species, many of which regenerate from buried seeds or from seeds carried into the site by wind or animals. For example, regeneration after hurricane disturbance followed by salvage logging was characterized initially by many small-diameter stems and opportunistic species (Rubus allegheniensis) that regenerate from buried seeds (Elliott et al. 2002). Sites with a high abundance of species that resprout following disturbance are less likely to have new individuals establish, but may maintain young forest structure if early and midsuccessional species dominate the canopy. Regeneration from seeds may also increase the time to canopy closure, when compared to sites with residual plants (those remaining after the disturbance) or a high abundance of species that resprout (Turner et al. 1998).

In general, only the most severe disturbances, such as catastrophic windstorms, fire, or landslides, create extensive early successional habitats. However, repeated natural disturbances, management following a disturbance event, or disturbance following management action could effectively increase disturbance severity or increase the duration of early successional species or structure (Elliott et al. 2002; Gandhi and Herms 2010; Kupfer and Runkle 1996). Frelich and Reich (1999) pointed out the importance of cumulative disturbance severity in maintaining early successional species or initiating catastrophic conversion of late successional to early successional species. Cumulative disturbances also are likely to maintain early successional habitats by preventing establishment of late successional species.

3.3 Disturbance Patterns Within the Central Hardwood Region

Some parts of the Central Hardwood Region are more susceptible than others to particular disturbance types. Understanding the variation in disturbance types and frequencies within the region can guide management actions to promote or sustain early successional habitats (see Shifley and Thompson, Chap. 6).

We used spatial information to examine the patterns of natural disturbances within the Central Hardwood Region. A Geographic Information System (GIS) coverage for ice storm potential (freezing rain) was derived by geo-referencing Fig. 3.1 (a map of the annual number of days with freezing rain as defined by 988 weather stations from 1948 to 2000) from Changnon and Bigley (2005). Line coverage of historical North Atlantic tropical cyclone tracks, 1851–2000 (NOAA 2009) was used to generate a density map of tropical storm occurrence within the region. Tornado density was calculated in ArcGIS (v. 9.3) using United States tornado touchdown points 1950–2004 (NWS 2005). A landslide coverage was based on a spatial index of landslide susceptibility and occurrence (Godt 1997). Raster digital data for mean fire return interval were obtained from LANDFIRE (US Forest Service 2006). The base maps for these disturbances are shown in Appendix I.

To evaluate the patterns of the combined disturbances, we first scaled each disturbance (0–100 scale) among 17 ecoregions (US Environmental Protection Agency 2009) contained within the larger Central Hardwood Region and calculated the mean value of each scaled disturbance weighted by the number of pixels that represented the disturbance within the ecoregion. We used principal components analysis (PCA) to identify linear combinations of the five disturbance types over the ecoregions. It is important to note here that base disturbance intensity differs among the disturbance types. For example, the landslide coverage includes both susceptibility and occurrence; ice storm potential is assessed through data on the days of freezing rain rather than ice storm damage; tropical storms vary in intensity; and mean fire return interval includes a range of severity from understory to stand-replacing fires.

The predominant disturbance type varies among ecoregions within the larger Central Hardwood Region (Figs. 3.2, 3.3). The first two principal components explained 77% of the variance in disturbances among the ecoregions. Axis 1 correlated positively with tornados (0.90) and negatively with landslides (-0.88) and tropical storms (-0.80). This axis represents an east–west gradient (Fig. 3.3) from tropical storms, the predominant disturbance in the east, to tornados in the west (Table 3.1, Fig. 3.2). The frequency of tropical storms decreases from the Piedmont (ecoregion 45, Table 3.1) and adjacent Blue Ridge (ecoregion 66) westward to the Ridge and Valley (67), Central Appalachians (69) and Western Allegheny Plateau (70), which are more susceptible to landslides (Figs. 3.2, 3.3; Table 3.1).

Principal component Axis 2 correlated positively with fire return interval (0.82) and negatively with freezing rain (ice storm potential) (-0.81). Not surprisingly, northern extensions of the region, including the Huron and Erie Lake Plains (57), Southern Michigan and Northern Indiana Drift Plains (56), and Eastern Corn Belt Plains (55) have the highest occurrence of freezing rain (Table 3.1; Figs. 3.2, 3.3). Western regions, from the Central Corn Belt Plains (56) south to the Ouachita Mountains (36), have the highest occurrence of tornados, but areas farther north (56) also experience freezing rain and more southern regions (36, 37, 38) experience frequent fire (5–15 year fire return intervals, Appendix I). The Appalachians and adjacent Plateau regions are an exception to the north – south gradient from freezing rain to high fire return intervals (Fig. 3.3); relatively high rainfall results in

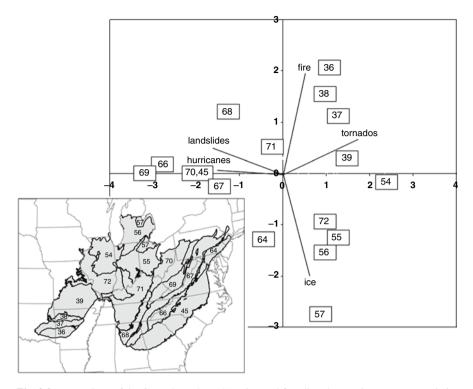


Fig. 3.2 Ecoregions of the Central Hardwood Region and five disturbance eigenvectors (*scaled to unit length*) plotted on the first and second principal component axes. Names of the numbered ecoregions are given in the text

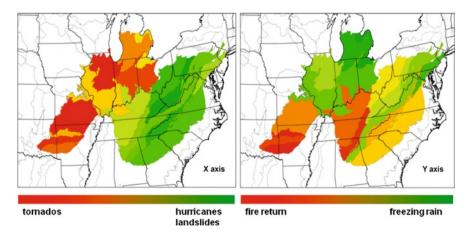


Fig. 3.3 Ecoregions of the Central Hardwood Region color-coded by their PCA scores (*first* (X) *and second* (Y) *axes*). First axis scores were positively correlated with tornados and negatively correlated with landslides and hurricanes. Second axis scores were positively correlated with fire return interval and negatively correlated with freezing rain

Ecoregion	Freezing rain days/year	Tornados #/ km ² /10 year (×10 ⁻³)	Trop. storms #/ km ² /10 year (×10 ⁻⁵)	Fire return interval (years)
56	3.8	1.8	2.4	14.6
67	2.9	0.9	8.9	9.2
57	3.9	1.6	6.2	23.4
54	4.3	2.6	2.5	3.9
64	3.8	1.9	11.9	8.9
55	4.1	2.0	3.8	14.9
70	2.7	0.6	3.6	8.6
69	2.1	0.3	5.1	12.7
72	3.4	1.7	4.0	12.9
45	2.4	1.2	12.8	7.3
71	1.8	1.5	5.9	9.1
39	3.4	1.5	3.7	4.5
66	3.0	0.4	12.0	7.8
68	1.0	1.5	12.0	8.0
38	2.3	1.0	11.8	3.4
37	2.0	2.7	8.5	7.8
36	1.3	1.2	9.7	5.0

 Table 3.1
 The likelihood of experiencing disturbances within each ecoregion

Information about the temporal scale and data sources for each disturbance is included in the text. Qualitative data for landslide incidence and susceptibility could not be averaged and thus were not included in the table. Averages for freezing rain (days/year) and fire return interval (years) were derived from area-based spatial data (Appendix 1) and were weighted by the proportion of area representing different values within the ecoregion. Tornados are the number of touchdowns points per km² per decade within the ecoregion. Tropical storm values were derived from storm tracks (line data, Appendix 1), and are reported as the number per km² per decade within the ecoregion

longer fire return intervals and higher elevations likely experience more frequent freezing rain or ice (Table 3.1).

Variation in natural disturbances over the Central Hardwood Region is likely to result in different patterns and probabilities of early successional habitats being created or maintained. Catastrophic windstorms, associated with tropical storms and hurricanes in the east and with tornados in the west, can create patchy and sporadic early successional habitats, although research suggests these storms generally are below the threshold needed for the initiation of extensive early successional stands unless followed by management (e.g., salvage logging) or a subsequent natural disturbance (Elliott et al. 2002; Gandhi and Herms 2010; Kupfer and Runkle 1996; Peterson and Leach 2008) that increases disturbance severity. In the Piedmont (eastern) and Ouachita (southwestern) ecoregions, fire is the most likely natural disturbance to act in concert with wind (Fig. 3.3). Historically, these fires were initiated by Native Americans, settlers, or lightning; today they are most likely to be initiated by land managers (see Spetich et al., Chap. 4).

In northern ecoregions, as well as on slopes and ridges of the Appalachians, ice storms are most likely to cause damage to the canopy. Susceptibility to ice storms may be greatest on steep slopes (Mou and Warrilou 2000) and damage can be more

intense on edges (Millward and Kraft 2004). However, ice storms often do not lead to change in forest composition, although growth of understory species can slow recovery, especially in larger gaps (Mou and Warrilou 2000). Slopes of the Appalachians and adjacent Plateaus also are susceptible to, and have a high incidence of, landslides. These localized disturbances have high heterogeneity, with patches of unstable exposed soil, erosional and depositional zones, and an initial mix of surviving vegetation and early colonists (Myster and Fernandez 1995; Francescato et al. 2001; Walker et al. 2009). Rates and trajectories of succession can be highly variable on landslides (Francescato et al. 2001; Walker et al. 2009); early successional herbs and patches of shrubs can persist for decades or be replaced more rapidly by forest species (Francescato et al. 2001; Walker et al. 2009).

The presettlement forest landscape, except of course on sites of Native American cultivation, was largely forests whose dominant trees often survived to reach ages of 300–500 years. The mortality of canopy trees therefore occurred at low rates, probably varying from about 0.05% to 2% of canopy trees per year (Runkle 1982; Busing 2005). Large stand-replacing natural disturbances were always infrequent relative to tree lifespans, with return intervals in the 100s of years. Thus, return intervals are longer than the current forests have existed (Hart and Grissino-Mayer 2008; Lorimer 2001; Schulte and Mladenoff 2005). For example, Hart and Grissino-Meyer (2008) found evidence of only one stand release, in the 1980s, in an oak-hickory forest that established in the 1920s. Less severe disturbances, those that do not lead to stand replacement are, of course, more frequent.

Return intervals of particular disturbances at small scales are affected by local factors, such as topography, as well as regional factors such as climate. There are several challenges in predicting natural disturbance return intervals at a local scale. First, they are scale dependent. For instance, the return interval for tropical storms over the last 100 years in the state of North Carolina as a whole (139,396 km²) is about 1.3 years (www.nc-climate.ncsu.edu). The return interval for Orange County, North Carolina, an inland county of 1,040 km² is about 50 years, while the return interval for a particular stand of trees within Orange County is in excess of 100 years (see also Busing et al. 2009). A second challenge is that disturbance rate and severity are contingent, proximately, on current structure and composition and, ultimately, on successional history. Thus, the disturbance rates in the homogeneous forests of the present, with their high densities and uniform canopy of trees that are smaller than old growth forests, are themselves a result of the synchronous origin of these stands some 70-100 years ago. A third challenge is that cumulative effects of repeat or multiple disturbances are more likely to produce early successional habitats than single events (Frelich and Reich 1999). A fourth is that invasive pest species are still spreading in this region. Finally, disturbance rates and severities are likely to change with changing climate and socioeconomic factors. Wear and Greis (Chap. 16) forecast how forest type and age class distribution might change over the next 50 years in response to biophysical and socioeconomic dynamics. Below, we discuss the linkage between natural disturbance and early successional habitats at the landscape scale.

3.4 Natural Disturbance and Early Successional Habitats on the Landscape

At landscape and regional scales, we can ask: how do natural disturbances affect the amount and distribution of early successional habitats and is this pattern dynamically stable (i.e., in equilibrium and likely to be maintained) over time? A strict definition of equilibrium is "quantitative" equilibrium or "shifting mosaic steady state" in which disturbance rate is constant and the percentage of various patch types and stand ages, including early successional vegetation, is constant through time at large spatial scales. Given all the historic and present disturbances that impact forests of the Central Hardwoods Region, quantitative" or "persistence" equilibrium (see discussion in White et al. 1999) in which the rate of disturbance and size of disturbance patches vary, but within boundaries such that patch types, stand ages, and the species associated with these conditions fluctuate from year to year but do not disappear at large spatial scales. Qualitative equilibrium is more likely, and given that it suggests persistence of species dependent on all patch types, may be a reasonable standard for conservationists and managers.

Given (1) the narrow age range of current forests, (2) observations in the literature which suggest later successional species in understories increase after disturbance, and (3) the low probability of stand-replacing natural disturbances, large patches of early successional habitats may be declining on the landscape. However, disturbances do create edges. Light, nutrient, and seed dispersal gradients across edges allow open-site and early successional species to establish and persist in edge zones. For example, edges between forests and agricultural fields had a greater number of light-demanding species than forests interiors, and south-facing edges were as wide as 23 m (Honnay et al. 2002). In forest edges younger than 6 years, most edge-oriented species were close to the edge, with distributions related to light and light-related variables, but some species had peak density up to 40 m into the forest (Matlack 1994). Species composition and distribution patterns characteristic of edges persisted up to 55 years after edges were closed by succession (Matlack 1994).

Canopy gaps and similar disturbance patches also contain light, nutrient, and seed dispersal gradients that promote early successional forest composition and young forest structure. For example, canopy openness in 3-year-old experimental gaps greater than 20 m radius in bottomland hardwood forest declined linearly from the open center (>20% canopy openness) across the edge (>10% canopy openness) to more than 60 m (<5% canopy openness) into the surrounding forest (Collins and Battaglia 2002). Ten years after the gaps were created, the centers had a young forest canopy; species composition differed from gap centers into the surrounding forest, with wind-dispersed species more common in gap centers (Holladay et al. 2006). In a high-latitude Scots Pine (*P. sylvestris*) and Norway Spruce (*Picea abies*) forest, cumulative photosynthetically active radiation (PAR) was asymmetrically distributed around a canopy gap (deChantal et al. 2003). PAR decreased from 1,100 MJ m⁻² in the gap to 300 MJ m⁻² beneath surrounding forest over 20 m on the north side and

over 36 m on the south side of the gap. After only two growing seasons, there was evidence that the asymmetric distribution of light and resources could contribute to Scots Pine and Norway Spruce becoming dominant in different parts of the gap.

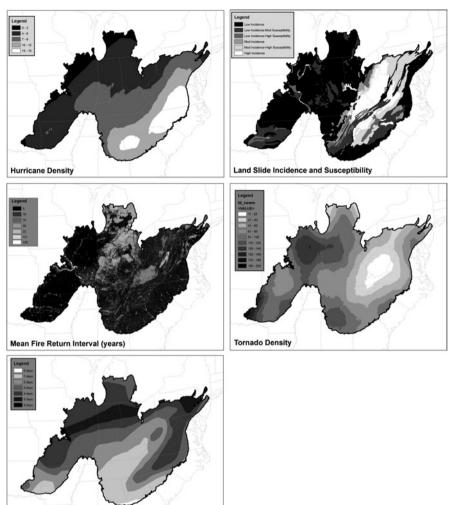
Other mechanisms will also create refuges for early successional species at landscape and regional scales. Habitat fragmentation with urbanization and second home construction will increase edge habitat. Alien pests and pathogens that affect central hardwood forests, such as the emerald ash borer (*Agrilus planipennis*) and hemlock woolly adelgid (*Adelges tsugae*), will continue to create canopy openings. However, the relative homogeneity of stands ages in the Central Hardwood Region and current regeneration patterns in these forests suggest that early successional habitats will decline as these forests age. There are therefore concerns for particular management units, in terms of loss of heterogeneity and early successional habitats. Nonetheless, there are many processes that support the local regeneration of early successional species across this region. Unfortunately, data are not often collected at relevant scales to evaluate the net balance of these sets of processes.

3.5 Conclusion

The synchronous origin and narrow range of stand ages in the Central Hardwood Region will have implications for decades to come (see Shifley and Thompson, Chap. 6). Variation in the types and frequencies of natural disturbances creates a range of early succession and young forest species composition and structure; thus, scattered to connected patches of early successional habitats generated by natural disturbance are likely to be represented in the central hardwood forests of tomorrow. However, the narrow range of stand ages, reduced structural heterogeneity, current successional processes, and low frequency of disturbance at the local scale suggest loss of abundant early successional habitats, at least that generated by natural disturbance alone, at a scale relevant to conservation and management. We do not know if the frequency, patch size, and spatial distribution of natural disturbance-generated early successional habitats will be sufficient to sustain biological diversity (or for any other management goal). Additional research is needed on the scale-dependence of natural disturbance return intervals, the interactions among specific disturbance types, the impact of new invasive pests, and the potential influence of climate change on the frequency and intensity of natural disturbance events.

Appendix I: Base Maps of Natural Disturbances Within the Central Hardwood Region

The map of Hurricane Density within the Central Hardwood Region was derived from line coverage of historical North Atlantic tropical cyclone tracks, 1851–2000 (NOAA 2009). The Landslide map was based on a spatial index of landslide



Average Annual Days of Freezing Rain

susceptibility and occurrence (Godt 1997). Raster digital data for Mean Fire Return Interval were obtained from LANDFIRE (US Forest Service 2006). Tornado density was calculated in ArcGIS using United States tornado touchdown points 1950–2004 (NWS 2005). The map of ice storm potential (Freezing Rain) was derived by geo-referencing Fig. 3.1 (a map of the annual number of days with freezing rain as defined by 988 weather stations from 1948 to 2000) from Changnon and Bigley (2005).

Literature Cited

- Aikens ML, Ellum D, McKenna JJ, Kelty MJ, Ashton MS (2007) The effects of disturbance intensity on temporal and spatial patterns of herb colonization in a southern New England mixed-oak forest. For Ecol Manage 252:144–158
- Anderson RC, Fralish JS, Baskin JM (eds) (1999) Savannas, barrens, and rock outcrop plant communities of North America. Cambridge University Press, Cambridge
- Busing RT (2005) Tree mortality, canopy turnover, and woody detritus in old cove forests of the Southern Appalachians. Ecology 86:73–84
- Busing RT, White RD, Harmon ME, White PS (2009) Hurricane disturbance in a temperate deciduous forest: patch dynamics, tree mortality, and coarse woody detritus. Plant Ecol 201(1): 351–363
- Changnon D, Bigley R (2005) Fluctuations in US freezing rain days. Clim Change 69:229-244
- Clinton BD, Baker CR (2000) Catastrophic windthrow in the southern Appalachians: characteristics of pits and mounds and initial vegetation responses. For Ecol Manage 126:51–60
- Collins B, Battaglia LL (2002) Microenvironmental heterogeneity and *Quercus michauxii* regeneration in experimental gaps. For Ecol Manage 155:279–290
- Cowell CM, Hoalst-Pullen N, Jackson MT (2010) The limited role of canopy gaps in the successional dynamics of a mature mixed Quercus forest remnant. J Veg Sci 21:201–212
- de Chantal M, Leinonen K, Kuuluvainen T, Cescatti A (2003) Early response of *Pinus sylvestris* and *Picea abies* seedlings to an experimental canopy gap in a boreal spruce forest. For Ecol Manage 176:321–336
- Elliott KJ, Hitchcock SL, Krueger L (2002) Vegetation response to large scale disturbance in a southern Appalachian forest: hurricane opal and salvage logging. J Torrey Bot Soc 129:48–59
- Flinn KM, Marks PL (2007) Agricultural legacies in forest environments: tree communities, soil properties, and light availability. Ecol Appl 17:452–463
- Fralish JS, McArdle TG (2009) Forest dynamics across three century-length disturbance regimes in the Illinois Ozark Hills. Am Midl Nat 162:418–449
- Francescato V, Scotton M, Zarin DJ, Innes JC, Bryant DM (2001) Fifty years of natural revegetation on a landslide in Franconia Notch, New Hampshire, USA. Can J Bot 79:1477–1485
- Frelich LE, Reich PB (1999) Neighborhood effects, disturbance severity, and community stability in forests. Ecosystems 2:151–166
- Gandhi KJK, Herms DA (2010) Direct and indirect effects of alien insect herbivores on ecological processes and interactions in forests of eastern North America. Biol Invasions 12:389–405
- Godt JW (1997) Digital representation of landslide overview map of the conterminous United States: US geological survey open-file report 97-289, scale 1:4,000,000. Available online at http://landslides.usgs.gov/html_files/landslides/nationalmap/national.html
- Harrington TB, Bluhm AA (2001) Tree regeneration responses to microsite characteristics following a severe tornado in the Georgia Piedmont, USA. For Ecol Manage 140:265–275
- Hart JL, Grissino-Mayer HD (2008) Vegetation patterns and dendroecology of a mixed hardwood forest on the Cumberland Plateau: implications for stand development. For Ecol Manage 255:1960–1975
- Holladay C-A, Collins B, Kwit C (2006) Woody regeneration in and around aging southern bottomland hardwood forest gaps: effects of herbivory and gap size. For Ecol Manage 223:218–225
- Honnay O, Verheyen K, Hermy M (2002) Permeability of ancient forest edges for weedy plant species invasion. For Ecol Manage 161:109–122
- Klaus NA, Buehler DA, Saxton AM (2005) Forest management alternatives and songbird breeding habitat on the Cherokee National Forest, Tennessee. J Wildl Manage 69:222–234
- Kupfer JA, Runkle JR (1996) Early gap successional pathways in a Fagus-Acer forest preserve: pattern and determinants. J Veg Sci 7:247–256
- Lorimer CG (2001) Historical and ecological roles of disturbance in eastern North American forests: 9,000 years of change. Wildl Soc Bull 29:425–439

- Matlack GR (1994) Vegetation dynamics of the forest edge trends in space and successional time. J Ecol 82:113–123
- Millward AA, Kraft CE (2004) Physical influences of landscape on a large-extent ecological disturbance: the northeastern North American ice storm of 1998. Landsc Ecol 19:99–111
- Mou P, Warrillow MP (2000) Ice storm damage to a mixed hardwood forest and its impacts on forest regeneration in the ridge and valley region of southwestern Virginia. J Torrey Bot Soc 127:66–82
- Myster RW, Fernandez DS (1995) Spatial gradients and patch structure on two Puerto Rican landslides. Biotropica 27:149–159
- National Oceanic and Atmospheric Administration, National Hurricane Center (2009) Historical North Atlantic tropical cyclone tracks, 1851–2008. National Oceanic and Atmospheric Administration Coastal Services Center. Online_Linkage: http://maps.csc.noaa.gov/hurricanes/ index.jsp
- National Weather Service, Storm Prediction Center (2005) United States tornado touchdown points 1950–2004. National Atlas of the United States. Online_Linkage: http://nationalatlas.gov/atlasftp.html
- Nowacki GJ, Abrams MD (1997) Radial-growth averaging criteria for reconstructing disturbance histories from presettlement-origin oaks. Ecol Monogr 67:225–249
- Owen W (2002) The history of native plant communities in the south. In: Wear D, Greis J (eds) Southern forest resource assessment. Gen Tech Rep SRS-53, USDA Forest Service Southern Research Station, Asheville
- Peterson CJ, Leach AD (2008) Limited salvage logging effects on forest regeneration after moderateseverity windthrow. Ecol Appl 18:407–420
- Roberts MR (2004) Response of the herbaceous layer to natural disturbance in North American forests. Can J Bot 82:1273–1283
- Roberts MR (2007) A conceptual model to characterize disturbance severity in forest harvests. For Ecol Manage 242:58–64
- Romme WH, Everham EH, Frelich LE, Moritz MA, Sparks RE (1998) Are large, infrequent disturbances qualitatively different from small, frequent disturbances? Ecosystems 1:524–534
- Runkle JR (1982) Patterns of disturbance in some old-growth mesic forests in eastern North America. Ecology 63:1533–1546
- Schulte LA, Mladenoff DJ (2005) Severe wind and fire regimes in northern forests: historical variability at the regional scale. Ecology 86:431–445
- Trani MK, Brooks RT, Schmidt TL, Victor RA, Gabbard CM (2001) Patterns and trends of early successional forest in the eastern United States. Wild Soc Bull 29:413–424
- Turner MG, Baker WL, Peterson CJ, Peet RK (1998) Factors influencing succession: lessons from large, infrequent natural disturbances. Ecosystems 1:511–523
- US Environmental Protection Agency (2009) Level III and IV ecoregions of the coterminous United States. Western Ecology Division, US EPA, Corvallis. http://www.epa.gov/wed/pages/ ecoregions.htm
- US Forest Service (2006) LANDFIRE. Mean fire return interval. USDA Forest Service, Missoula. http://landfire.cr.usgs.gov
- Walker LR, Velazquez E, Shiels AB (2009) Applying lessons from ecological succession to the restoration of landslides. Plant Soil 324:157–168
- White PS, Harrod J, Romme W, Betancourt J (1999) The role of disturbance and temporal dynamics. Chapter 2. In: Szaro RC, Johnson NC, Sexton WT, Malk AJ (eds) Ecological stewardship. Elsevier Science, Oxford, pp 281–312

Attachment 07

Landscape patterns of wildfire and prescribed fire on the Pisgah and Nantahala Forests

Landscape patterns of wildfire and prescribed fire on the Pisgah and Nantahala Forests

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2021 Asheville, NC





Abstract

As wildfire and prescribed fire become more common across western North Carolina there is need for understanding fire effects from a landscape perspective. How do effects differ in these mountains, and why? Where are we moving toward management objectives and where might we be departing from it? What are the risks across jurisdictions, and how does that relate to long-term resilience? To build a foundation for these fundamental and broad questions, this report describes landscape patterns of fire severity for 34 wild and prescribed fires in the Nantahala and Pisgah National Forests that occurred between 1999 and 2019 using remote sensing. This research shows that xeric slopes and vegetation types are more likely to experience a reduction in canopy NDVI by the growing season after fire, while rich coves, in particular, experience little detectable change. Across this xeric to mesic montane gradient, these patterns suggest that canopy change after fire is predictable from an environmental gradient perspective, and that quantification of these patterns through remote sensing can inform basic forest management and planning decisions. For the fires examined, prescribed fire was ten times less likely than wildfire to be severe overall. Large patches were more common in wildfires, particularly those that burned during droughts and in the summer on the Grandfather Ranger District. The sparse and fine-textured canopy change from fire in coves suggests that gap-phase processes dominate there rather than the patch-phase dynamics that are common on xeric slopes and vegetation types. These insights can inform where and how sites are prioritized and managed for fire-associated stand restoration.

Keywords: Wildfire, prescribed fire, early successional habitat, resilience, remote sensing, NDVI, landscape pyrodiversity.

Summary points

- Wildfire and prescribed fire have reinforced existing topographic and vegetational patterns of forest heterogeneity despite the role of chance event-specific factors like fire weather or fire management decisions that also playing a role.
- The effects of prescribed fire in western North Carolina have been proportionately lower than that of wildfire suggesting that repeated burns will be required for targeted landscape restoration efforts to be achieved.
- While severe drought-associated wildfire can rapidly restore some desired forest structural components, they also bring tradeoffs that may erode ecological resilience and threaten the wildland urban interface.

The Author

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Acknowledgements: This project was conducted in collaboration with Gary Kauffman and Larry Hayden. William Christie provided technical assistance for portions of this project.

Cover photo: The fall 2016 Tellico wildfire on the Nantahala District taken from July 2017 showing a range of fire severities. Photo credit: Kenny Frick, US Forest Service.

Introduction

Wildland fire has a storied ecological and social history across the Southern Appalachians that extends back centuries (Lafon and others 2017). Lightning ignitions do occur, and fires set by lightning during late growing season droughts could have burned for months and spread over vast areas regardless of human influence. Yet as humans have occupied this landscape for thousands of years, their ignitions may have overwhelmed those from lightning in ways that altered fire regimes over vast areas. Despite landscape fire being relatively rare today, these historical fires had complex effects on the region's vegetation because roughly half of the area's forest types harbor dominant species that are either tolerant of fire or that are in some way favored by it.

The flammability of the Southern Appalachians became readily apparent during the hot droughty fall of 2016 when multiple large wildfires burned across tens of thousands of acres of North and South Carolina, Georgia, Tennessee, and Virginia. Unimpeded by terrain, wildfires extended across jurisdictional boundaries and some burned continuously for weeks. As that smoky November came to an end, a season-ending firestorm erupted in the Great Smokies and Gatlinburg, Tennessee that led to the loss of thousands of homes and at least 14 lives. Since that historic tragedy, severe wildfire has been increasingly recognized as a possibility in some parts of the region, even as its likelihood and consequences remain poorly understood.

The paleo-ecological record of past fire from tree rings provides marginal insight into severe fire. For whatever reason, the Southern Appalachians has yielded only a few sites with multi-century-long fire records, only one of which was found in western North Carolina (Flatley and others 2013; Lafon and others 2017). These natural archives from fire scarred pines indicate that those sites burned frequently into the mid-1700s and charcoal records give us a suggestive glimpse into fire regimes going back millennia further (Lafon and others 2017). Frequent landscape fire is consistent with localized historical accounts that date from the late 1700s through the early 1900s—both the Cherokee and subsequent settlers burned until organized fire suppression began in the 1910s (Ayres and Ashe 1905; Bartram 1998; Fries 1922; Lafon and others 2017).

Some of the strongest evidence for regular landscape fire is the region's fire-adapted vegetation and the ubiquity of species that are arguably fire dependent, such as table mountain pine, pitch pine and mountain laurel (Barden and Woods 1976; Williams 1998). Some suggest that high frequency historical fire can help explain the persistence of many of the region's now-diminished treeless balds and canebrakes (Mark 1958; Platt and Brantley 1997). In addition to the presence of fire-associated species and vegetation, fire's prior importance is suggested by how certain vegetation types have drifted compositionally and structurally in the absence of fire. This change includes the successional replacement of oaks and hickories by mesic species and even decay regimes that become less than optimal without regular fire (Abrams 1992; Brose and others 2001; Carpenter and others 2021; Nowacki and Abrams 2008; Vose and Elliott 2016). The most effective way to sustain forest and species diversity in the Southern Appalachians seems to be to restore some fire, so the emerging forest management and planning questions are where to prioritize fire, and how and when to employ it.

Historical conditions provide baseline insights, and they can suggest what is needed to sustain natural systems, but the western North Carolina forests of today are substantially different than they were in the past. Many forests of western North Carolina were logged early in the 20th century about the time that fire exclusion became widespread (Davis 2000; Silver 2003; Newfont 2012; Spencer 2014; Spencer 2017). The widespread loss of American chestnut in the 1930s had additional successional and fire impacts on a scale that is hard to comprehend (Kane and others 2020). With regrowth, it is thought that within the forest, there is now far less early successional habitat than there was historically, and that much of that habitat loss resulted from the exclusion of fire (Harrod and others 2000; Rankin and Herbert 2014; Oakman and others 2019). Open forests may result from a single severe disturbance event or from high frequency disturbance that either leads to progressive canopy declines or that interferes with regeneration. In western North Carolina today, we see both fire effects at work: even-aged cohorts have established after severe fire events, particularly since 2000, and regularly scheduled prescribed fires are gradually creating and sustaining openings (Figure 1).

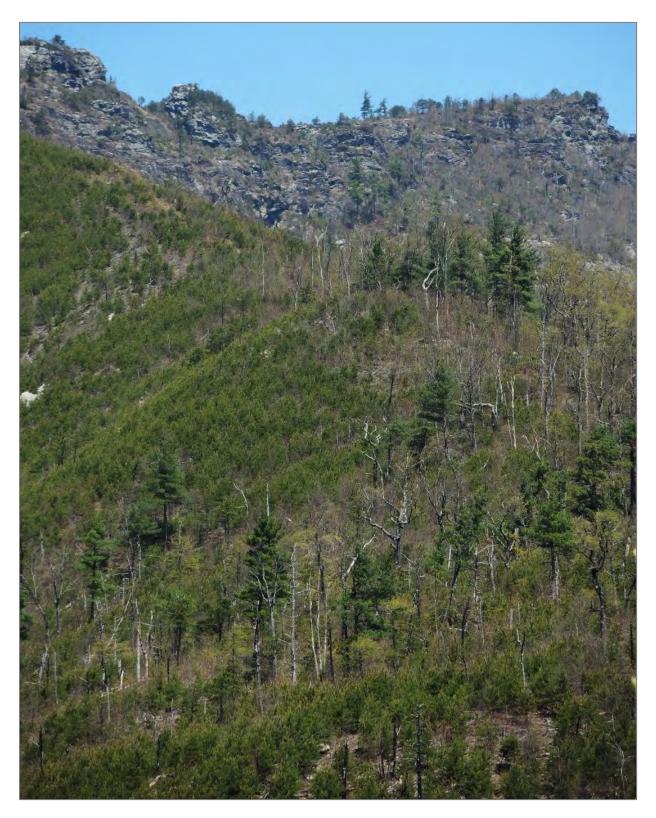


Figure 1: Six and a half years after the November 2013 Table Rock fire in the Linville Gorge Wilderness the evenaged patch regeneration of pine (at left and lower-bottom) stands out against the patch of partial mortality (at right and upper-bottom). Photograph by Steve Norman, US Forest Service, 2021.

Prescribed fire use on the national forests of western North Carolina did not begin until the 1970s. Burn objectives were narrowly defined to restore open habitat for the golden eagle (Barden 1978; Lindsay and Bratton 1979) and, later, to sustain habitat for golden mountain heather (Gross and others 1998). In the late 1970s, a burn was conducted in Madison County to facilitate pine regeneration after extensive mortality from the southern pine beetle, but it was not until 1990 that an experimental prescribed burn was conducted in the region's hardwood forest (Elliott and others 1999). Since then, the area burned by prescribed fire has greatly increased so that some mixed pine-hardwood units receive scheduled reburns at regular frequency.

As wildfire and prescribed fire becomes more common in this landscape, the effects of both on forest structure has become an important question for planning and monitoring. This research describes these gap or patch-forming fire effects over a two-decade period for the Nantahala and Pisgah National Forest areas.

METHODS

Fire occurrence data

Only a small fraction of the prescribed and wildfires that have burned since the 1980s have geospatial boundaries available. Most large wildfires that occurred on Forest Service land since 2000 have operational fire perimeters available from the National Interagency Fire Center (NIFC) (https://data-nifc.opendata.arcgis.com/). The US Monitoring Trends in Burn Severity (MTBS) project also includes large fire perimeters back to 1985, but these were derived from burn area mapping using Landsat 5, 7 and 8 (https://www.mtbs.gov/). As most fires in the east burn with low intensity and occur shortly before canopy green-up in the spring, these perimeters can differ for the same fire. This is due to the inherent difficulties in mapping light or patchy leaf litter effects after canopy green-up. Where available, operational perimeters were used in this research to include lightly burned areas and to correspond with the burn units that are recognized by managers. Historical prescribed fire boundaries were most difficult to obtain consistently. Prescribed fire perimeters on Forest Service land were obtained from the US Forest Service Geospatial Clearinghouse fuels treatment dataset (https://data.fs.usda.gov/geodata/).

Many fire effects could not be mapped due to limited availability and quality of satellite imagery, whether limitations of a pre- or post-fire scene. We sought representativeness across the Pisgah and Nantahala Forests and temporally across seasons, fire weather and drought conditions. We identified 12 prescribed fires and 22 wildfires that burned between 1999 and 2019 (Figure 2). Several fires were reburns, particularly in Linville Gorge where one area burned four times between 2000 and 2017. In addition, a portion of the Joyce Kilmer Slickrock Wilderness burned twice—once in 1999 and again in 2016. All portions of the forest burned prior to 1999, but this was often as far back as the early 20th century, but scattered records suggest that other areas partly burned as late as the 1950s.

NDVI as a vegetation and fire severity indicator

Landscape forest monitoring commonly tracks forest conditions over time using a compositionally or structurally sensitive gridded measure. Most efforts use some type of vegetation-sensitive index that is constructed from wavelengths of reflected light. The Normalized Difference Vegetation Index (NDVI) is among the oldest such indices (Tucker 1979), and it has been widely used to track land cover change and forest canopy health and tree mortality (Khodaee, and others 2020; Spruce and others 2011; Yang and others 2018). NDVI normalizes the difference between the near infrared (NIR) and red bands as shown in formula 1.

Formula 1.

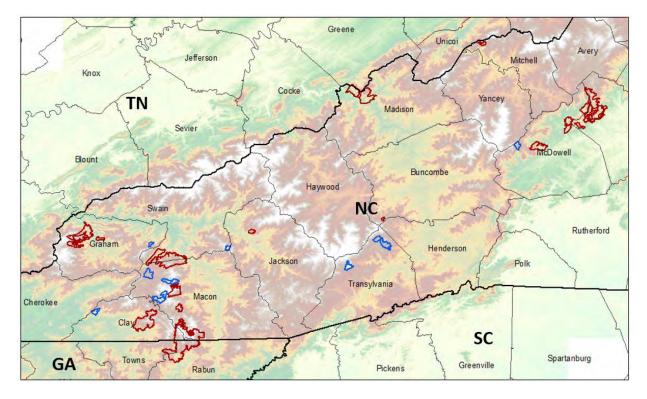


Figure 2: The location of the wildfires (red) and prescribed fires (blue) used in this analysis.

NDVI's use for monitoring fire-associated canopy mortality has been demonstrated for a range of vegetation types. In recent years, the Normalized Burn Ratio (NBR) has been widely adopted for use in satellite-based remote sensing efforts, and it is particularly useful in dry, open canopied coniferous forests (Eidenshink and others 2007; Chen and others 2011; Miller and Thode 2007; Warner and others 2017). Use of NBR has limitations compared to NDVI, including the lower grid resolution for recent fires and the less efficient capacity of the index to create multidate mosaics which are often needed for eastern landscapes given frequent cloud cover in the east. NDVI is also especially powerful for tracking other forms of disturbance and patch-phase succession, so it is arguably among the most robust remote sensing tools for integrative landscape forest monitoring.

In this research, change in growing season NDVI is defined as a measure of canopy severity, and decline correlates with both canopy mortality or growing season stress across the grid cell. The ability of this gridded measure to resolve individual tree mortality depends on the size of the tree crown with respect to the grid resolution. Small individual tree gaps are often unresolvable even at the 10m resolution that's available from Sentinel-2 imagery, while gaps and patches involving multiple canopy tree losses are relatively easy to resolve at Landsat's 30m resolution. To capture change to the deciduous forest canopy, pre- and post-fire conditions are only compared for the growing season rather than the spring, fall or winter season when NDVI can only capture the conifer canopy or understory evergreen condition and when within-canopy shadows and topographic shadows are more problematic.

For each fire, NDVI change was analyzed using Google Earth Engine and the *HiForm.org* NDVI change script. When available, individual dates were used for the baseline and post-fire conditions, but in other cases to overcome clouds and hazy atmospheric conditions, full NDVI growing season mosaics were used using a maximum NDVI value compositing technique. The actual dates used for each fire are shown in *Appendix 1*. Change was calculated as the absolute difference between the baseline and post-fire NDVI as absolute change captures subtle drops in high-NDVI forests without exaggerating change in low NDVI shrub or woodlands as results from the percent change formulation that is sometimes used.

In this fire severity analysis, the targeted phenomenon to capture is canopy mortality. Aerial imagery is available roughly every two years since 2004 and this varies in resolution from 0.6 to 1m and most imagery was captured during the growing season. These high-resolution products are imperfect for image interpretation due to terrain and tree displacement that are more common than with satellite imagery. Differences in illumination and forest density also make it difficult to resolve individual crowns.

We used a combination of 30m-resolution Landsat-5 or 8 and 10m-resolution Sentinel 2 satellite imagery, deferring to the latter when it was available after 2016. With nine times the detail of Landsat, Sentinel-2 can resolve finer changes in tree canopy and gap structure. This finer resolution is more likely to resolve the mortality of individual trees and tree gaps that can occur with low to moderate severity wildfire (Figure 3).

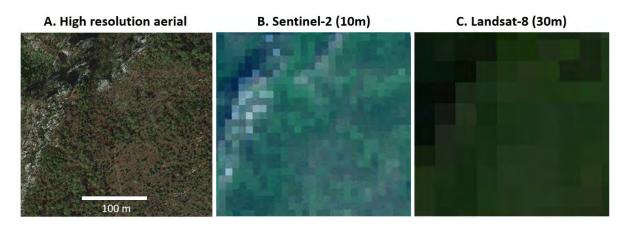


Figure 3: A comparison of grid-resolution a (a) 0.5m resolution aerial photo, (b) 10m Sentinel-2 and (c) 30m Landsat-8 in the Linville Gorge, Pisgah National Forest, NC.

Growing season-to-growing season canopy change was associated with fire severity by independently mapping canopy mortality using sub-meter imagery taken before and after the burn for selected areas. Ideally, tree mortality across the 20-year study period and two National Forests would be captured by 10 or 30m plots that are geo-located with respect to change imagery. As that is not possible retroactively, patch mortality polygons were drawn using high resolution aerial photographs from before to after three fires. These were the fall 2016 Rock Mountain wildfire using summer 2017 Georgia NAIP imagery and the 2007 Deweese Ridge prescribed fire using 2008 NAIP imagery. This technique was modeled after Lorber and others (2018) who used aerial imagery to hand draw high mortality for a large set of fires. In this research, I quantified change within lethal areas of these two fires to calibrate a high severity threshold for change from Sentinel-2 and Landsat-5, respectively. For both fires, this dNDVI value was -0.21, and that dNDVI threshold was used to define likely canopy mortality.

Multi-year delayed mortality is a known phenomenon after drought-associated fire in the Southern Appalachians, particularly on xeric sites (Carpenter and others, 2021). This project's reliance on growing season conditions after spring or fall fires means that only mortality that occurred from a few months to a half year after fire could be captured by this analysis. Even high-resolution satellite remote sensing can have difficulty resolving delayed mortality in the Southern Appalachian ecosystem due to rapid resprouting of trees and shrubs in the years after the burn. Field observations suggest that the best predictor for delayed mortality are areas of moderate to high severity where duff consumption is high and where fire can scar trees. No formal effort was undertaken to resolve this delayed mortality that occurred after the first growing season after fire for this analysis, although it was occasionally observed with 10m imagery as was general successional recovery.

While no systematic landscape-wide field validation of tree mortality was conducted for this regional effort, high fire severity was compared with analogous burn severity products generated by the Forest Service's Monitoring Trends in Burn Severity project when available for a subset of large wildfires, multi-year NDVI behavior from weekly 240m MODIS severity using the *ForWarn* system (http://forwarn.forestthreats.org), sequential views from

meter or sub-meter NAIP aerial photographs, oblique aerial photos of select fall 2016 fires taken in July 2017 by the US Forest Service Forest Health Protection from light aircraft, and casual field observations for many of the fires that burned since 2015 to document mortality.

Point and patch analyses

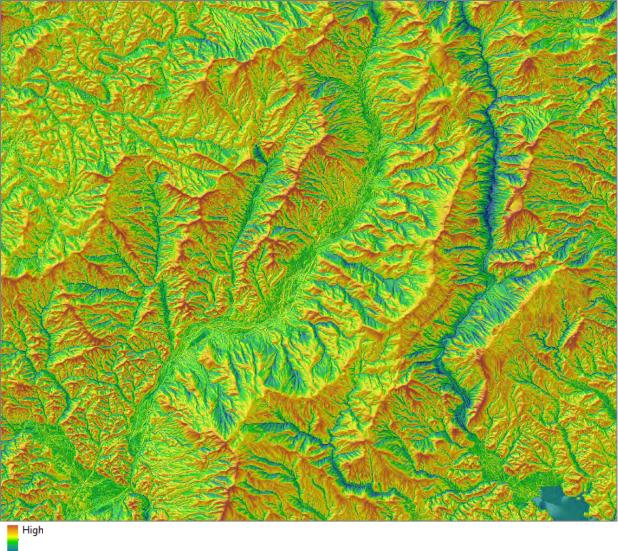
The landscape scale objective of this analysis was to understand the underlying association of high canopy severity with coarse potential vegetation types and site moisture. Analysis of these associations within and among fires was achieved by extracting values from about 100,000 random points with a 30m minimum spacing using *ArcMap* 10.7.1 software. Raster values extracted during this step included fire name, season, fire type (wild or prescribed), potential vegetation type, TRMI and other topographic values. The extracted raster values were assembled into a matrix for data exploration and graphing. After eliminating edge values and non-target cover types, the matrix consisted of about 98,300 useful point extractions. These data provide statistical insights into the percent high, moderate and low severity for each wild and prescribed fire.

This extraction technique meant that these declines in post-fire growing season NDVI included a range of large patches and small tree clumps. To quantify the effects of these fires on large patch formation that are particularly important for some successional and habitat concerns, burn areas were converted to a 0-1 raster based on the high severity threshold, then severe values were converted to polygons to estimate patch area.

Ancillary datasets: site moisture and potential vegetation type

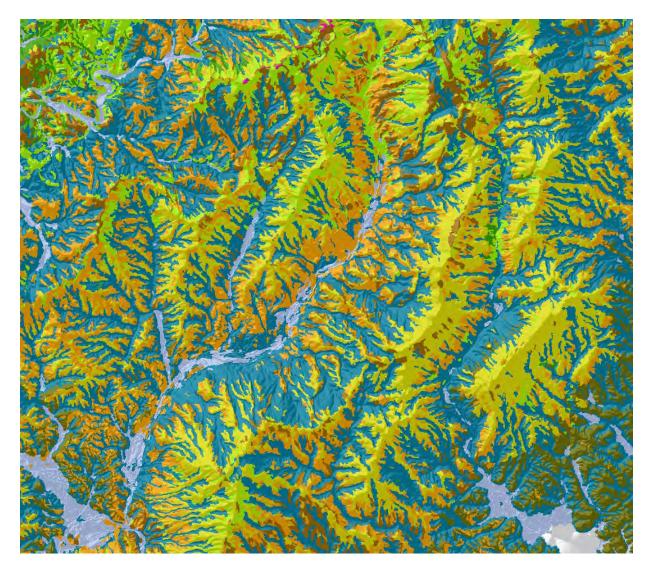
We characterized the fixed landform attributes of the landscape using a topographic relative moisture index (TRMI) derived from a 10m digital elevation model. This quantification of site moisture consisted of a three-part equally weighted relative index that integrated solar radiation, topographic position (relative to a 2km neighborhood circular mean) and drainage (a function of slope and flow accumulation). Each component was rescaled from 1 (wet) to 100 (dry), then averaged together and assigned to one of three categories—xeric, moderate and mesic using the mean and standard deviation of the greater region's TRMI values (Figure 4).

The vegetation type map used for this analysis was the same ecozone layer that was used for the vegetation analysis in the National Forest's current planning effort (Figure 5). The map shows general potential vegetation derived from plots and field observations that are modeled using elevation and topography (Simon 2005). Potential vegetation types do not show current conditions that result from severe disturbance, agricultural clearing, urban development, or logging. In montane areas such as western North Carolina, these patterns are largely reflective of topography, but the type is generalized to be considerably coarser than the 10m grid used in the site moisture index. Given that high fire severity often varies at very fine scales, that is at the 10m resolution of the TRMI, not just the broad forest type polygon, the integrated use of these two maps reveals heterogeneity of fire effects within potential vegetation types.



Low

Figure 4: The 10m grid resolution Topographic Relative Moisture Index (TRMI) for a portion of the Grandfather Ranger District, showing Linville Gorge at right and the north fork of the Catawba valley at center. Lake James is at lower right. The mapped area shown is approximately 19km from west to east.



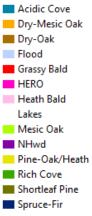


Figure 5: Ecozones for the same area shown in figure 4 above for a portion of the Grandfather Ranger District.

RESULTS

Twelve prescribed fires and 22 wildfires were selected for this analysis to represent the environmental diversity of the Nantahala and Pisgah forest region. Sampled fires come from eleven counties and four seasons that burned over two decades (Table 1).

Fire name	Cause	Ignition	Acres Burned	National Forest	NC County	
Prescribed fire						
2019 Appletree Rx	Rx fire	2019-Apr-23	2095	Nantahala NF	Macon	
2016 Split White Oak Rdg. Rx	Rx fire	2016-Mar-7	838	Nantahala NF	Macon	
2016 Fire Gap Rx	Rx fire	2016-Mar-8	1751	Nantahala NF	Macon	
2010 Lost Bear East Rx	Rx fire	2010-Apr-5	1070	Pisgah NF	McDowell	
2008 Pilot Mtn Rx	Rx fire	2008-Mar-22	1291	Pisgah NF	Transylvania	
2008 Alarka Laurel Rx	Rx fire	2008-Dec-11	558	Nantahala NF	Swain	
2007 Leatherwood Rx	Rx fire	2007-Mar-29	961	Nantahala NF	Clay	
2007 Laurel Brook Rx	Rx fire	2007-Feb-28	2061	Pisgah NF	Transylvania	
2011 Pink Beds Rx	Rx fire	2011-Mar-24	1017	Pisgah NF	Transylvania	
2007 Highlands-Dirty John Rx	Rx fire	2007-Mar-9	850	Nantahala NF	Macon	
2007 Deweese Ridge Rx	Rx fire	2007-Mar-14	844	Nantahala NF	Macon	
2009 Cook Branch Rx	Rx fire	2009-Apr-18	442	Nantahala NF	Graham	
Wildfire						
1999 Avey Creek Wf	Arson	1999-Nov-15	2099	Nantahala NF	Graham	
1999 Goldie Deadon Wf	Arson	1999-Nov-15	1717	Nantahala NF	Graham	
2000 Brushy Ridge Wf	Campfire	2000-Oct-28	12405	Pisgah NF	Burke	
2001 Larman Wf	Arson	2001-Nov-12	3072	Pisgah NF	Madison	
2007 Dobson Knob Wf	Lightning	2007-Jun-8	816	Pisgah NF	McDowell	
2007 Linville-Shortoff Wf*	Lightning	2007-Jun-8	6466	Pisgah NF	Burke	
2008 Sunrise Wf	Misc./Unknown	2008-Apr-18	1906	Pisgah NF	McDowell	
2015 Bald Knob Wf	Lightning	2015-Jul-17	1268	Pisgah NF	McDowell	
2015 Blue Gravel Wf*	Lightning	2015-Apr-14	521	Pisgah NF	Burke	
2015 Poplar Wf	Arson	2015-Mar-31	768	Pisgah NF	Mitchell	
2016 Boteler Wf	Lightning	2016-Oct-25	8627	Nantahala NF	Clay	
2016 Camp Branch Wf	Arson	2016-Nov-22	3234	Nantahala NF	Macon	
2016 Clear Creek Wf	Arson	2016-Nov-20	3493	Pisgah NF	McDowell	
2016 Dicks Creek Wf	Misc./Unknown	2016-Oct-23	833	Nantahala NF	Jackson	
2016 Highway 151 Wf	Other	2016-Nov-24	245	Pisgah NF	Buncombe	
2016 Knob Wf	Arson	2016-Nov-2	1133	Nantahala NF	Macon	
2016 Maple Springs Wf*	Arson	2016-Nov-4	8438	Nantahala NF	Graham	
2016 Rock Mtn Wf	Arson	2016-Nov-9	24725	Nantahala NF	Macon	
2016 Silver Mine Wf	Arson	2016-Apr-21	5510	Pisgah NF	Madison	
2016 Tellico Wf	Arson	2016-Nov-3	13877	Nantahala NF	Swain-Macor	
2017 Dobson Knob Wf	Misc./Unknown	2017-Apr-10	1720	Pisgah NF	McDowell	
2017 White Creek Wf*	Lightning	2017-Mar-21	4166	Pisgah NF	Burke	

 Table 1: Western North Carolina prescribed fires and wildfires used in this analysis.

*All or partially reburned within the prior 20 years

Fire severity varied considerably among fire types with wildfire being roughly eight times more likely to lead to a severe growing season NDVI decline than prescribed fire (Figure 6). Only stable and increased NDVI was higher for prescribed fire.

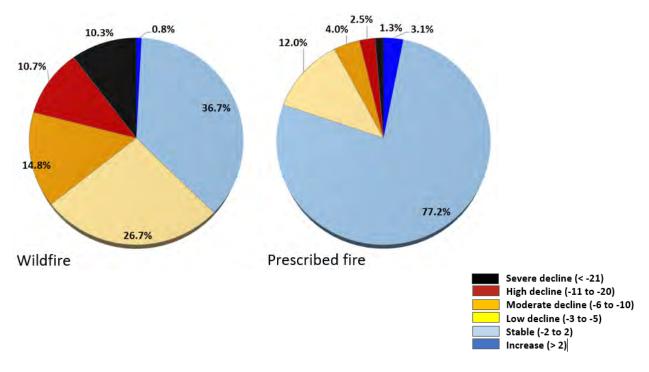


Figure 6: Fraction of wildfire and prescribed fire burning at different severities using the dNDVI thresholds shown in the legend at lower right.

The topographic footprints of wild and prescribed fire are not identical, and this could explain part of the observed variation in Figure 6. The two fire type's sampled density along elevational gradients is shown by thick black lines in Figure 7. Wildfires are more often at warmer and lower elevations than are prescribed fires. For a given elevation band, however, prescribed fires routinely burned with lower severity than wildfires. Elevations between 1,500-3,000' were particularly likely to burn with higher severity by wildfire than sites between 4000-5000', and this reflects the peculiar high severity of escarpment wildfires on the Grandfather Ranger District.

In addition to these elevational differences, severe fire was more likely to occur on drier slopes, particularly when wild (Figure 8; Table 2). Particularly strong was the TRMI component topographic position that showed more discrimination in severe fire than obtained from the solar radiation or drainage components or from TRMI overall.

As wildfire and prescribed fire may also differ in terms of the dryness of the sites that burned, Table 3 shows just how severe decline alone was observed across three TRMI site moisture classes compared to how often it would occur if by chance alone. Severe effects from prescribed fire are much less likely to occur on moderate sites and severe effects are more often restricted to just the driest sections of prescribed fire units.

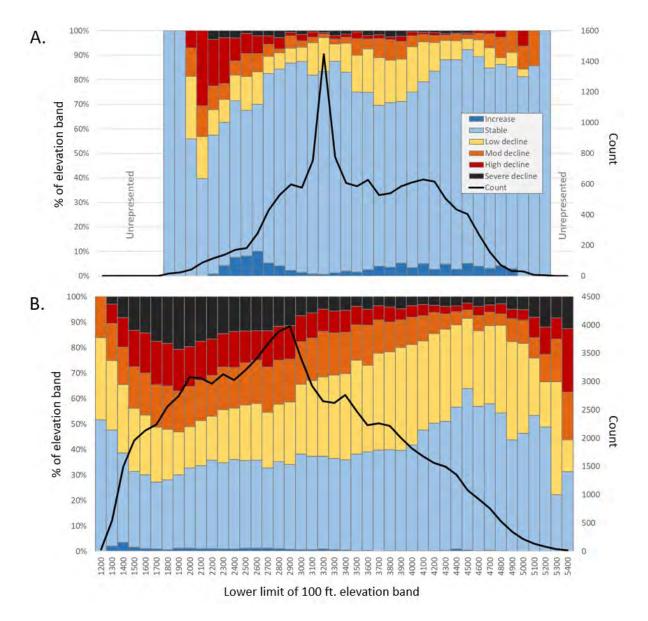


Figure 7: Differences in fire severity by elevation bands for (A) prescribed fires and (B) wildfires. The thick black lines shows the density of the sampled areas by elevation band.

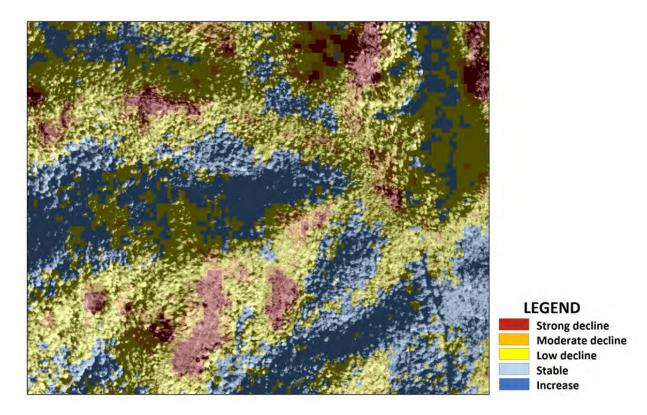


Figure 8: Change in NDVI (dNDVI) west of the Wesser Bald Fire Tower after the 2016 Tellico fire aligns well with topography. In contrast to the moderate to strong decline on most ridges, the larger and taller tree crowns of coves are relatively stable.

			Low	Moderate	High	Severe		
	Increase	Stable	decline	decline	decline	decline	Count	
TRMI-Overal	Mesic							
Rx Fire	3.5%	80.9%	12.9%	2.4%	0.3%	0.1%	1,796	
Wildfire	0.8%	48.0%	28.4%	12.2%	6.4%	4.2%	13,840	
TRMI-Overal	TRMI-Overall Moderate							
Rx Fire	3.3%	79.1%	11.6%	3.7%	1.7%	0.5%	8,604	
Wildfire	0.8%	38.6%	26.7%	13.8%	10.2%	9.8%	49,726	
TRMI-Overal	TRMI-Overall Xeric							
Rx Fire	2.3%	69.5%	12.3%	5.9%	5.9%	4.1%	3,027	
Wildfire	0.7%	24.7%	25.8%	18.8%	14.6%	15.3%	21,153	
TRMI-Solar ra	adiation Mes	ic						
Rx Fire	3.2%	79.4%	12.3%	4.1%	0.8%	0.2%	3,271	
Wildfire	0.8%	40.6%	28.2%	14.3%	8.6%	7.4%	22,988	
TRMI-Solar ra	TRMI-Solar radiation Moderate							
Rx Fire	4.2%	80.2%	11.1%	2.6%	1.5%	0.4%	2,874	
Wildfire	0.9%	41.5%	26.6%	13.2%	8.9%	8.9%	18,765	

Table 2: Fire severity by constituent topographic variables and overall site moisture (TRMI) for selected wild and prescribed fires of the Pisgah and Nantahala Forests, 1999-2019.

i Rivii-Solar ra	idiation Xer	1C					
Rx Fire	2.6%	75.0%	12.1%	4.6%	3.6%	2.1%	7,282
Wildfire	0.8%	32.5%	26.0%	15.8%	12.6%	12.4%	42,966
TRMI-Drainag	ge Mesic						
Rx Fire	2.7%	81.0%	12.5%	1.9%	1.5%	0.4%	1,270
Wildfire	0.9%	48.8%	24.9%	11.4%	7.7%	6.3%	7,417
TRMI-Drainag	ge Moderat	e					
Rx Fire	3.0%	78.0%	12.4%	3.9%	1.8%	1.0%	5,025
Wildfire	0.7%	39.3%	26.6%	13.3%	9.9%	10.2%	29,423
TRMI-Drainag	ge Xeric						
Rx Fire	3.2%	76.0%	11.5%	4.5%	3.1%	1.7%	7,132
Wildfire	0.8%	33.2%	27.1%	16.3%	11.7%	10.9%	47,879
TRMI-Topogr	aphic positi	on Mesic					
Rx Fire	4.5%	79.1%	11.6%	3.3%	1.2%	0.3%	5,566
Wildfire	0.9%	46.8%	27.0%	11.6%	7.8%	5.9%	34,986
TRMI-Topogr	aphic positi	on Moderate	9				
Rx Fire	2.2%	76.8%	12.1%	4.3%	3.1%	1.5%	7,136
Wildfire	0.7%	31.6%	27.5%	16.3%	12.0%	11.9%	40,269
TRMI-Topogr	aphic positi	on Xeric					
Rx Fire	1.4%	67.4%	12.8%	6.6%	5.0%	6.8%	725
Wildfire	0.8%	20.8%	22.4%	20.5%	16.2%	19.4%	9,464

TRMI-Solar radiation Xeric

Table 3: Severe growing season NDVI decline relative to site moisture and expectations based on site and fire type differences.

	Mesic	Moderate	Xeric	Total				
Prescribed fire	Prescribed fire							
Expected	13.3%	64.1%	22.6%	100.0%				
Observed	0.6%	27.0%	72.4%	100.0%				
Wildfire	Wildfire							
Expected	17.1%	58.6%	24.3%	100.0%				
Observed	6.6%	56.1%	37.3%	100.0%				

Fire severity varied among vegetation types. The pine-oak heath type was particularly notable as a severe decline was observed a quarter of the time (Table 4). This likelihood of decline was roughly twice that of the dry oak and dry-mesic oak types and three times that observed for the acid cove type. Much of this difference relates to the pine-heath type's occurrence on dry upper slope sites that regularly burned severely. It is unclear from these data if this tendency for severe fire depends more on the type's vegetation or fuel attributes or the inherent tendency of these sites for a particular fire behavior. The pine-oak heath type's association with high severity did not extend as strongly to prescribed fire that shows a severe decline only 3% of the time.

Dry oak and dry-mesic oak forests were more likely to experience severe fire than were mesic oak forests, and as these types were modeled using topographical gradients, that is expected. High elevation red oak burned more similarly to mesic oak forests than to dry oak or dry-mesic oak types, and this is consistent with the elevation gradient effects shown on Figure 7.

Acidic cove types showed considerably more high severity than rich coves, and this may relate to site or compositional differences. Acidic coves often have an ericaceous shrub understory that can cause spotty pockets of high severity. Other vegetation types were not well represented by the prescribed fires or wildfires used in this analysis.

	Increase	Stable	Low decline	Mod decline	High decline	Severe decline	Count
Acidic Cove	1.7%	48.2%	22.9%	12.0%	8.6%	6.6%	21,558
Rx Fire	3.9%	80.4%	12.5%	2.8%	0.4%	0.1%	3,285
Wildfire	1.3%	42.4%	24.8%	13.7%	10.0%	7.7%	18,273
Dry-Mesic Oak	0.5%	34.0%	25.0%	16.8%	12.0%	11.8%	8,607
Rx Fire	0.7%	84.6%	8.2%	2.8%	2.8%	1.0%	1,041
Wildfire	0.4%	27.0%	27.3%	18.7%	13.2%	13.3%	7,566
Dry-Oak	1.2%	39.0%	23.7%	14.0%	10.4%	11.7%	4,849
Rx Fire	2.7%	62.2%	14.9%	4.4%	6.6%	9.2%	866
Wildfire	0.9%	33.9%	25.6%	16.0%	11.2%	12.3%	3,983
Floodplain	1.2%	45.2%	41.7%	11.9%	0.0%	0.0%	84
Rx Fire	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	1
Wildfire	1.2%	45.8%	41.0%	12.0%	0.0%	0.0%	83
High Elev. Red Oak	1.2%	56.4%	28.2%	7.1%	3.5%	3.6%	4,984
Rx Fire	4.7%	85.3%	6.1%	2.9%	0.9%	0.1%	1,180
Wildfire	0.1%	47.4%	35.0%	8.4%	4.3%	4.7%	3,804
Mesic Oak	0.9%	44.2%	31.7%	13.8%	6.1%	3.3%	16,476
Rx Fire	2.9%	65.9%	22.5%	6.8%	1.2%	0.8%	1,798
Wildfire	0.6%	41.5%	32.9%	14.7%	6.7%	3.6%	14,678
Northern Hardwood	1.4%	66.5%	24.2%	4.9%	1.8%	1.2%	2,507
Rx Fire	3.2%	84.0%	9.9%	2.8%	0.1%	0.0%	880
Wildfire	0.4%	57.1%	32.0%	6.0%	2.6%	1.9%	1,627
Pine-Oak Heath	1.0%	22.1%	16.2%	18.1%	19.5%	23.1%	19,380
Rx Fire	1.0%	71.0%	10.0%	6.3%	8.6%	3.1%	1,663
Wildfire	1.0%	17.5%	16.7%	19.3%	20.5%	25.0%	17,717
linvillRich Cove	1.0%	55.3%	29.6%	9.6%	3.4%	1.3%	16,909
Rx Fire	3.6%	80.9%	9.3%	3.7%	2.1%	0.5%	2,619
Wildfire	0.5%	50.6%	33.3%	10.6%	3.6%	1.4%	14,290
Shortleaf Pine	1.1%	23.2%	20.4%	20.0%	18.4%	16.9%	2,442
Rx Fire	0.0%	68.8%	18.8%	6.3%	6.3%	0.0%	16
Wildfire	1.2%	22.9%	20.4%	20.1%	18.5%	17.0%	2,426
Spruce-Fir	2.0%	62.4%	32.9%	1.7%	1.1%	0.0%	356
Rx Fire	9.0%	85.9%	5.1%	0.0%	0.0%	0.0%	78
Wildfire	0.0%	55.8%	40.6%	2.2%	1.4%	0.0%	278
Grand Total	1.1%	42.2%	24.7%	13.3%	9.6%	9.0%	98,152

Table 4: Fire severity by potential vegetation type for selected wild and prescribed fires of the Pisgah andNantahala Forests, 1999-2019.

Wildfires resulted in larger high severity patches than did prescribed fires (Figure 9). Several fires on the Grandfather Ranger District were especially severe, leading to irregular, interconnected patches that exceeded 25 acres. Wildfires also created smaller patches and gaps, and these smaller successional features were more typical of prescribed fires, although high severity constituted a relatively minor fraction of most burns. Of the 121,150 acres of wild and prescribed fire included in this analysis, 8,950 wildfire acres resulted in patches greater than 0.5 acres and only 150 acres resulted. Although this research was not a complete census and early successional habitat results from other disturbances such as wind and logging, the majority of fire-associated gaps on the Forest have resulted from wildfire. However, the scheduled reburning of prescribed fire units may eventually lead to sustained early successional habitat on susceptible xeric sites and vegetation types and if not, fire events of greater intensity may be required (Arthur and others 1998; Schwartz and others 2016). Similarly, areas that are particularly sensitive to reburning wildfires such as the Linville Gorge Wilderness area, may see combinations of early successional habitat expansion from severe and moderately severe reburns (Hagen and others 2015).

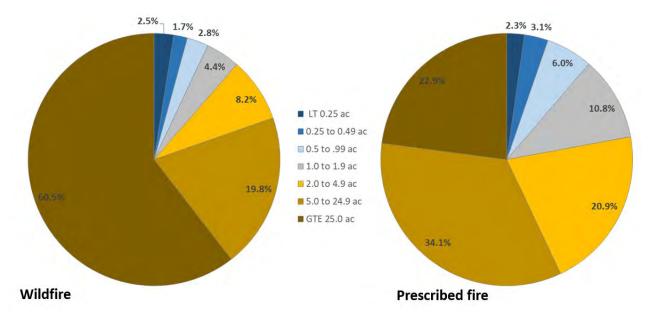


Figure 9: High severity patch/gap area for from wild and prescribed fire.

CONCLUSIONS

Gradients of fire and vegetation dynamics

Topographic-vegetational gradients drive the chance of severe fire, whether wild or prescribed. These results are consistent with our most detailed early reports of fire's effects from over a century ago and more recent observations of wildfire effects in the region (Ayres and Ashe 1905; Wimberly and Reilly 2007). Understanding that vegetation dynamics have consistently varied along such environmental gradients is especially helpful when addressing ecological resilience or ecological memory.

Gradient analysis of vegetation was popularized as an approach in the region during the mid-20th century to understand clear repeatable patterns of forest composition and structure (Whitaker 1956). At that time, researchers under-valued the importance of disturbance for reinforcing or even causing the patterns that they observed. This research underscores the well-established association between vegetation and topography in this region.

As in other montane areas where fire effects have been addressed with a landscape perspective (*e.g.*, Harris and Taylor 2017), this research shows that the topographic gradients reinforce pre-existing forest patterns, even after a century without fire, but that event-specific nuances like fire weather, fuels, spread direction and time of year, are also important for determining outcomes. More fire-adapted species and vegetation types (Varner and others 2021) have been more likely to burn severely than mesic slopes or coves. However, this does not mean that there have been no finer scale structural or compositional consequences after a century of fire exclusion that this research does not capture (*e.g.*, Carpenter and others 2021). In addition, long-term change from fire exclusion, non-native plants, insects and diseases, climate change and other social-ecological factors can include both substantive novelty and a less dramatic shift in the likelihood of a given severity outcome. More broadly however, site and vegetational inertia appear to dominate the dynamics of the area's modern fire regime.

Some researchers refer to such heterogenous landscape fire effects and regimes in montane systems as being of "mixed severity" (*e.g.*, Arthur and others 2021). From this research, fire effects reflect both temporal chance factors and recurrent spatial patterns from topography. In both aspects, Southern Appalachian fires are usually of mixed severity, but fire's behavior and effects are far from random as they can be in more topographically and vegetatively uniform environments.

When wildfires burned more frequently in the past, pine-oak heath forests may have been more likely to burn with lower severity than shown by some of the recent wildfires included in this research, but high severity fire was unquestionably an important part of the natural dynamic (Barden and Woods 1976, Waldrop and Brose 1999, Williams and Johnson 1990, Williams 1998). Depending on site and chance weather factors, even-aged cohorts of table and pitch pine may have been self-replacing and in other times and places, recurrent fires may have led to an open canopied woodland. The existence of the latter is suggested by uneven-aged, but pulsed pine establishment and multi-scarred pines that may have formed by combinations of fire and beetle mortality. With the vegetation type's historically frequent fire regime inferred from tree ring research, the recent fire severity of these sites may also reflect the anomalous accumulation of fuels and successional growth of flammable ericaceous understory (Lafon and others 2017). Even-aged pine cohorts are common after severe wildfires of the region, particularly for those of the Blue Ridge Escarpment on the Grandfather Ranger District (Figure 3, Figure 10).

More than any other vegetation type or site moisture condition, rich coves exhibit the most predictable fire effects, and effects were nearly always minor as measured by dNDVI. As hotspots of biomass and rich biodiversity, the disturbance regimes of these topographic niches appear to be more dominated by localized wind and tree fall gaps from downbursts, even though litter fires readily spread across these areas during the droughty 2016 fire season. High fuel moisture, mesic fuel types, lower diurnal temperatures and reduced wind under larger and taller tree canopies are among the specific factors that can explain reduced fire behavior here. Under some cool season prescribed fire conditions, coves can act as fire breaks, but in as much as litter carries fire during drought, these areas should not be thought of as fire refugia. Because of this conditional largely seasonal behavior of landscape fire spread, the frequent broad-scale fires that are thought to have burned prior to fire exclusion were either from widespread ignitions or they were indicative of drought. From a paleo-and historical perspective, the former (i.e., ignitions) likely varied with shifting cultural factors, including human population density and distribution, while drought frequency varied across decades to centuries (Figure 11). Such dynamic temporal fire frequency and severity may have provided local opportunities for cohort establishment and further contributed to the vegetational and pyrodiversity of this montane landscape. Note in figure 11 that fire exclusion during the mid-20th century corresponded with less frequent drought, and this suggests that suppression success during that era may have been facilitated by decades of moderate fire weather, not just technology and prevention as more often claimed.



Figure 10: Age structure six years after the summer 2015 Bald Knob fire on the Grandfather Ranger District shows even-aged pitch and table mountain pine in the high severity patches that are represented by standing dead trees. Note the persistent hardwood forests in the inter-ridge drainages that burned less severely (see Appendix 1 for a map of this fire).

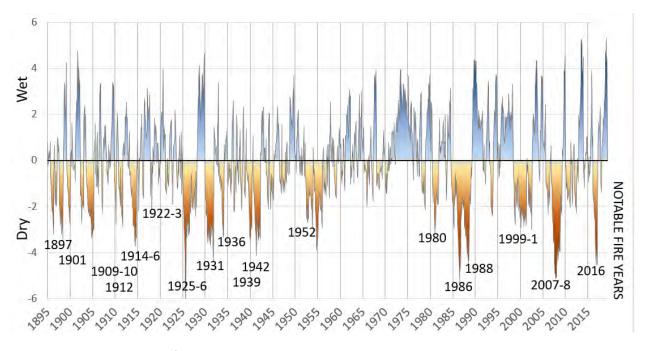


Figure 11: During the early 20th century, notable Southern Appalachian fire years correspond with both dry and moderate drought conditions. As wildfires began to return in the 1980s, they were more often only associated with extreme drought. Large fire years were inferred from regional newspaper accounts and official fire reports. Drought variability is from NOAAS Palmer Drought Severity Index for Climate Division NC1, TN1 and GA2.

Ecological changes that follow the restoration of fire after extensive fire exclusion may lead to divergent successional trajectories among vegetation types. For example, the fire-adapted species that dominate the pine-oak heath, dry oak and dry mesic oak vegetation types where forest mesophication has largely occurred may face altered competition or suffer disproportionately from fire's return (Lafon and others 2017; Arthur and others 2021, Carpenter and others 2021). Management restrictions on the seasonal timing or extent of fires could lead to less historical fire frequency or burn conditions.

Applications for planning

Successful forest planning involves anticipating the effects of management and the less predictable occurrence and effects of natural disturbances. Wildfire effects routinely vary due to nuances of weather, phenology or burn season, dynamic seasonal or event fuels, ignition location, and suppression response decisions. In addition, some variables that influence outcomes are poorly mapped across the Southern Appalachians, such as aspects of vegetation, fuels and ignitions. Whether uncertainties result from insufficient knowledge or stochastic factors, planning can frame outcomes in terms of likelihoods or risk probabilities (Bates and others 2021; Carriger and others 2021). That is, while the future occurrence and outcome of fire cannot be known with certainty, with the right use of landscape datasets, planners can know the relative likelihoods of desirable or undesirable outcomes happening for areas of concern.

This research quantifies a phenomenon that fire managers have long observed: that the chance of high severity fire and patch formation is not random. Results show that severe fire outcomes are somewhat predictable, but they vary among fire types, topography and potential vegetation type. From these insights, forest planners gain insights into where high severity fire patches are more or less likely to occur in the future, with implications for how and where fire-associated forest structural restoration efforts are likely to be self-sustaining over the long-term.

When statistical patterns from these fires are extrapolated from these selected fires to the broader landscape, these data provide a model of severe fire likelihoods *if* fire occurs. We know, however that the chance of fire occurring across the Southern Appalachians likely varies according to ignitions, fire spread and suppression difficulty, but as large wildfires are just now emerging in some parts of the region such as the Nantahala District during 2016, it is difficult to accurately predict future wildfire occurrence. Human ignitions are common, and the region's growing wildland urban intermix provides more opportunity for accidental ignitions and access for suppression response. If 2016's hot-droughty fall fire season provides a useful analogue for future wildfire occurrence with climate change, co-occurring large and mid-sized fires are to be expected, and coinciding wildfire outbreaks can tax suppression efforts and reduce its effectiveness. Many of the region's largest fires during 2016 occurred in wilderness areas where rugged topography and suppression constraints provide stable constraints, so large fires seem likely to return there with comparable drought, ignition, and suppression conditions. Importantly, these more remote forest tracts lie adjacent to the growing wildland urban interface, and as smoke from long-unburned fuels can spread across the region and into nearby urban areas (Zhao and others, 2019), wildfires in these more remote areas share concerns of those closer to communities in terms of both spread risks and public health.

Climate models indicate that more severe fire weather is in store for the southeastern US, particularly in the summer and fall (Liu and others 2013). In the Southern Appalachians, this will continue the pattern of drought and notable wildfire seasons that has been evolving since the mid-20th century (Figure 11). However, with more heat and more or less tropical storm activity in the fall, severe fire weather may develop with a more rapid onset or cessation than in the past or, alternatively, periodic multi-year droughts that have occurred throughout the last century and a quarter could become common.

With growing numbers of wildfires available for learning in the region, those that occur during extreme drought can become analogs or models for what may occur under future drought conditions. Similarly, observations of long-term change from repeated prescribed fires can lend insight into how outcomes compare to those of wildfires

that burn during different seasons and weather. The decades-long archival record from remote sensing can be particularly useful for satisfying some aspects of these critical monitoring, planning and implementation needs. Having diversity and representativeness of multiple fires is key to meaningfully address landscape questions. By capturing the range of fire diversity we gain breadth of understanding and deep insight into how pyrodiversity has fostered the development and resilience of Southern Appalachian forests.

REFERENCES

Abrams, M.D. 1992. Fire and the development of oak forests. *Bioscience*. 42: 346-353.

- Arthur, M.A., R.D. Paratley, B.A. Blankenship. 1998. Single and repeated fires affect survival and regeneration of woody and herbaceous species in an oak-pine forest. *J. Torrey Botanical Society*. 125(3): 225-236.
- Arthur, M.A., J.M. Varner, C.W. Lafon, H.D. Alexander, D.C. Dey, C. A Harper, S. P. Horn, T.F. Hutchinson, T.L.
 Keyser, M.A. Lashley, C.E. Moorman, C.J. Schweitzer. 2021. Fire ecology and management in eastern
 broadleaf and Appalachian forests. In: C.H Greenberg, B. Collins, eds. *Fire Ecology and Management: Past, Present, and future of US Forested Ecosystems.* Springer pp. 105-147.
- Ayres, H.B., W.W. Ashe. 1905. *The Southern Appalachian Forests. Department of the Interior United States Geological Survey Professional Paper* No. 37. Washington: Government Printing Office.
- Barden, L.S., F.W. Woods. 1976. Effects of fire on pine and pine-hardwood forests in the Southern Appalachians. *Forest Science*. 22: 399-403.
- Barden, L.S. 1978. Regrowth of shrubs in grassy balds of the Southern Appalachians after prescribed burning. *Castanea*. 43(4):238-246.
- Bartram, W. 1998. The Travels of William Bartram. Francis Harper's Naturalist Edition. Athens: University of Georgia Press.
- Bates, B.C., A.J. Dowdy, L. McCaw. 2021. A Bayesian approach to exploring the influence of climate variability modes on fire weather conditions and lightning ignited wildfires. Climate Dynamics, 57: 1207-1225.1207-1225.
- Brose, P., T. Schuler, D. Van Lear, J. Berst. 2001. Bringing fire back: the changing regimes of the Appalachian mixedoak forests. *Journal of Forestry*. 99(1):30-35.
- Carpenter, D.O., M.K. Taylor, M.A. Callaham Jr., J.K. Hiers, E.L. Loudermilk, J.J. O'Brien, N. Wurzburger. 2021. Benefit or liabability? The ectomycorrhizal association may undermine tree adaptations to fire after longterm fire exclusion. *Ecosystems*. 24: 1059-1074.
- Carriger, J.F., M. Thompson, M.G. Barron. 2021. Causal Bayesian networks in assessments of wildfire risks: opportunities for ecological risk assessment and management. *Integrated Environment Assessment and Management*. 2021:1-11.
- Chen, X.; J.E. Vogelmann, M. Rollins, D. Ohlen, C.H. Key, L. Yang, C. Huang, H. Shi. 2011. Detecting post-fire burn severity and vegetation recovery using multi-temporal remote sensing spectral indices and field collected composite burn index data in a ponderosa pine forest. International Journal of Remote Sensing. 32:7908-7927.
- Davis , D.E. 2000. Where there are mountains: An environmental history of the Southern Appalachians. Athens. The University of Georgia Press. 320p.
- Eidenshink, J., B. Schwind, K. Brewer, S. Zhu, B. Quayle, S. Howard. 2007. Fire Ecology. 3:3-21.
- Elliott, K.J., R.L Hendrick, A.E. Major, J.M Vose, W.T. Swank. 1999. Vegetation dynamics after a prescribed fire in the southern Appalachians. *Forest Ecology and Management*. 114:199-213.
- Flatley, W., C.W. Lafon, H.D. Grissino-Mayer, L.B. LaForest. 2013 Fire history, related to climate and land use in three southern Appalachian landscapes in the eastern United States. *Ecological Applications*. 23(6) 1250-1266.
- Fries, A.L. 1922. *Records of the Moravians in North Carolina*. Vol 1. Publications of the North Carolina Historical Commission.
- Gross, K., J.R. Lockwood III, C.C. Frost, W.F. Morris. 1998. Modeling controlled burning and trampling reduction for conservation of Hudsonia montana. *Conservation Biology*. 12(6):1291-1301.

Hagan, D.L., T.A. Waldrop, M. Reilly, TM Shearman. 2015. Impacts of repeated wildfire on long-unburned plant communities of the southern Appalachian Mountains. *International Journal of Wildland Fire*. 24: 911-920.

Harris, L., A.H Taylor 2017, previous burns and topography limit and reinforce fire severity in a large wildfire. *Ecosphere*. 8 (11):1-21.

Harrod, J.C., M.E. Harmon, P.S. White. 2000. Post-fire succession and 20th century reduction in fire frequency on xeric southern Appalachian sites. *Journal of Vegetation Science*. 11:465-472.

Kane, J.M., J.M. Varner, M.C. Stambaugh, M.R. Saunders. 2020. Reconsidering the fire ecology of the iconic American chestnut. *Ecosphere*. 11(10):e03267.

Khodaee, M. T. Hwang, J. Kim, S.P. Norman, S.M. Robeson, C. Song. 2020. Monitoring forest infestation and fire disturbance in the Southern Appalachian using a time series analysis of Landsat imagery. *Remote Sensing*. 12:2412.

Lafon, C.W., A.T. Naito, H.D. Grissino-Mayer, S.P. Horn, T.A. Waldrop. 2017. Fire History of the Appalachian Region: A review and synthesis. *USDA General Technical Report* SRS-219. Asheville, NC: US Department of Agriculture, Forest Service, Southern Research Station, 97p.

Lindsay, M.M., S.P. Bratton. 1979. Grassy balds of the Great Smoky Mountains: Their history and flora in relation to potential management. Environmental Management. 3:417-430.

Liu, Y., S. Goodrick, J. Stanturf. 2013. Future US wildfire potential trends projected using a dynamically downscaled climate change scenario. *Forest Ecology and Management*. 294:120-135.

Lorber, J., M. Thomas-Van Gundy, S. Croy. 2018. Characterizing effects of prescribed fire on forest canopy cover in the George Washington and Jefferson National Forests. USDA Northern Research Station. RP NRS-31.

Mark, A.F. 1958. The ecology of Southern Appalachian grass balds. 28(4):293-336.

Miller, J.D. and Thode, A.E. 2007. Quantifying burn severity in a heterogenous landscape with a relative version of the delta Normalized Burn Ratio (dNBR). Remote Sensing of Environment. 109:66-80.

Newfont, K. 2012. *Blue Ridge Commons: Environmental Activism and Forest History in Western North Carolina*. Athens: Univ. Georgia Press.

Nowacki, G.J., Abrams, M.D. 2008. The demise of fire and "mesophication" of forests in the eastern United States. *BioScience*. 58(2): 123-138.

Oakman, E.C., D. Hagan, T.A. Waldrop, I.K. Barrett. 2019. Understory vegetation responses to 15 years of repeated fuel reduction treatments in the Southern Appalachian Mountains, USA. *Forests*. 10(350).

Platt, S.G., C.G Brantley. 1997. Canebrakes: An ecological and historical perspective: Castanea. 62(1): 8-21.

Rankin W.T., N. Herbert (eds.) 2014. Restoration in the Southern Appalachians: A dialogue among scientists, planners, and land managers. USDA Forest Service General Technical Report. SRS-189.

Schwartz, N.B., D.L. Urban, P.S. White, A. Moody, R.N. Klein. 2016. Vegetation dynamics vary across topographic and fire severity gradients following prescribed burning in Great Smoky Mountains National Park. *Forest Ecology and Management*. 365:1-11.

Simon, S.A., T.K. Collins, G. L. Kauffman, W H McNab, C. J. Ulrey. 2005. Ecological zones in the Southern Appalachians: first approximation. USDA Forest Service Southern Research Station Research Paper SRS-41.

Silver, T. 2003. *Mount Mitchell and the Black Mountains: An Environmental History of the Highest Peaks in Eastern America*. The University of North Carolina Press.

Spencer. M. 2014. Pisgah National Forest: A History. Charleston, SC: The History Press.

Spencer. M. 2017. Nantahala National Forest: A History. Charleston, SC: The History Press.

Spruce, J.P., S. Sader, R.E. Ryan, J. Smoot, P. Kuper, K. Ross, D. Prados, J. Russell, G. Gasser, R. McKellip, W. Hargrove. 2011. Assessment of MODIS NDVI time series data products for detecting forest defoliation by gypsy moth outbreaks. *Remote Sensing of Environment*. 115:427-437.

Tucker, C. 1979. Red and photographic infrared linear combinations for monitoring vegetation. *Remote Sensing of Environment*. 8:127-150.

Varner, J.M., J.M Kane, J.K. Kreye, T.M Shearman. 2021. Litter flammability of 50 southeastern North American tree species: evidence for mesophication gradients across multiple eocsystems. *Frontiers in Forests and Global Change*. 4: article 727042, pp. 1-11.

Vose, J.M., K.J. Elliott, 2016. Oak, fire, and global change in the Eastern USA: What might the future hold? *Fire Ecology*. 12: 160-179.

Waldrop, T.A., P.H. Brose. 1999. A comparison of fire intensity levels for stand replacement of table mountain pine (Pinus pungens Lamb.) *Forest Ecology and Management*. 113:115-166.

Warner, T.A., Skowronski, NC, MR Gallagher. 2017. High spatial resolution burn severity mapping of the New Jersey Pine Barrens with WorldView-3 near infrared and shortwave infrared imagery. *International Journal of Remote Sensing*. 38:598-616.

Whittaker, R.H. 1956. Vegetation of the Great Smoky Mountains. *Ecological Monographs*. Vol 26(1): 1-80.

- Williams, C.E. 1998. History and status of table mountain pine-pitch pine forests of the Southern Appalachian mountains (USA). *Natural Areas Journal*. 18(1):81-90.
- Williams, C.E., W.C. Johnson. 1990. Age structure and maintenance of *Pinus pungens* in pine-oak forest of southwestern Virginia. *American Midland Naturalist* 124: 130–131.
- Wimberly, M.C., M.J. Reilly. 2007. Assessment of fire severity and species diversity in the southern Appalachians using Landsat TM and ETM+ imagery. *Remote Sensing of Environment*. 108: 189-197.
- Yang, L., Jin, S. Danielson, P., and 12 others. 2018. A new generation of the United States National Land Cover Database: requirements, research priorities, design, and implementation strategies. *ISPRS Journal of Photogrammetry and Remote Sensing*. 146: 108-123.
- Zhao, F.Y. Liu, S. Goodrick, B. Hornsby, J. Schardt. 2019. The contribution of duff consumption to fire emissions and air pollution of the Rough Ridge Fire. *International Journal of Wildland Fire*. 28: 993-1004.

Appendix 1: Wildfire and prescribed fire effects from remote sensing

The following maps show change in NDVI from the growing season before to after the wild or prescribed fire occurred. Clear early summer scenes were used when available, however most baseline and post-fire values used are mosaics constructed from the highest NDVI observed during the period to as much as possible overcome the common problems of clouds, cloud shadows, atmospheric effects, and illumination. Atmospherically-adjusted surface reflectance values were used when available on Earth Engine and the hiform.org process. This was routine for Landsat 5 and Landsat 8 imagery and for Sentinel 2 since 2018, however 2016-2017 Sentinel 2 imagery relied on unadjusted top-of-atmosphere products. The standard surface reflectance corrections in both Landsat and Sentinel 2 products sometimes introduce errors in shadowed areas due to overcorrection—that is, a false high NDVI results from the correction process that is perpetuated by the maximum value process used for those overcorrected cells. To overcome this, the dates used for some maps was refined to exclude these spurious values.

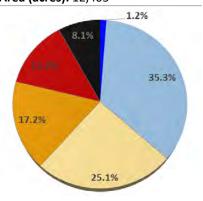
LEGEND

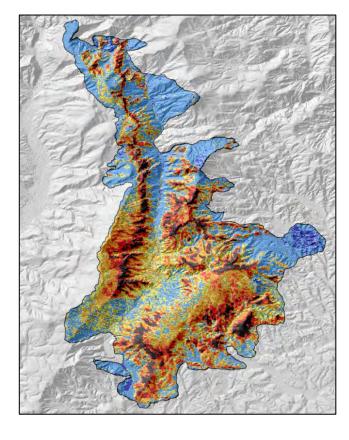


Severe decline (< -21) High decline (-11 to -20) Moderate decline (-6 to -10) Low decline (-3 to -5) Stable (-2 to 2) Increase (> 2)

Brushy Ridge

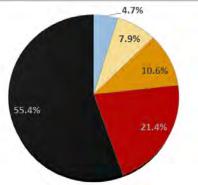
Fire type: Wildfire Location: Pisgah National Forest County: Burke Ignition date: 28 Oct 2000 Cause: Accidental (campfire) Source: Landsat 5 (30m) Baseline: 2000-06-02 Post-fire: 2001-06-05 Area (acres): 12,405





Shortoff (Linville Complex)

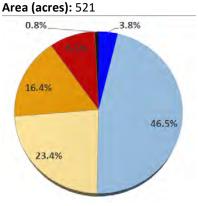
Fire type: Wildfire Location: Pisgah National Forest County: Burke Ignition date: 8 Jun 2007 Cause: Lightning Source: Landsat 5 (30m) Baseline: 2006-05-15 to 09-21 Post-fire: 2007-08-09 Area (acres): 6,500





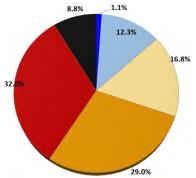
Blue Gravel

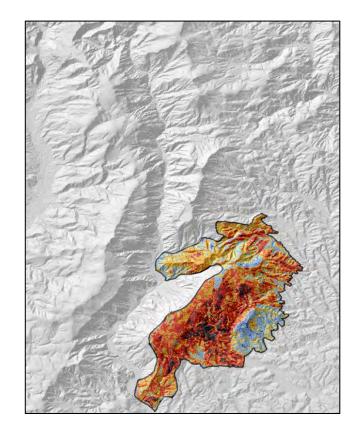
Fire type: Wildfire Location: Pisgah National Forest County: Burke Ignition date: 14 Apr 2015 Cause: Lightning Source: Landsat 8 (30m) Baseline: 2014-05-15 to 09-21 Post-fire: 2015-05-15 to 09-21



White Creek

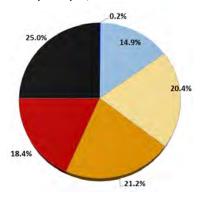
Fire type: Wildfire Location: Pisgah National Forest County: Burke Ignition date: 21 Mar 2017 Cause: Lightning Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 4,166





Sunrise

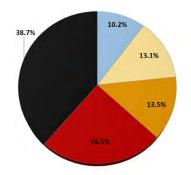
Fire type: Wildfire Location: Pisgah National Forest County: McDowell Ignition date: 18 Apr 2008 Cause: Misc. Source: Landsat 5 (30m) Baseline: 2007-06-01 to 09-21 Post-fire: 2008-06-21 Area (acres): 1,906

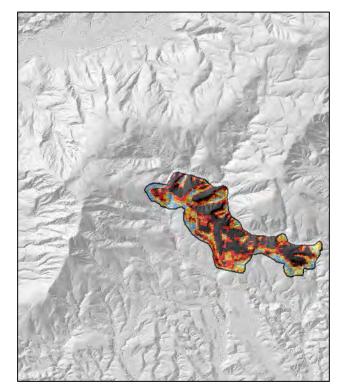




Dobson Knob

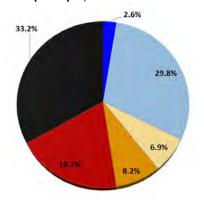
Fire type: Wildfire Location: Pisgah National Forest County: McDowell Ignition date: 8 Jun 2007 Cause: Lightning Source: Landsat 5 (30m) Baseline: 2006-06-01 to 09-21 Post-fire: 2007-06-10 to 09-21 Area (acres): 820





Bald Knob

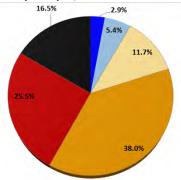
Fire type: Wildfire (fire use) Location: Pisgah National Forest County: McDowell Ignition date: 17 Jul 2015 Cause: Lightning Source: Landsat 8 (30m) Baseline: 2015-06-19 Post-fire: 2016-06-21 Area (acres): 1,268

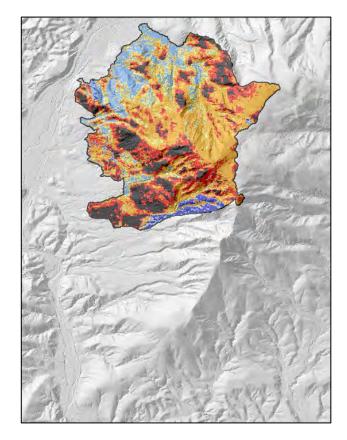


Dobson Knob

Fire type: Wildfire Location: Pisgah National Forest County: McDowell Ignition date: 10 Apr 2017 Cause:

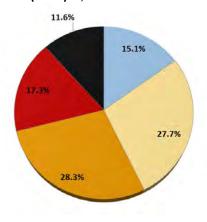
Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2016-05-15 to 09-21 Area (acres): 1,720

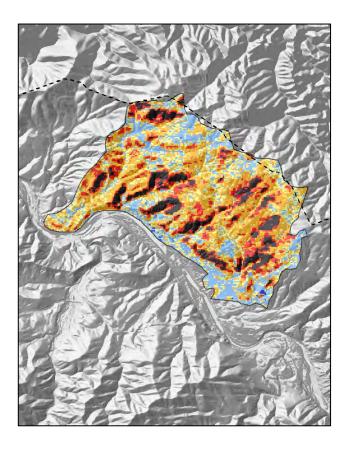




Larman

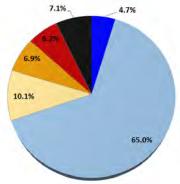
Fire type: Wildfire Location: Nantahala National Forest County: Madison Ignition date: 12 Nov 2001 Cause: Arson Source: Landsat 5 (30m) Baseline: 2001-05-15 to 09-21 Post-fire: 2002-05-15 to 09-21 Area (acres): 3,072

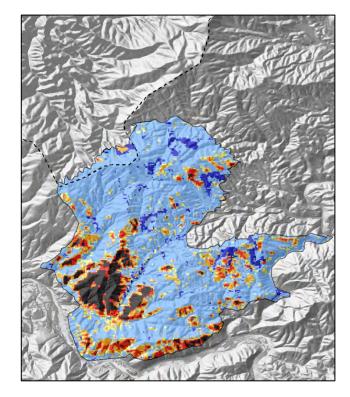




Silver Mine

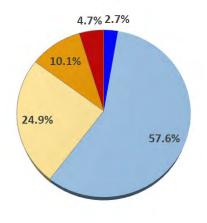
Fire type: Wildfire Location: Pisgah National Forest County: Madison Ignition date: 21 Apr 2016 Cause: Arson Source: Landsat 8 (30m) Baseline: 2014-05-15 to 09-21 Post-fire: 2016-05-15 to 09-21 Area (acres): 6,083

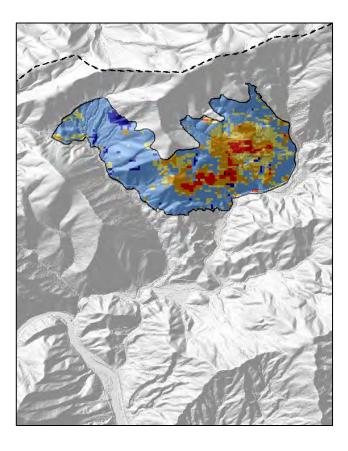




Poplar

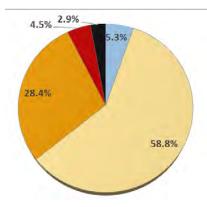
Fire type: Wildfire Location: Pisgah National Forest County: Mitchell Ignition date: 31 Mar 2015 Cause: Arson Source: Landsat 8 (30m) Baseline: 2014-05-15 to 09-21 Post-fire: 2016-05-15 to 09-21 Area (acres): 768

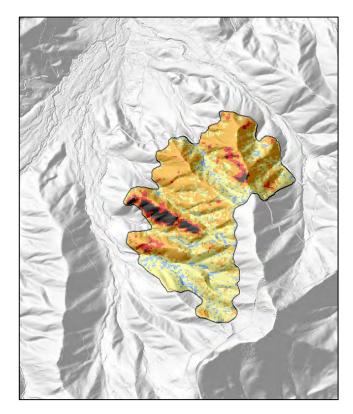




Highway 151

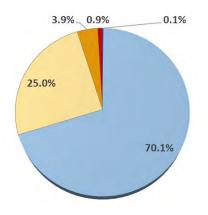
Fire type: Wildfire Location: Pisgah National Forest County: Buncombe Ignition date: 24 Nov 2016 Cause: Accidental Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 245

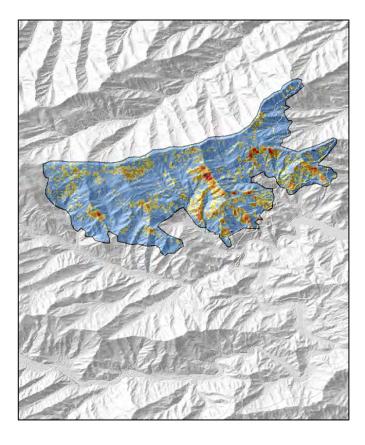




Avey Creek

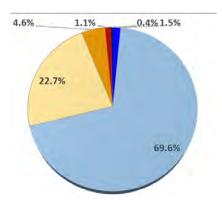
Fire type: Wildfire Location: Nantahala National Forest County: Graham Ignition date: 15 Nov 1999 Cause: Arson Source: Landsat 5 (30m) Baseline: 1999-06-01 to 09-03 Post-fire: 2000-06-01 to 09-03 Area (acres): 2,099

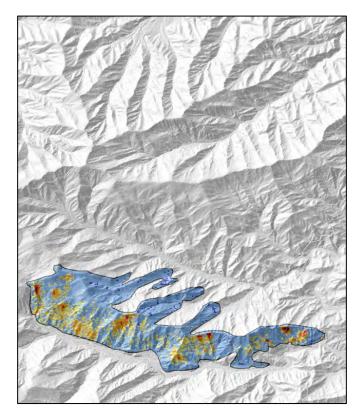




Goldie Deadon

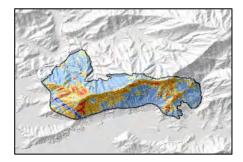
Fire type: Wildfire Location: Nantahala National Forest County: Graham Ignition date: 15 Nov 1999 Cause: Arson Source: Landsat 5 (30m) Baseline: 1999-06-01 to 09-03 Post-fire: 2000-06-01 to 09-03 Area (acres): 1,717

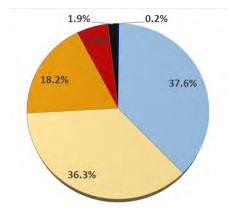


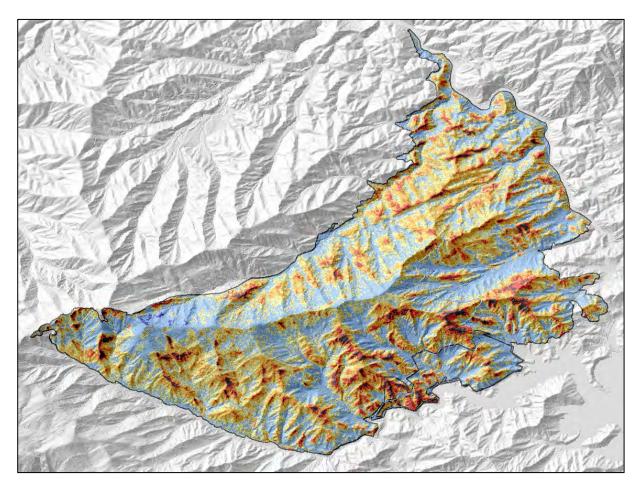


Maple Springs/Old Roughy

Fire type: Wildfire Location: Nantahala National Forest County: Graham Ignition date: 4 Nov 2016 Cause: Arson Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 7,700

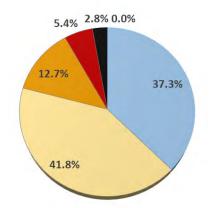


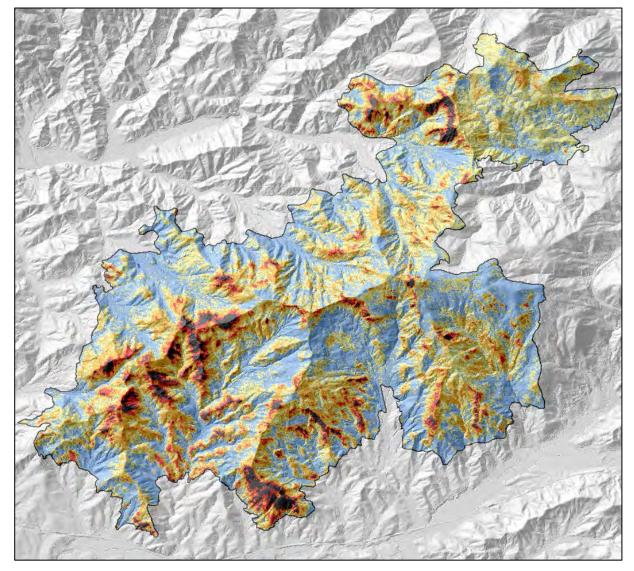




Boteler

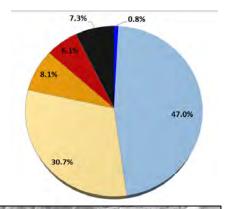
Fire type: Wildfire Location: Nantahala National Forest County: Clay Ignition date: 25 Oct 2016 Cause: Lightning Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 8,627

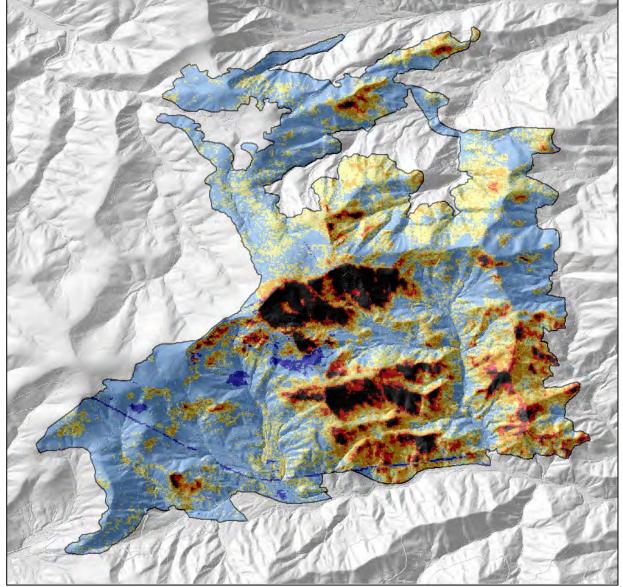




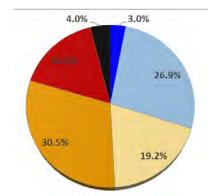
Camp Branch

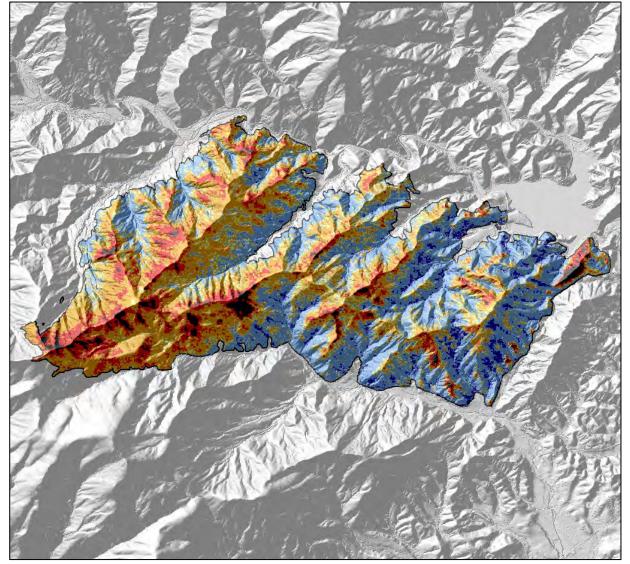
Fire type: Wildfire Location: Nantahala National Forest County: Macon Ignition date: 22 Nov 2016 Cause: Arson Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 3,234





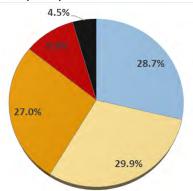
Clear Creek Fire type: Wildfire Location: Nantahala National Forest County: McDowell Ignition date: 20 Nov 2016 Cause: Arson Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 3,493

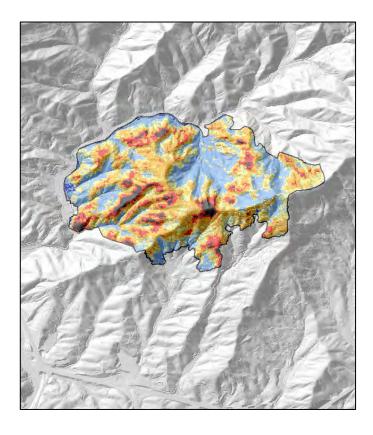




Dick's Creek

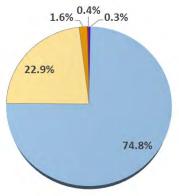
Fire type: Wildfire Location: Nantahala National Forest County: Jackson Ignition date: 23 Oct 2016 Cause: Misc. Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 833

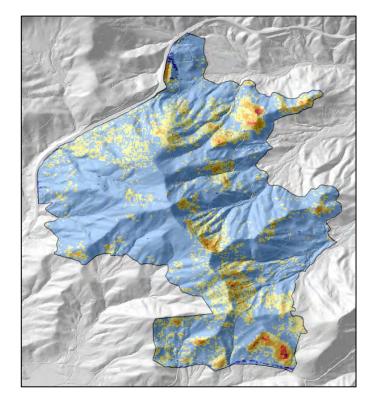




Knob

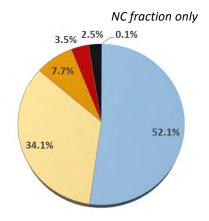
Fire type: Wildfire Location: Nantahala National Forest County: Macon Ignition date: 2 Nov 2016 Cause: Arson Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 1,133

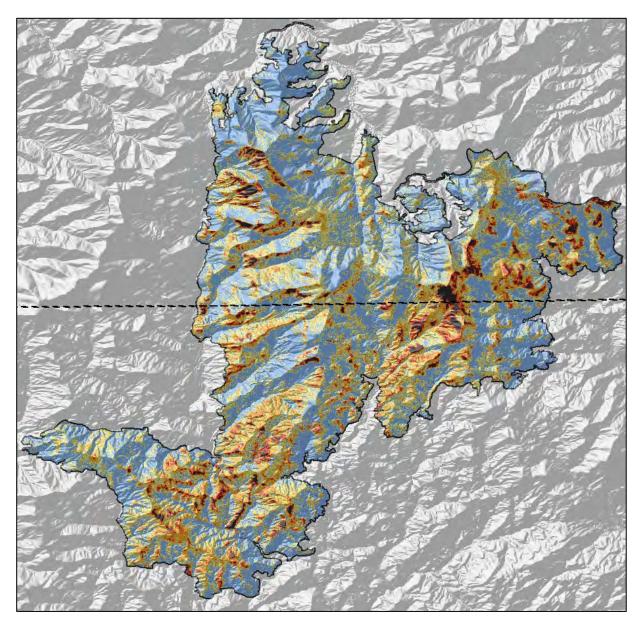


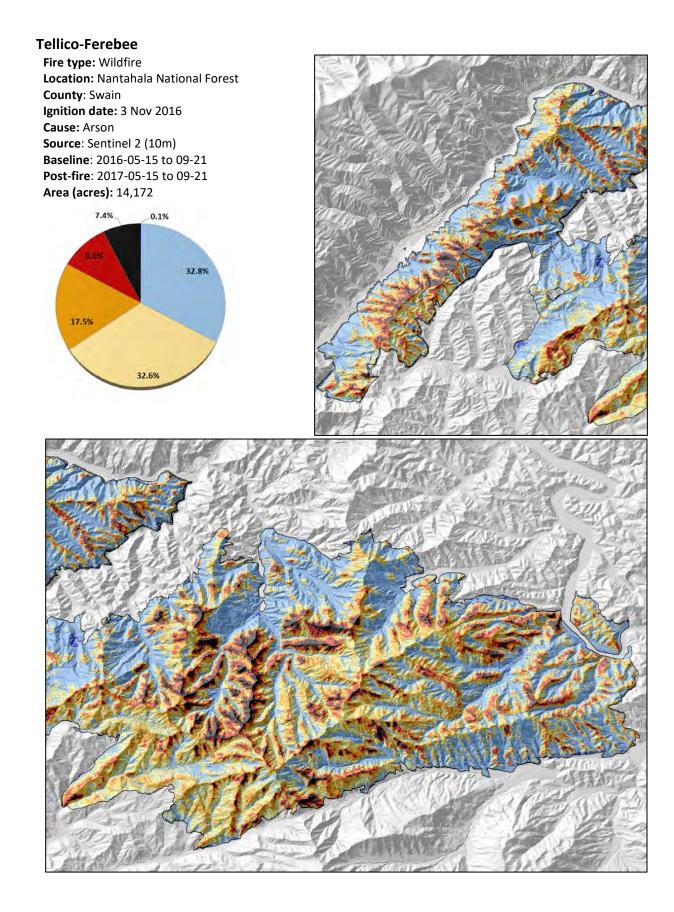


Rock Mountain

Fire type: Wildfire Location: Nantahala National Forest County: Macon Ignition date: 9 Nov 2016 (in GA) Cause: Arson Source: Sentinel 2 (10m) Baseline: 2016-05-15 to 09-21 Post-fire: 2017-05-15 to 09-21 Area (acres): 11,600 (NC only)

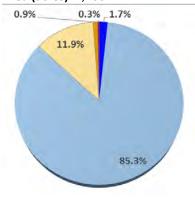


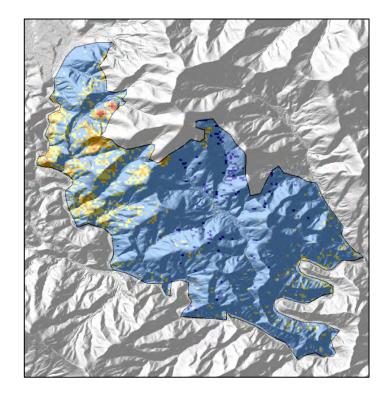




Laurel Brook

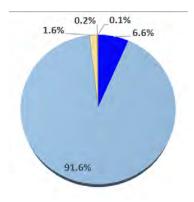
Fire type: Prescribed Fire Location: Pisgah National Forest County: Transylvania Ignition date: 28 Feb 2007 Source: Landsat 5 (30m) Baseline: 2005-07-01 to 09-09 Post-fire: 2007-07-01 to 09-21 Area (acres): 2,100

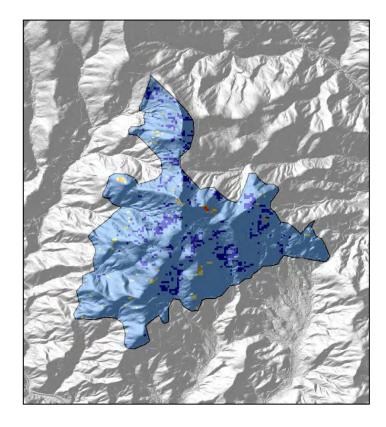




Pilot Mountain

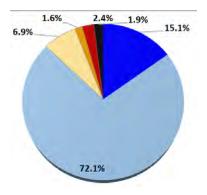
Fire type: Prescribed Fire Location: Pisgah National Forest County: Transylvania Ignition date: 22 Mar 2008 Source: Landsat 5 (30m) Baseline: 2007-08-01 to 09-21 Post-fire: 2008-08-02 Area (acres): 1,291

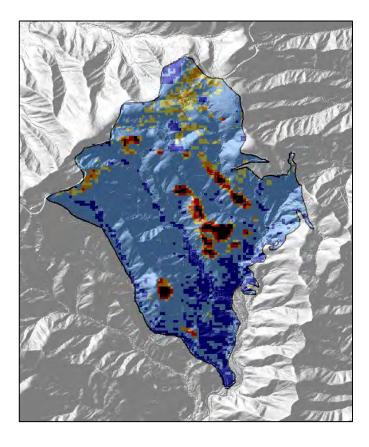




Lost Bear East

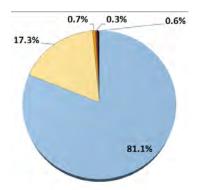
Fire type: Prescribed Fire Location: Pisgah National Forest County: McDowell Ignition date: 5 Apr 2010 Source: Landsat 5 (30m) Baseline: 2008-06-01 to 07-31 Post-fire: 2010-06-01 to 07-31 Area (acres): 1,070

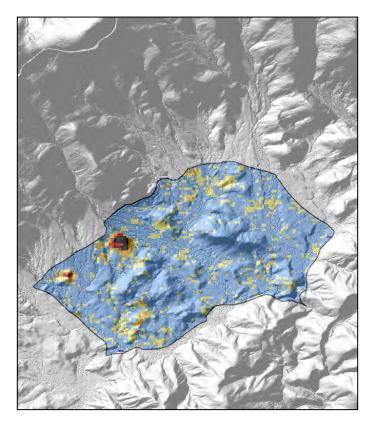




Pink Beds

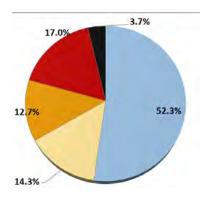
Fire type: Prescribed Fire Location: Pisgah National Forest County: Transylvania Ignition date: 24 Mar 2011 Source: Landsat 5 (30m) Baseline: 2010-06-21 Post-fire: 2011-06-24 Area (acres): 1,017

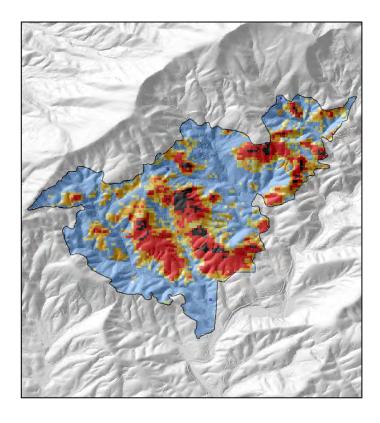




Leatherwood

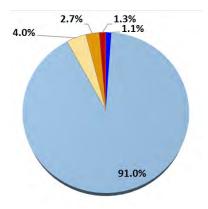
Fire type: Prescribed Fire Location: Nantahala National Forest County: Swain Ignition date: 29 Mar 2007 Source: Landsat 5 (30m) Baseline: 2006-05-15 to 09-21 Post-fire: 2007-05-15 to 09-21 Area (acres): 961

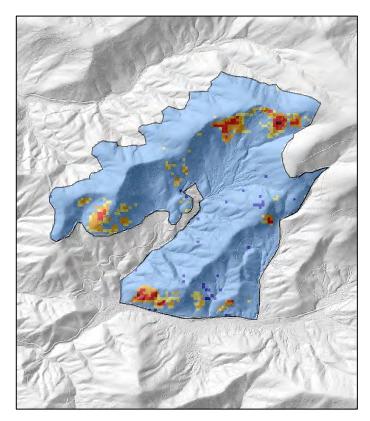




Highlands

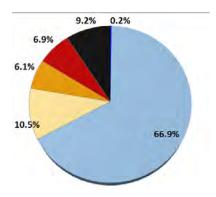
Fire type: Prescribed Fire Location: Nantahala National Forest County: Macon Ignition date: 9 Mar 2007 Source: Landsat 5 (30m) Baseline: 2006-05-15 to 09-21 Post-fire: 2007-05-15 to 09-21 Area (acres): 850

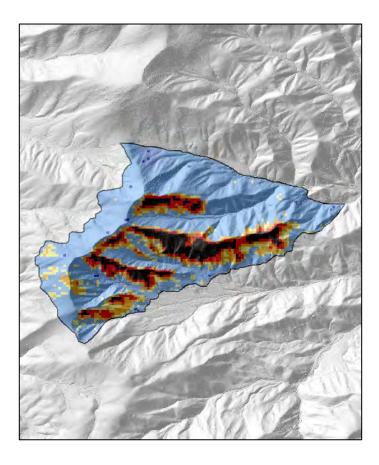




Deweese Ridge

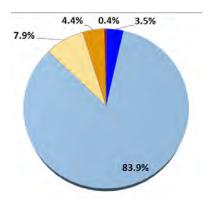
Fire type: Prescribed Fire Location: Nantahala National Forest County: Macon Ignition date: 14 Mar 2007 Source: Landsat 5 (30m) Baseline: 2006-05-15 to 09-21 Post-fire: 2007-05-15 to 09-21 Area (acres): 844

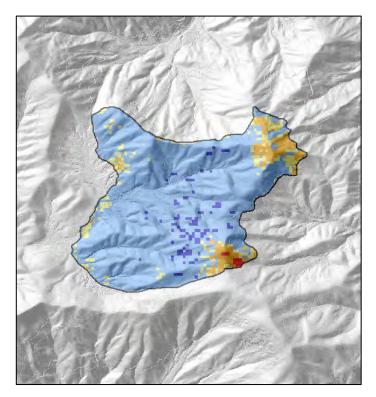




Alarka Laurel

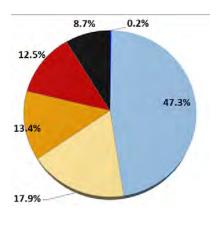
Fire type: Prescribed Fire Location: Nantahala National Forest County: Swain Ignition date: 11 Dec 2008 Source: Landsat 5 (30m) Baseline: 2008-06-30 to 07-18 Post-fire: 2009-06-01 to 06-30 Area (acres): 558

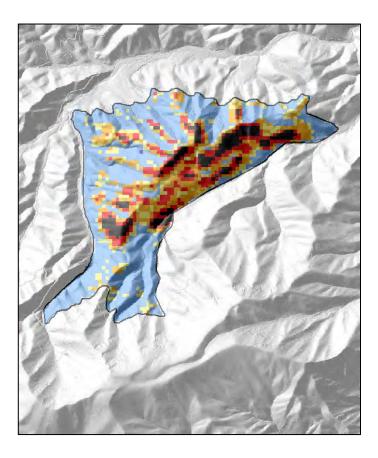




Cook Branch

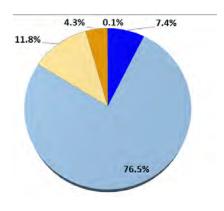
Fire type: Prescribed Fire Location: Nantahala National Forest County: Graham Ignition date: 18 Apr 2009 Source: Landsat 5 (30m) Baseline: 2008-06-30 to 07-31 Post-fire: 2009-06-09 Area (acres): 442

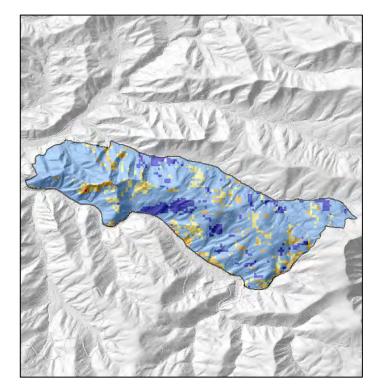




Split White Oak Ridge

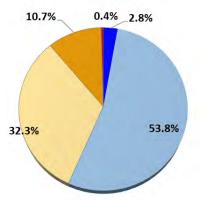
Fire type: Prescribed Fire Location: Nantahala National Forest County: Macon Ignition date: 7 Mar 2016 Source: Sentinel 2 (10m) Baseline: 2015-05-15 to 09-21 Post-fire: 2016-05-15 to 09-21 Area (acres): 838





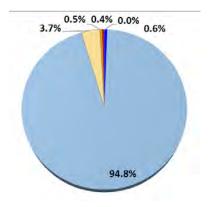
Fire Gap

Fire type: Prescribed Fire Location: Nantahala National Forest County: Macon Ignition date: 8 Mar 2016 Source: Sentinel 2 (10m) Baseline: 2015-05-15 to 09-21 Post-fire: 2016-05-15 to 09-21 Area (acres): 1,751



Appletree

Fire type: Prescribed Fire Location: Nantahala National Forest County: Macon Ignition date: 23 Apr 2019 Source: Sentinel 2 (10m) Baseline: 2018-07-01 to 07-31 Post-fire: 2019-07-24 Area (acres): 2,095



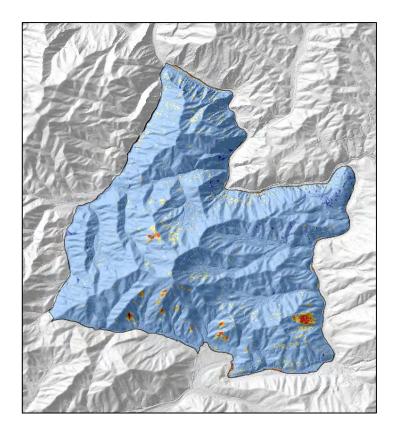


 Table A2a:
 Likelihoods of dNDVI severity by prescribed fire and wildfire.

	Increase	Stable	Low Decline	Mod Decline	High Decline	Severe Decline	Grand Total
Rx Fire	3.1%	77.2%	12.0%	4.0%	2.5%	1.3%	100.0%
Rx_AlarkaLaurel_2008	3.5%	83.9%	7.9%	4.4%	0.4%	0.0%	100.0%
Rx_Appletree_2019	0.6%	94.8%	3.7%	0.5%	0.4%	0.0%	100.0%
Rx_CookBranch_2009	0.2%	47.3%	17.9%	13.4%	12.5%	8.7%	100.0%
Rx_DeweeseRidge_2007	0.2%	66.9%	10.5%	6.1%	6.9%	9.2%	100.0%
Rx_FireGap_2016	2.8%	53.8%	32.3%	10.7%	0.4%	0.0%	100.0%
Rx_Highlands_2007	1.1%	91.0%	4.0%	2.7%	1.3%	0.0%	100.0%
Rx_LaurelBrook_2007	1.7%	85.3%	11.9%	0.9%	0.3%	0.0%	100.0%
Rx_Leatherwood_2007	0.0%	52.3%	14.3%	12.7%	17.0%	3.7%	100.0%
Rx_LostBearEast_2010	15.1%	72.1%	6.9%	1.6%	2.4%	1.9%	100.0%
Rx_PilotMtn_2008	6.6%	91.6%	1.6%	0.2%	0.1%	0.0%	100.0%
Rx_PinkBeds_2011	0.0%	81.1%	17.3%	0.7%	0.3%	0.6%	100.0%
Rx_SplitWhiteOakRidge_2016	7.4%	76.5%	11.8%	4.3%	0.1%	0.0%	100.0%
Wildfire	0.8%	36.7%	26.7%	14.8%	10.7%	10.3%	100.09
Wf_AveyCreek_1999	0.1%	70.1%	25.0%	3.9%	0.9%	0.0%	100.09
Wf_BaldKnob_2015	2.6%	29.8%	6.9%	8.2%	19.2%	33.2%	100.09
Wf_BlueGravel_2015	3.8%	46.5%	23.4%	16.4%	9.1%	0.8%	100.09
Wf_Boteler_2016	0.0%	37.3%	41.8%	12.7%	5.4%	2.8%	100.09
Wf_BrushyRidge_2000	1.2%	35.3%	25.1%	17.2%	13.2%	8.1%	100.09
Wf_CampBranch_2016	0.8%	47.0%	30.7%	8.1%	6.1%	7.3%	100.09
Wf_ClearCreek_2016	3.0%	26.9%	19.2%	30.5%	16.4%	4.0%	100.09
Wf_DicksCreek_2016	0.0%	28.7%	29.9%	27.0%	9.8%	4.5%	100.09
 Wf_DobsonKnob_2007	0.0%	10.2%	13.1%	13.5%	24.5%	38.7%	100.09
 Wf_DobsonKnob_2017	2.9%	5.4%	11.7%	38.0%	25.5%	16.5%	100.09
 Wf_GoldieDeadon_1999	1.5%	69.6%	22.7%	4.6%	1.1%	0.4%	100.09
Wf_Highway151_2016	0.0%	5.3%	58.8%	28.4%	4.5%	2.9%	100.09
Wf_Knob_2016	0.3%	74.8%	22.9%	1.6%	0.4%	0.0%	100.09
Wf_Larman_2001	0.0%	15.1%	27.7%	28.3%	17.3%	11.6%	100.09
Wf_LinvilleComplex_2007	0.0%	4.7%	7.9%	10.6%	21.4%	55.4%	100.09
Wf_MapleSprings_2016	0.2%	37.6%	36.3%	18.2%	5.8%	1.9%	100.09
Wf_Poplar_2015	2.7%	57.6%	24.9%	10.1%	4.7%	0.0%	100.09
Wf_RockMtn_2016	0.1%	52.1%	34.1%	7.7%	3.5%	2.5%	100.09
 Wf_SilverMine_2016	4.7%	65.0%	10.1%	6.9%	6.2%	7.1%	100.09
 Wf_Sunrise_2008	0.2%	14.9%	20.4%	21.2%	18.4%	25.0%	100.09
 Wf_Tellico_2016	0.1%	32.8%	32.6%	17.5%	9.6%	7.4%	100.09
 Wf_WhiteCreek_2017	1.1%	12.3%	16.8%	29.0%	32.0%	8.8%	100.09
All fires combined	1.1%	42.2%	24.7%	13.3%	9.6%	9.0%	100.0%

Table A2b: Relative likelihood of severe fire across site moisture categories comparing the site moistures available for the fire with those observed to have a severe growing season decline.

		Mesic	Moderate	Xeric	Count	% Severe
Prescribed fire	Available:	13.3%	64.1%	22.6%	13,427	
	Observed:	0.6%	27.0%	72.4%	173	1.3%
Rx_AlarkaLaurel_2008	Available:	7.7%	66.7%	25.6%	546	
	Observed:	None	None	None	0	0.0%
Rx_Appletree_2019	Available:	21.4%	59.0%	19.6%	2,072	
	Observed:	0.0%	100.0%	0.0%	1	0.0%
Rx_CookBranch_2009	Available:	25.6%	55.1%	19.3%	425	
	Observed:	2.7%	48.6%	48.6%	37	8.7%
Rx_DeweeseRidge_2007	Available:	17.7%	55.7%	26.6%	835	
	Observed:	0.0%	16.7%	83.3%	77	9.2%
Rx_FireGap_2016	Available:	15.9%	59.8%	24.3%	1,711	
	Observed:	None	None	None	0	0.0%
Rx_Highlands_2007	Available:	4.3%	71.8%	23.9%	829	
	Observed:	None	None	None	0	0.0%
Rx_LaurelBrook_2007	Available:	11.6%	65.7%	22.7%	1,974	
	Observed:	None	None	None	0	0.0%
Rx_Leatherwood_2007	Available:	10.5%	60.6%	28.9%	920	
	Observed:	0.0%	17.6%	82.4%	34	3.7%
Rx_LostBearEast_2010	Available:	8.2%	63.2%	28.6%	950	
	Observed:	0.0%	16.7%	83.3%	18	1.9%
Rx_PilotMtn_2008	Available:	5.5%	65.4%	29.1%	1,263	
	Observed:	None	None	None	0	0.0%
Rx_PinkBeds_2011	Available:	0.0%	100.0%	0.0%	1,061	
	Observed:	9.8%	88.5%	1.7%	6	0.6%
Rx_SplitWhiteOakRidge_2016	Available:	19.7%	58.3%	22.0%	841	
	Observed:	None	None	None	0	0.0%
Wildfire	Available:	17.1%	58.6%	24.3%	84,719	
	Observed:	6.6%	56.1%	37.3%	8,691	10.3%
Wf_AveyCreek_1999	Available:	4.9%	53.5%	41.6%	2,127	
	Observed:	None	None	None	0	0.0%
Wf_BaldKnob_2015	Available:	12.9%	70.6%	16.5%	1,240	
	Observed:	13.8%	74.0%	12.1%	412	33.2%
Wf BlueGravel 2015	Available:	6.0%	67.1%	26.8%	529	
	Observed:	0.0%	100.0%	0.0%	4	0.8%
Wf Boteler 2016	Available:	15.2%	58.5%	26.2%	8,370	
	Observed:	4.1%	28.9%	67.0%	235	2.8%
Wf_BrushyRidge_2000	Available:	20.9%	58.4%	20.7%	11,851	
	Observed:	6.7%	48.4%	44.9%	955	8.1%
Wf CampBranch 2016	Available:	11.7%	59.8%	28.5%	3,105	
	Observed:	0.0%	35.5%	64.5%	227	7.3%
				25.0%	1,691	
Wf ClearCreek 2016	Available:	23.3%	51.7%	25.0%	1,091	
Wf_ClearCreek_2016	Available: Observed:	23.3% 2.4%	51.7% 38.1%			4.0%
Wf_ClearCreek_2016 Wf_DicksCreek_2016	Available: Observed: Available:	23.3% 2.4% 27.5%	38.1% 51.5%	23.0% 59.5% 21.0%	67 418	4.0%

Wf_DobsonKnob_2007	Available:	16.2%	58.1%	25.7%	801	
	Observed:	13.5%	60.5%	26.0%	310	38.7%
Wf_DobsonKnob_2017	Available:	15.5%	72.3%	12.2%	1,226	
	Observed:	7.5%	72.0%	20.5%	202	16.5%
Wf_GoldieDeadon_1999	Available:	4.6%	53.2%	42.2%	1,678	
	Observed:	0.0%	16.7%	83.3%	6	0.4%
Wf_Highway151_2016	Available:	25.5%	66.7%	7.8%	243	
	Observed:	0.0%	57.1%	42.9%	7	2.9%
Wf_Knob_2016	Available:	19.5%	56.7%	23.8%	1,101	
	Observed:	None	None	None	0	0.0%
Wf_Larman_2001	Available:	8.8%	57.5%	33.8%	2,703	
	Expected:	13.1%	56.7%	30.2%	314	11.6%
Wf_LinvilleComplex_2007	Available:	13.1%	61.2%	25.6%	6,381	
	Observed:	6.8%	60.8%	32.4%	3,534	55.4%
Wf_MapleSprings_2016	Available:	20.4%	52.3%	27.3%	8,187	
	Observed:	3.2%	25.0%	71.8%	154	1.9%
Wf_Poplar_2015	Available:	4.7%	72.0%	23.3%	595	
	Observed:	None	None	None	0	0.0%
Wf_RockMtn_2016	Available:	12.4%	69.1%	18.4%	11,280	
	Observed:	1.4%	36.4%	62.2%	284	2.5%
Wf_SilverMine_2016	Available:	14.0%	53.2%	32.7%	5,331	
	Observed:	2.1%	42.1%	55.8%	380	7.1%
Wf_Sunrise_2008	Available:	15.7%	73.9%	10.4%	1,961	
	Observed:	3.9%	77.1%	19.0%	490	25.0%
Wf_Tellico_2016	Available:	26.4%	51.2%	22.4%	9,663	
	Observed:	7.3%	45.7%	47.0%	719	7.4%
Wf_WhiteCreek_2017	Available:	13.0%	62.0%	25.0%	4,238	
	Observed:	7.6%	67.2%	25.3%	372	8.8%

Table A3: A comparison of high severity areas from patch analysis and point extraction analyses.

Fire Name	% severe in patch analysis	% severe in patch analysis >0.5acres	% severe from point analysis
Prescribed fire	1.2	0.0	1.3
2008 Pilot Mtn Rx	0.0	0.0	0.0
2016 Fire Gap Rx	0.0	0.0	0.0
2016 Split White Oak Rx	0.0	0.0	0.0
2008 Alarka Laurel Rx	0.0	0.0	0.0
2007 Deweese Ridge Rx	8.6	8.6	9.2
2007 Highlands Rx	0.1	0.0	0.0
2007 Laurel Brook Rx	0.0	0.0	0.0
2007 Leatherwood Rx	3.0	2.6	3.7
2009 Cook Branch Rx	8.1	7.6	8.7
2010 Lost Bear East Rx	1.8	1.8	1.9
2011 Pink Beds Rx	0.5	0.5	0.6
2019 Appletree Rx	0.0	0.0	0.0

Wildfire	8.7	8.3	10.3
1999 Avey Creek	0.0	0.0	0.0
1999 Goldie Deaden	0.2	0.1	0.4
2000 Brushy Ridge	7.4	7.1	8.1
2001 Larman	10.6	10.4	11.6
2007 Dobson Knob	38.8	38.3	38.7
2007 Linville Shortoff	56.0	55.7	55.4
2008 Sunrise	25.7	25.2	25.0
2015 Bald Knob	33.3	33.1	33.2
2015 Blue Gravel	0.8	0.6	0.8
2015 Poplar	0.0	0.0	0.0
2016 Boteler	3.0	2.8	2.8
2016 Camp Branch	6.7	6.4	7.3
2016 Clear Creek	2.6	2.1	4.0
2016 Dick's Creek	3.4	2.6	4.5
2016 Hwy 151	3.5	3.4	2.9
2016 Knob	0.0	0.0	0.0
2016 Maple Springs	1.9	1.6	1.9
2016 Rock Mountain	2.3	2.1	2.5
2016 Silver Mine	6.5	6.3	7.1
2016 Tellico	6.8	6.2	7.4
2017 Dobson Knob	14.8	13.8	16.5
2017 White Creek	7.2	5.9	8.8

Appendix 2: Excepts from early state reports of Southern Appalachian forest fires

When momentum grew for establishing national forests in the Southern Appalachians near the turn of the 20th century, federal and state foresters recorded conditions across the region in a series of reports. These reports have been most often used to demonstrate the historical importance of fire just before suppression occurred, but as shown in the tables below, the authors describe a remarkably complex fire regime at that time that includes variable severity from topography and land cover.

The first of these reports with local detail was from the state in 1895. A decade later, Ayres and Ashe published a more detailed report of the condition of the region's forest. This latter volume provides the most detailed and description of forest conditions from that era that exists. While there is undoubtedly observational bias in the portions of the watersheds the team visited and perceptional bias about fire that we expect from professionals from that era, these descriptions paint an unparalleled portrait of fire regimes prior to much industrial logging and organized fire suppression.

These descriptions may not represent the fire regimes of prior decades any more than they document the fire regimes of when the Cherokee managed fire. What we do glean is insights into the causes and variability of the common signs of fire and fire effects across a broad scope of the region's forests at that time. From these descriptions, the topographic effects of fire are repeated described: coves and north faces tend to have less to no fire or when they do, minimal effects of consequence. Dry southern slopes were prone to burn repeatedly with the greatest effects on tree mortality and contributed to failed or brushy regeneration.

There is also sign that fire varied in complex ways with relation to settlement. For some areas, Ayres and Ashe reported abundant regeneration near valley settlements as the fragmentation of those landscapes contributing to less pervasive fire there. These forests were "protected by clearings". There are also suggestions that isolation from settlements reduced fire. There may be a middle zone in this historical landscape where human fires ran frequently, with more interior and often higher elevation areas burning less. As fires were often used for resource benefit, such as for hunting, travel and chestnut harvesting, these sites at the margins of settlement may have been hotspots of frequent fire along an earlier wildland-urban gradient. Fire's association with intensively settled or trafficked areas is suggested by fragmentary evidence (Figure A1-1).



Figure A1-1. A section of a woodcut drawn from an 1871 sketch upstream of Hot Springs, North Carolina along the French Broad Valley where the 2016 Silver Mine fire burned after decades of fire exclusion. Note the snags on the hillside that were likely caused by a wildfire along the frequently traveled Drover's Road which some years later became a rail line. The original field sketch, still in existence, also shows these snags.

Bryant, W.C. (ed.) 1872. *Preserving a picturesque America, or the land we live in.* New York: Appleton and Co. Remarkable as well in these reports, there is little indication of an industrial forestry association with fire at that time. That became a much greater concern in subsequent decades, particularly as the spruce forests of Mount Mitchell and the Balsam Mountains were logged, then burned where the severity was routinely catastrophic (Silver 2003). A linkage between untreated slash and severe fire was well established by experience in the northeast and upper Midwest in prior decades. The untreated slash fuels were often blamed, but with greater accessibility and logging railroads, there were also more ignitions, especially in these high elevation forests that had been relatively isolated prior to their logging.

County	Fire status report
Alexander	Only a few forest fires, and these of the kind that may be called leaf-fires, were reported from this county has having occurred during 1894.
Buncombe	Burning the woods has nearly ceased in this county, but is still to some extent practiced in the mountain districts, where cattle are grazed in the woods.
Burke	There were 7,000 to 8,000 acres of timbered lands reported as burnt over in the South mountains alone, killing a large amount of pine timber and burning much fencing. Fires also occurred along the Blue Ridge and along the line of the Western North Carolina railroad, but did no great damage. All forest fires after the first of March kill much of the young forest growth . Fires were said to have originated from burning brush, o'possum hunters, and more frequently from incendiarism: those along the railroad from locomotives, and some were set by chestnut gatherers. One correspondent thinks that burning the dead herbage and undergrowth does good by killing insects; but sometimes it also kills yellow pines and growing timber. The benefit that may be done in the way of killing out the young tree growth.
Caldwell	One correspondent states that he knew of nine large fires; one in March in Lenoir township, one in march in Globe township, one in march in Patterson township, one in April in Yadkin Valley township, one in November in Patterson township, and another there in December; one in December in Yadkin Valley township, one in Lower Creek township and one in Kings Creek township. There were from 10,000 to 15,000 acres burned over with a loss of about \$5,000. Another correspondent mentions seven fires in his section of Caldwell county during the year 1894. One of these was in June in Globe township, and in August and again in November in the same township. In November, in the central part of the county, near Lenoir, two fires occurred, one in Yadkin Valley township and another in Yadkin Valley and Patterson township in December. There were about 40,000 acres burned over with a damage to timber of about \$6,000. Young poplars and chestnuts suffer most from these fires, but white pines are very much injured, oaks are scarred and often injured for lumber, as is also the case with chestnuts and hickories. These fires, this correspondent thinks, will cause the gradual disappearance of the chestnut. The trees are scorched by the fires and decay sets in on the burnt side. Firs are set in the woods to make the grass grow for cattle and to burn the leaves so hogs can get mast. Wherever the stock law has been introduced the number of fires has been much lessened.
Graham	Burning the woods has been practiced in this and in Cherokee county ever since they were settled, and before that time the
(Swain, Cherokee)	Indians practiced it. The trees in many places, especially the chestnuts have been scorched on one side and then hollowed out from the effects of the fires. Much other timber and young growth is injured. Many of the mountains in Graham and Swain counties were burned over by the Indians during the past year. It is safe to say that one-fourth of the mountain lands these three counties, Graham, Swain and Cherokee, was burnt over during the past year.
Henderson	One report states that a large part of the forest lands, at least one-third, was burned over during the winter of 1893-'94, between November and May, with a heavy loss of timber. The same report states that at least two-thirds of the standing timber has been damaged by fires which occur regularly each season, and which are purposely stated to better the pasturage. Some fires, however, are accidental.
Jackson	The outside mountain lands, are yearly burned over to supply grazing. At least a third of the area of these lands was estimated to have been burned during the past year. Great damage is done to the poplar and chestnut timber; indeed it is difficult to find in these wild lands a tree of these kinds that is not defective at the base from this cause.
Macon	Like so many of the other mountain counties, yearly has a large part of the "wild lands" burned over. And although the fires are chiefly leaf-fires they have caused great damage to the timber. Between 10,000 and 20,000 acres were estimated to have been burned over during the past year. The loss from the fencing destroyed was placed at more than \$20,000.
Madison	Although there were several fires at various places in the county there was only a single destructive one reported which burned over about fifty acres. Burning the woods is practiced in many sections of the county to keep the woods open and better the grazing.
Mitchell	Thousands of acres, mostly on southern slopes were reported as burned over during the past year in this county. One
(Yancey, Wautaga)	correspondent says that although the damage to standing timber from a single fire appears to be small the continued burning, year after year, results in serious damage, killing much of the timber and seriously injuring the rest, so that its value as been lessened one-half by the mere repletion of the leaf-fires. On many south mountain slopes many of the larger trees have been destroyed and only a brushy growth occupies their place. The practice of burning the woods for improving pasturage is a common one in parts of the county. Many of the statements made about the practice of firing and the resultant damage to the woodland of Mitchell county will apply as well to parts of the adjoining counties of Yancey and Watauga.

Table A2a: W.W Ashe. 1895: Forest fires: their destructive work, causes, and prevention. North Carolina Geological

 Survey. Bulletin No. 7. Raleigh.

Table A2b: Descriptions of wildfire and its effects in the Southern Appalachians from 1905. Ayres, H.B., W.W.Ashe. 1905. The Southern Appalachian Forests. Department of the Interior United States GeologicalSurvey Professional Paper No. 37. Washington: Government Printing Office.

NEW RIVER BASIN	All the forest is inferior in condition, being either culled, fire scarred, or full of old and defective trees, while a dense undergrowth usually covers the. steep slopes.
Big Laurel Creek	Fires have done but slight damage, except on the upper slopes and on the spur
District (Ashe Co., NC)	extending south from Pond Mountain.
Horse Creek Basin	Recently there has been very little fire, the woodland being protected by clearings.
(Ashe Co. NC)	
Helton Creek District	Only a few of the higher ridges have been seriously burned; the numerous clearings
(Grayson Co. VA)	are a great protection against fire.
Wilson Creek Basin	On the ridges about the headwaters fires are frequent, but the damage is less notable
(Grayson Co. VA)	in this basin than in any other.
Fox Creek Basin	Frequent light fires have overrun the ridges, seriously injuring the forest.
	riequent light lifes have overrun the huges, senously injuring the forest.
(Grayson Co. VA)	First have been frequent on the ridges and south classes serievaly injuring the forest
Guffeys Creek Basin	Fires have been frequent on the ridges and south slopes, seriously injuring the forest.
(Grayson Co. VA)	
Middle Fox Creek	Fires have been frequent on the mountain ridges and southern slopes and the forests
Basin (Grayson Co.	have been much injured. Saplings are abundant only on north slopes and near
VA)	clearings, where they are somewhat protected from fire. There is much brush, but
	sprouts and seedlings are few.
Dell District (Grayson	The forests of this tract are so isolated by clearings that fires are not prevalent except
Co. VA)	on Iron Mountain.
Knob Fork District	On the south slope of Iron Mountain slight fires have been frequent almost annual.
(Grayson Co. VA)	Elsewhere the wood lots are protected by clearings. Light undergrowth, especially on
	the south slope of Iron Mountain where subdued by fire.
Elk Creek District	The south slope of Iron Mountain has been much burned by slight and often repeated
(Grayson Co. VA)	tires reduced, in fact, to scrub growth^ and yields only about 8 cords of wood per acre
	On the remainder of the tract fires have done much less damage, as the wood lots are
	protected by clearings.
Peach Bottom Creek	The woodlands on Point Lookout and Buck Mountain have been much burned in the
District (Grayson Co.	general effort to make pasture land. Elsewhere the woodlands are protected by the
VA)	surrounding clearings, and fires are not common.
Bridle Creek District	The forest is so broken by clearings that fires could be prevented with ease. The
(Grayson Co. VA)	prevalent custom of burning woodlands seems to be dying out.
Little Fox Creek Basin	Formerly prevalent; fires in recent years have done very little harm.
(Grayson Co. VA)	
Piney and Potato	The forest is broken by numerous clearings, and fires can easily be prevented.
Creek Districts	
(Grayson Co. VA)	
Grassy Creek Basin	Fires are rare, being prevented by clearings.
(Grayson Co. VA)	
	The woodland is so much broken by clearings that fires are not provalent
Jefferson District	The woodland is so much broken by clearings that fires are not prevalent.
Boone District	Fires are less prevalent here than in most of the mountain region, being checked by
(Watauga Co. NC)	numerous clearings. About Three Top and Snake mountains and along the Blue Ridge
D	there have been several severe fires.
Beverly District	Frequent fires overrun the whole tract. The drier portions along the ridges have been
(Wythe Co. VA)	severely burned and most of the timber killed.
Speedwell District	On the ridges, fires have been frequent and severe; about 1,600 acres have been
(Wythe Co. VA)	severely burned, and light fires have overrun most of the remainder.

Kinnen Creek District	Fine have been unusually encours in this distance. Due stimuly of the starts of
Kinser Creek District	Fires have been unusually severe in this district. Practically all of the timber on 9
(Smyth and Wythe Co.	square miles on the crests of the mountain and the spurs has been killed, except some
VA)	scattered black pine [Pinus rigida]. Fires have run lightly over all of the remaining
	forest, except that portion north of Horns Branch which is isolated by clearings. Most
	of the coves have a good stand of [second growth] saplings, but the ridges are
Crimela Crash District	deficient in young trees, owing to fire.
Cripple Creek District	Fires have been frequent and severe, and have killed about half of the forest. Much of
(Smyth Co. VA)	the log timber has been destroyed and new growth has been prevented.
Brush Creek Basin	Humas and litter nearly all consumed by the frequent fires. Burns are common but not
(Alleghany Co. NC)	severe, except on the south slope of Bullhead.
S. FORK Holston River	The steep slopes west of Damascus and east of Como Gap are in a very inferior forest
Basin	condition, owing largely to the long-continued prevalence of fires, which have not only
	prevented a vigorous growth, but have even driven out the most valuable species.
Cressy Creek District	Fires have been repeated and the forest is greatly reduced. In recent years, however,
(Smyth Co. VA)	the fires seem to have been less severeOn the ridges, where most frequently
	burned, much black pine [<i>Pinus rigida</i>] is coining in.
Dickey Creek District	Fires have been frequent, and along the spurs and ridges of the divides have greatly
(Smyth Co. VA)	injured the forest.
Rye Valley District	Fires have been frequent and severe, much timber has been killed or injured, and
Smyth Co. VA)	much of the forest has been reduced to brush. Seedlings start freely, but are soon
	killed by the fires.
Como Creek Basin	The summits of the ridges have been severely burned. The slopes have been
(Smyth Co. VA)	occasionally overrun by light fires.
Holston District	Light fires have run over most of this tract, but severe fires killing the log timber have
(Washington and	been exceptional. The forest is very poor because of these firesthe abundant brush
Smyth Co. VA)	and the frequent fires prevent a dense stand of seedlings.
N side of Holston	Fires have been frequent and the forest has been greatly reduced. But little log timber
Mountain	has been killed, though the young growth has been greatly injured. Reproduction is
(Washington Co. VA	very free, except as hindered by fire.
and Sullivan Co. TN)	
Shady Valley District	Only the ridges have been severely burned, and on them little of the logging timber
(Washington Co. VA,	has been killed; but the fires have been sufficiently severe -and frequent to prevent
Johnson Co. TN)	the best growth of timber.
Laurel Bloomery	The ridges have been repeatedly and, in many cases, severely burned. Nearly all of the
District (Johnson Co.	woodland is subject to fire, and the stand of timber and young growth is in very
TN)	inferior condition on that account. On the foothills protected by clearings are some
	excellent stands of [second growth] saplings, but as a rule the young growth is very
	deficient because of the fires.
White Top Creek	Fires have been frequent, especially on the ridges of Iron Mountain, where the timber
District (Washington	has been much reduced. The northern slopes of Balsam and White Top mountains
and Smyth Co. VA)	have been almost free from fire.
Valley Creek District	Fires are not prevalent except on the slope of Pond Mountain and on Chestnut Ridge,
(Johnson County, TN)	where light fires creep through the woods nearly every year.
WATAUGA RIVER	Fires are preventing a good growth on large portions, although they are seldom so
BASIN	severe as to kill much timber. Vigorous sprouts, seedlings, and saplings abound on old
	cuttings and burns, and prevention of fire and some judicious thinning would soon
	develop a forest that would justify transportation companies in building railroads to
	haul its products to market.
N End of Buffalo Mtn.	Fires are usual each winter or spring. The south slopes have been seriously injured.
(Washington and	Abundant [second growth] saplings are found on north slopes, but on south slopes the
Carter Co. TN)	stand of young timber of valuable species is deficient, owing to fire and grazing.

	Coroute and coodlings spring up quickly on parth clance ofter putting and hypring, but
	Sprouts and seedlings spring up quickly on north slopes after cutting and burning, but on south slopes are usually soon killed by fire.
Little and Stone Mtn	The customary fires have reduced the forests of the driest portion of the southern
Districts (Carter and	slopes to a few scattered pines and brush Were it not for fire, reproduction would
•	
Unicoi Co. TN)	be free both by sprouts and seed. Oak and white pine seedlings are most abundant.
Gap Creel Mtn. (Carter	Humus light owing to frequent fires. Fires have been frequent, and the stand is greatly
Co. TN)	reduced. The southern ridges especially are very scantily wooded. [Second growth] saplings are deficient in number and quality, due to the frequent fires.
Little Doe River and	There have been very few severe fires except on the slopes of Tiger Creek Valley,
Ripshin Creek Districts	where timber trees on a few acres have been killed. Light fires have run over the
(Carter Co. TN)	ridges from time to time without much damage to the large trees, but have seriously
	reduced the supply of saplings and seedlings
White Rock Mtn.	Fires have been frequent and severe; timber is very inferior because of them. There
(west side) Carter Co.	are very few saplings, because of frequent fires. Reproduction is low on account of
TN)	fires.
Laurel Fork District	This tract is being loggedonly the ridges and steeper slopes have been repeatedly
(Carter Co. TN)	burned.
Pond Mtn District	The ridges have been scorched, but the damage on this tract is less than in adjacent
(Carter Co. TN)	areas.
Iron Mtn District	Fires are very frequent, and the forest is of inferior quality because of them. [Second
(Carter Co. TN)	growth] saplings are inferior because of frequent fires. There are not half enough for a
	good stand.
Stony Creek District	Fires have been frequent and about one-half the tract has been burned over every
(Carter Co. TN)	year. Along the foothills, where protected from fire by the clearings, [second growth]
	saplings are abundant, but higher on the mountain sides vigorous growth is prevented
	by the frequent fires and the remaining old trees.
Little Doe River Basin	Fires overrun the ridges almost every year, and about 5 square miles have been so
(Johnson Co. TN)	severely burned as to kill most of the log timber. Light fires run almost annually over
	nearly all the remaining portion.
Roane Creek District	Fires are frequent, especially on the ridges on the southern slopes, where the forests
(Johnson Co. TN)	have been seriously injured.
Forge Creek District	Except along the crest of Forge Mountain there have been few fires beyond those
(Johnson Co. TN)	used in clearing the land.
Fish Spring District	Fires have been frequent on the mountain ridges and the forest is much depleted, and
(Johnson Co. TN)	a large part of the young growth has been destroyed.
Buck Mtn District	Fires have been frequent and the forest is much depleted.
(Carter and Watauga	
Co. TN)	
, Hattie District	There have been 'very few fires, except along the crest of Stone Mountain, where the
(Watauga Co. NC)	forest is much depleted.
Key Station District	Fires have been frequent on Stone Mountain, where the forest is in poor condition
(Johnson Co. TN)	because of them. The predominance of white pine there is due, no doubt, largely to
. ,	the prevalence of fire, as the thick bark of this species protects the trunk from injury
	while other species are killed. Fires also prepare favorable seed beds for the white-
	pine seeds. The remainder of the valley is largely cleared and the woodlands near the
	cleared land are thus protected.
S Trib Basins of	Light fires are common, but severe fires are rare. Most of those set are intended to
Watauga River	improve pasturage, to aid in gathering chestnuts, or for some reason of similar
(Watauga Co. NC)	importance.
Western Tributary	Fires, though frequent, have not killed much timber except near the crest of the
•	
Western Tributary pasins of Doe River	Fires, though frequent, have not killed much timber except near the crest of the mountain. Usually this tract is too damp for severe fires.

above Roan Mtn	
Station (Carter Co. TN)	
Elk Creek District	Though fires are frequent they have not killed much timber, but the forest has been
(Mitchell and	greatly reduced.
Watauga Co. NC)	
Cove Creek District	The numerous clearings afford good protection from fires for most of the tract. The
(Watauga Co. NC)	mountain sides are liable to be burned and bear evidence of some recent severe
(Watauga co. Ne)	burning' on about 1,500 acres.
Elizabethton District	Well protected [from fire] by clearings.
(Carter and Unicoi Co.	
TN)	
NOLICHUCKY RIVER	In forest condition there is also great variety , dependent largely upon the prevalence
BASIN	of fire. Fires are freely set during autumn, winter, and spring, and great injury to
	timber, forest seedlings, and soil results. A large proportion of the timber trees are
	defective and much of the woodland area is imperfectly stocked.
Cherokee and Buffalo	[Humus and litter] light; consumed by repeated fires. The stand of [second growth]
Mtn Districts	saplings is deficient, owing to prevalence of fire. Undergrowth: Light; too thoroughly
(Washington and	burned and grazed.
Unicoi Co. TN)	
Limestone Cove	Light fires are frequent in winter and spring. Saplings are abundant, except on the
District (Unicoi Co. TN)	driest ridges and south slopes, where most severely burned and closely pastured.
Erwin District (Unicoi	Nearly 6,000 acres have been severely burned. Fires are very frequent. [Second
Co. TN)	growth] saplings are abundant near the farm lands, where fire is less common, but on
co. m)	the mountains there is not more than half a stand.
North Bald Creek	Occasionally fires have run over the higher ridges, but the damage has been less than
Basin (Mitchell Co.	usual, very few large trees having been killed; the forest, however, is not in as good
NC)	condition as it would be if the fires had been prevented.
Jacks Creek District	Fires are not prevalent, though small burns are common. The clearings limit them to
(Mitchell Co. NC)	small areas.
Caney River District	In general the fires have been light, but frequent. Owing to them the ridges are very
(Yancey Co. NC)	lightly timbered, except by pine.
Spive Creek District	Fires have been frequent and severe, especially on the ridges forming the northern boundary of this tract, where the forest is reduced to scattered pines and an
(Unicoi Co. TN)	
	undergrowth of oak sprouts and huckleberry brush. On the divide between Spive and
	Granny creeks white pine would soon occupy the land were it not for the annual fires.
<u> </u>	Elsewhere the hard-wood growth is checked by fires and grazing.
Rocky Fork District	Occasionally light fires occur, but little damage has been done to mature timber. On
(Unicoi Co. TN)	the ridges and southern exposures they keep the forest in very poor condition.
South Indian Creek	The ridges and south slopes are frequently burned, and these portions are in poor
District (Unicoi Co. TN)	condition. In the north coves the damage has been slight.
Embreville District TN	Repeated fires have destroyed the accumulated litter, except in a few of the deepest
	hollows. This forest has been badly burned and the greater part of the hard woods are
	stool shoots, and the same is true of much of the black pine.
Indian Creek District	Repeated fires have robbed the soil of much of the accumulated humus, except in
(Unicoi Co. TN)	damp hollows and on north slopes. There is considerable undergrowth in most of the
	forests; in some places rhododendron and Kalmia; in burned woods it is chiefly
	sourwoods, huckleberry, and sprouts from the stumps of fire-killed trees.
South Toe River Basin	A great part of the forest land on Sevenmile Ridge has been badly burned and the soil
(Mitchell and Yancey	covering removed.
Co. NC)	

Hollow Poplar and	On the lower hills and on the dry southern slopes [leaf mold] is often very scant,
Pigeon Roost Creek	especially where it has been reduced by fire or by excessive pasturage, which has
Basins (Mitchell Co.	broken the forest cover.
NC)	
Caney River Basin	A few small areas in the spruce forest have been badly burned.
above Burnsville	
(Yancey Co. NC)	
Doebag Branch	Where the woods are burned at irregular intervals there is often a dense undergrowth
District (Yancey Co.	of stool sprouts from small trees and shrubs killed by the fires.
NC)	
FRENCH BROAD RIVER	Fires, grazing, and culling have greatly reduced the original quality of the forest.
BASIN ABOVE	Bordering the farms are many fine stands of sapling second growth, but the remote
SKYLAND	mountains are full of defective trees and brush.
Puncheon Fork District	Fires are frequent, but not severe.
(Madison Co. NC)	
Little Creek District	Fires have been light, but frequent, consuming humus and retarding undergrowth.
(Madison Co. NC)	
Foster Creek and	Fires have been frequent, though usually not severe. The larger trees have been only
Roaring Fork Districts	slightly injured, but many seedlings and small saplings have been killed.
(Madison Co. NC)	
Shelton Laurel Creek	Fires are very frequent, especially on the ridges in the northern part, where large
District (Madison Co.	amounts of timber have been killed and the forest is reduced to scattered survivors
NC)	and sprouts of oak, chestnut, and maple. [Second growth is] very deficient, except on
	small areas near clearings. Elsewhere fires have been too severe.
Spillcorn Creek District	Fires are frequent along the ridges, where saplings and brush are frequently killed and
(Madison Co. NC)	the forest is kept in inferior condition. The lower slopes, however, have not been
Spring Creek Basin	severely damaged by fire.
	Fires are frequent and severe; almost the entire tract is overrun each year; many of the timber trees have been killed and the forest is reduced to scattered survivors with
Below Bluff (Madison	
Co. NC)	an underbrush of sprouts and shrubs, except in some of the hollows, in which there is a fair stand of timber trees.
Craving Crack Desig	
Spring Creek Basin	The western ridges have been frequently burned and the forest on them has been
above Bluff (Madison	considerably reduced. Elsewhere the fires are held in check by the clearings.
Co. NC)	First are frequent, but the forest is much protected by clearings and the first sould
Big Pine Creek District	Fires are frequent, but the forest is much protected by clearings and the fires could
(Madison Co. NC)	easily be prevented.
Pawpaw and Little	Limited. The large area of cleared land forms a protection against fires.
Pine Creek Districts	
(Madison Co. NC)	Limited, the weedlands are protected by the clearings
Sandymush Creek	Limited; the woodlands are protected by the clearings.
District (Madison and	
Buncombe Co. NC)	
Wolf Creek Basin	[Actively being logged.] Much of the woodland in which there is any pine has been
Deint Creek Deele	burned and the timber to some extent damaged.
Paint Creek Basin	No area severely burned On the lower hills and dry south slopes [leaf mold] is often
(Madison Co. NC)	altogether absent, on account of the brush fires and pasturage The woods are
	generally open, though in some places there are rhododendron thickets and
	underbrush sprouts, which have followed fires.
S Fork of Hominy	There is very good soil cover in nearly all of the coves, but many of the steep slopes
Creek Basin	have been badly burned.
(Buncombe Co. NC)	

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Shut-in Creek Basin (Madison Co. NC) Meadow and Roaring Fork Basins (Madison Co. NC)	2 square miles severely burned. In the lower part of the basin, where the woodland is closely pastured and frequently burned, humus is scanty. Where the steep quartzite ridges occur, fires destroy nearly all of the leaves each winter. The woodland in the lower part of the basin, which is largely in wood lots connected with the farms, is seldom burned; the dry pine forests of the quartzite ridges suffer much from severe and frequent conflagrations, which have destroyed nearly all of the young growth, or reduced it to stool shoots, and injured the commercial value of the mature pine. But little damage has been done to the forest at the head of the stream. 3 square miles severely burned. The soil is often bare where pines are abundant and their dry leaves have been burned. Where this is the case it is apt to be on a south slope and at a comparatively low elevation. Fires are of exceptional occurrence in the hard woods. They are most frequent on the southern spurs of Round, Max Patch, Hogback, and Spring Creek mountains. In the pine woods they are of nearly annual
Paint Creek Basin	occurrence, damage much standing timber, and destroy or kill back to stool shoots much young growth of fire-tender species. 3 square miles severely burned. The forest is formed of oaks and chestnut associated
(Cocke Co. TN)	with black pine. The stand is generally poor, and a great deal of the hardwood is stump sprouts or is defective from ancient fires. Second growth is very abundant in the burned woods and consists largely of oak sprouts and black-pine and white-pine seedlings.
Gulf Fork Basin (Cocke County, TN)	A large area severely burned. Much of the best white-pine land has been badly burned, and many trees that would have otherwise been sound have butt rot, or hollows caused by fire. The dry and sandy black-pine lands are also burned at frequent intervals, and the young growth is suppressed or reduced to stool shoots, so that these woods have a stand seldom more than one-half normal.
PIGEON RIVER BASIN	All species reproduce excellently under proper light conditions and, under exclusion of fire and a judicious system of lumbering, there would be no difficulty in perpetuating this forest and increasing the proportion of valuable species in its composition.
East, West and Little East Forks of Pigeon River Basins	Very little lumbering has been done in this area These forests have been very little damaged by fire
Pigeon River Valley Between Canton and Ferguson	No mention of fire.
Cataluchee Creek District.	2 square miles burned. [Humus and litter is] light in the lower portion of the valley, where it is much burned. Abundant elsewhere. Many fires set to make pasture, by which a large amount of log timber has been killed.
Big Creek Basin	1.36 square miles severely burned. Active logging. Fires have recently invaded the mountain slope, being set freely to improve grazing, and have killed much timber, reducing large areas to brush land. The timber that remains is in remote coves or on steep mountain sides. [Reproduction is] scant; fires are too frequent and brush comes in too freely.
Mountain Creek Basin	No mention of fire.
Hurricane Creek Basin	No mention of fire.
Crabtree Creek Basin	
Hemphill Creek Basin (Haywood County, NC)	No area severely burned.
Ground hog and Cold Spring Creek Basins (Haywood County, NC)	Very little severely burned. Fires pass through the brush on dry southern slopes at frequent intervals, so that on these slopes there is little or no litter. Most of the southern slopes are burned over each fall, but the tires rarely pass beyond the leaves, destroying the young growth and occasionally injuring mature trees.

East Fork of Pigeon	1 square mile severely burned. A great many of the southern slopes, however, have
River Basin (Haywood	been badly burned or are suffering from excessive pasturage, and the humus has been
Co. NC)	greatly reduced. The entire basin of Pisgah Creek has been badly burned and is lightly
	timbered [after being logged].
Jonathan Creek Basin	1 square mile severely burnedwherever the undergrowth has been burned or the
above Delwood	pasturage excessive, as at present, there is scant humus.
(Haywood Co. NC)	
West Fork of Pigeon	1 square mile severely burned. Some of the timbers show the effects of ancient fires
River Basin above	and there are a few areas which have recently been badly burned.
Vavinia (Haywood Co.	
NC)	
Pigeon River Basin	Slight area burned. The leaf mold is generally thin. In many places the mountain slopes
between Lavinia and	have been badly burned by repeated ground fires
Clyde (Haywood Co.	
NC)	
Fines Creek Basin	Little area severely burned. Except on some of the burned land in the mountains and
(Haywood Co. NC)	on some of the steepest and driest south slopes, leaf mold has generally accumulated
· ,	to a considerable depth.
NORTHWESTERN	With the exception of a few "balds" or grassy areas on the higher summits and the
SLOPE OF SMOKY	alluvial lands of the lower coves and creek valleys, the forest of this great mountain
MOUNTAINS (TN)	side is practically unbroken. Fire, grazing, and culling have reduced this forest
	considerably. Imperfect trees and inferior species are abundant, while some of the
	burns and cattle ranges are deficient in stand.
North Slope White	3.48 square miles burned. Much [humus and litter] has been burned away by recent
Rock Mountain (Cocke	fires.
County, TN)	
Briar Cove District	3 square miles burned. Most of the ridges have been burned over, and much of the
(Sevier Co. TN)	timber on them has been killed and replaced by brush.
Alum Cave Creek	1 square mile burned. There are some scalds on ridges. About 500 acres are severely
District (Sevier Co. TN)	burned. Lighter fires have reduced the timber on the drier portions, yet the spruce is
	sparse and scrubby.
Little River Basin	A few small fires have occurred. The burns have been restocked with brush rather than
above Eli M'Carter's	with timber trees.
(Sevier Co. TN)	
Jakes Creek Basin	1 square mile burned. Fires have run over most of the ridges, on which about half the
(Sevier Co. TN)	trees are dead. The coves have escaped severe fire.
Little River Basin	Light [humus and litter]; mostly consumed by fire. At least half of this tract is burned
below Eli M'Carter's	over annually. Most of the underbrush has been killed, except laurel[rhododendron],
(Sevier Co. TN)	which is abundant along the streams Fires have been too frequent, and very little
	young stock is coming up, especially on the ridges.
Middle and West	2 square miles burned. Scant [humus and litter]; mostly consumed by fire. Nearly all
Prongs of Little River	the ridges have been burned over every year, killing much of the underbrush, injuring
Basins (Sevier and	many timber trees, and deadening large areas. Free [reproduction] on cuttings that
Blount Co. TN)	have not been burned. The burns are pastured, and seedlings are kept down. The
	pines come in most freely on such land.
Laurel Creek Basin	0.32 square miles severely burned. Many fires have been set along the road, and
(Blount Co. TN)	much of the forest near it has been killed. The remote portions are but slightly injured.
Cades Cove District	0.24 square miles burned. Usually light [humus and litter] owing to repeated fires and
(Blount Co. TN)	much grazing The large proportion of the timber has been burned in clearing. Fires
· · · · · · · · · · · · · · · · · · ·	are set whenever they will run, and the forest shows the effect of this practice. The

	Abundant saplings promise better timber than the original forest. These must have
Alexandre Cara els Distaist	started at a time when fires were less prevalent than now.
Abram Creek District	Light [humus and litter] nearly all consumed by the numerous fires. Fires are very
(Blount Co. TN)	frequent. Many trees have been injured or killed, but no large areas are entirely deadened. [Reproduction is] very scant, owing to the numerous fires and the close
	grazing.
Chilhoweee Mountain	Fires are very frequent, killing sprouts and consuming humus and litter. [Reproduction
(Blount Co. TN)	is] scant. Many seedlings start up, but they are usually killed by fire and grazing. Under
	these conditions pine reproduces better than other species.
Tennessee Gap	Abundant [humus and litter] in a few coves that have escaped fire, but scant
(Blount and Monroe	elsewhere Surface fires are very frequent. But little humus or litter is left.
Co. TN)	
LITTLE TENNESSEE	Repeated forest fires, started with a view to improve the pasturage, have destroyed
RIVER BASIN	much timber on dry south slopes, and by continued suppression of the young growth
	have greatly reduced the density. Reproduction, however, is good, and if the open
	woods were protected there would soon be a fine young growth beneath the old
	trees.
Cat Creek Basin	No severely burned area Leaf mold is thin on the south slopes and on the lower
(Macon Co. NC)	hills. There is an excellent ground cover, however, on most of the north slopes and in
	the coves.
Watauga Creek Basin	No severely burned area.
(Macon Co. NC)	
Cowee Creek Basin	No severely burned area There is very little leaf mold, as the prevailing slopes are
(Macon County, NC)	southerly and dry, and have, in addition, in many places been badly burned by ground
	fires.
Bradley Creek Basin	No area [severely?] burned. There is a deep accumulation of leaf mold on the north
(Macon Co. NC)	slopes and in the hollows, but much less on the south slopes, which have been badly
	burned In a few places there are thickets of shrubs and brush, which have followed fires.
Lakey Creek Basin	Slight area severely burned In some places the woods are brushy where they have
(Macon County, NC)	been burned.
Alarka Creek Basin	No area severely burned South slopes have been badly burned, however, and there
(Macon Co. NC)	is very scant humus.
Grassy Camp and	On the steeper slopes the accumulated leaf mold is scant because of repeated fires.
Norton Creek Basins	There is more or less humus in all the deep hollows, and in hemlock forests where fires
(Jackson Co. NC)	seldom or never occur The upper slopes of Shortoff Mountain, Yellow Mountain, and
, , , , , , , , , , , , , , , , , , ,	all the higher surrounding ridges are badly burned. Frequent fires consume the brush
	and litter in nearly all of the hard-wood forests, which are thin and open on this
	account In localities where there have been no fires in several years there are
	masses of vigorous stool shoots, chiefly of chestnut, scarlet oak, and sourwood, but in
	most places there is very little second growth.
Savanna Creek Basin	No area burned.
(Jackson Co. NC)	
Cullowee River Basin	No area burned. Young timber is generally scant in the forest, except where breaks
(Jackson Co. NC)	have been made in the cover, either by lumbering or by fires. Many of the living trees
	show traces of injury by ancient fires.
E Fork Tuckasegee	A great portion of the south-side land, lying on Wolf and Tennessee creeks, has been
River Basin (Jackson	very badly burned and the humus destroyed or very much reduced. Elsewhere, except
Co. NC)	on badly burned land, there is much more humus.
Cullasagee River Basin	Some steep south slopes are frequently badly burned and most of the undergrowth
from Franklin to the	and young seedlings killed or reduced to stool shoots. In culled woods that are not

mount of Buck Creek	frequently burned nor too severely pastured there are many vigorous young trees and
(Macon Co. TN)	saplings [of second growth]
Yellow Creek Basin	2 square miles severely burned. The woods are generally open, except where there
(Graham Co. NC)	are occasionally thickets of Kalmia or other shrubs, or where badly or frequently
	burned thickets of sprouts spring up from the stools of young trees [Reproduction]
	is scanty on the dry and frequently burned south side of Yellow Creek Mountain
Mine Caring Creek	Fires and cattle suppress much of the second growth on south slopes.
Wine Spring Creek	No area severely burned. Occasional ground fires on crests and steep slopes have
Basin (Macon County	replaced many seedlings of fire-tender species by stool shoots. Fires, however, are not
NC)	common, and the burned area is not large.
Jarrett Creek Basin	A little area severely burned [Humus and litter] is often thin on steep south slopes,
(Macon Co. NC)	particularly in the upper part of the basin, or where there have been fires. There is
	much badly burned land on the steep southern slopes, especially near the head of the
	creek. The leaves, dried grass, and brush are purposely burned about every two years
	to keep the woods open and improve the grazing. It is thought also that burning the
	dead leaves tends to prevent the cattle disease known throughout the Southern
	Appalachians as milk sickness, which is probably caused by the cattle eating some
	poisonous plant.
Chogee Creek Basin	No area severely burnedThere have been no fires in recent years, except along the
(Macon County, NC)	tops of the ridges or on dry slopes.
Burningtown Creek	A small area severely burned Standing timber has been much damaged by repeated
Basin (Macon County,	ground fires, which have produced butt hollows, and by keeping the growth open have
NC)	caused short and knotty boles. The south slopes and crests, and the lower hills are
	frequently burnedThe forests are generally open below.
Tellico Creek Basin	No area severely burned On the lower hills and on south slopes, where the density
(Macon Co. NC)	is low and the forest has been badly burned, the ground in places is almost devoid of
, ,	humus The hill country and the south sides of the mountains have been badly
	burned, and in consequence the forests are thin, the growth short-bodied, and many
	of the trees defective. In many places there is considerable undergrowth of sourwood
	and huckleberries, which rapidly sprout when the old trees are killed by fire.
White Oak Creek	Very little severely burned South slopes have been badly burned by repeated
Basin (Macon Co. NC)	ground fires but the forests of the hollows and north slopes have suffered little, if at
	all. There is already a vigorous crop of young seedlings and stump sprouts on the
	lands which have been cut over, and it will do well unless destroyed by fire
Caney Fork Basin	1 square mile burned Many of the south slopes have been vely badly burned and
	the humus has been mostly destroyed. In nearly all of the hollows, however, it has
(Jackson Co. NC)	been undisturbed.
Duals Creak Deale	
Buck Creek Basin	No area severely burned. On the steep upper slopes, especially on the southern faces
(Macon Co. NC)	of Yellow and Hamburg mountains and their southern spurs, there is very little leaf
	mold, as the slopes are steep and have washed badly, and ground fires are frequent
	and severe. There is an excellent accumulation of humus, however, in the deep
	hollows opening to the north on the lower part of the stream Nearly all of the
	south slopes have been badly burned, and much of the mature timber has defective
	butts. A great part of the young growth has been reduced to stool shoots, there being
	often half a dozen sprouts from the same stump, the result of repeated fires.
Wayah Creek Basin	No area severely burned. At different times nearly the entire watershed has been
Wayah Creek Basin (Macon Co. NC)	
•	No area severely burned. At different times nearly the entire watershed has been
(Macon Co. NC)	No area severely burned. At different times nearly the entire watershed has been badly burned, and southern slopes suffer from regularly repeated ground fires

Oconalufty River Basin above Forks (Swain Co. NC)	3 square miles severely burned. There is a deep accumulation of leaf mold in the deep hollows at the heads of the streams where there has been no fire, but on all the drier land, especially that at a low elevation and on south slopes, it is deficient. The large areas of open forest, where there is no young growth, would readily restock naturally if afforded protection. This condition chiefly prevails on the lands of the Cherokee Indians.
Oconalufty River Basin below Forks (Swain Co. NC)	No mention of fire The Eastern band of the Cherokee Indians owns a large portion of the mountain land.
Twentymile Creek Basin (Swain Co. NC)	1 square mile severely burned. In the deep hollows and on north slopes there is an accumulation of leaf mold. In some places it is very deep. On the lower hills near the mouth of the stream and on many of the dry southern slopes, especially such as have been burned, it is often very scant There is considerable undergrowth on some slopes, especially where there have been ancient fires, and many shoots have sprung up from the stools of young fire-killed trees Groves of young trees, some apparently seedlings and others evidently stool sprouts, are frequent in woods that have been burned.
Eagle Creek Basin (Swain Co. NC)	2 square miles severely burned. The prevailing forest floor is a deep leaf mold. It is often absent or scant on south slopes or where fires are prevalent Second growth is scant, except in a few places where there have been fires.
Hazel Creek Basin (Swain Co. NC)	3 square miles severely burned. In the lower part of the basin, and where the woodland is closely pastured and frequently burned, and on many south slopes above, leaf mold is scant.
Forney Creek Basin	3 square miles severely burnedLeaf mold is generally deep, except on dry southern
(Swain Co. NC)	slopes, or where it has been destroyed by fires
Noland Creek Basin	2 square miles burned.
(Swain Co. NC)	
Brush Creek Basin (Swain Co. NC)	A great part of the forest, especially that on the steep slopes near the mouth of the creek in which there is pine, has been badly burned and the soil covering destroyedThere is very little undergrowth, with the exception of a few Kalrnia thickets and brush which have followed fires. Reproduction is generally thorough, though much young growth is suppressed by frequently occurring fires.
Big Creek Basin (Macon Co. NC)	No area severely burned. Repeated fires have robbed the soil of accumulated litter and brush, except in damp hollows or on steep north slopesThe greater part of the forest has been severely injured by repeated ground fires, which have destroyed the humus, and greatly reduced the forest cover by repeatedly suppressing the young growth and so increasing the dryness of an already poor and shallow soil. In spite of the destruction of the mold, many of the species reproduce abundantly by seed, especially the scarlet oak, chestnut, white oak, and sourwood, and where it occurs, the black pine. The reproduction from stools of young-growth oak, chestnut and sourwood, after being top killed by fires, is free and vigorous; that of the pine is less vigorous and is confined to small trees Kalmia forms most of the undergrowth in the oak woods, but in most places there is very little of it. It is often killed by fires, but sprouts vigorously from the old stools.
Tennessee River between Bushnell and the State line	5 square miles burned. On the north side of the Yellow Creek Mountains an excellent forest condition prevails, with deep humus and undisturbed litter. The south slopes on the opposite side of the river have been frequently burned, and leaf mold is scant. South slopes are sometimes brushy with Kalmia and young tree growth, which has followed fires; north slopes with laurel [i.e., rhododendron].
Tuckasegee River (S side) between	Leaf mold has accumulated to a considerable depth in nearly all of the hollows, but many of the mountain slopes have been badly burned and the ground cover
Webster and Bushnell	destroyed.

(Jackson and Swain	
Co. NC)	
Deep Creek Basin	No mention of fire.
(Swain Co. NC)	
Panther Creek Basin	Repeated fires have reduced [humus and litter] Ground fires have been very
(Graham Co. NC)	frequent. [Second growth is] deficient, owing to the prevalence of fires during many
(0.0.0.0)	years past. The best stand of saplings is on wood lots where protected from fire.
Stekoah Creek District	[Humus and litter are] usually scant because of much burningLight surface fires
(Graham Co. NC)	
· /	have been frequent. The customary fires have prevented the growth of saplings.
Little and Big	The southward slopes have been much burned. Humus has been consumed and
Snowbird Creek Basins	seedlings killed. The northern slopes have escaped frequent fireshere are many
(Graham Co. NC)	saplings 8 to 10 inches in diameter, but most of those that have started later have
	been, subdued by fire.
West Buffalo Creek	The southern slopes are usually burned over every year.
Basin (Graham Co. NC)	
Santeetla Creek	Fires are common whenever it is dry enough for them. The undergrowth and
District (Graham Co.	pasturage are much reduced by fire.
NC)	
Little Santeetla Creek	Very common. The pasture has been much reduced by them, especially by those of
District (Graham Co.	late spring and early summerVery scant [undergrowth from] too much fire and
NC)	grazing.
Atoa Creek Basin	Fires are repeatedly set in the spring. The brush is; reduced and the trees are
(Graham Co. NC)	frequently scarred.
· ,	
Long Creek District	Fires have been very common
(Graham Co. NC)	
Buffalo and Cochran	Nearly all of the tract is frequently burned overSaplings are quite abundant on the
Creek Basins (Graham	isolated wood lots, but on the mountains, especially on the ridges where fires have
Co. NC)	been prevalent for many years, there are but few.
Mountain Creek Basin	Annual fires are the rule, and the forest shows the effect in injured trees and scant
(Graham Co. NC)	underbrushDense stands of [second growth] saplings are found on wood lots where
	protected from fire by clearings. On the mountains saplings are not abundant.
Sweetwater Creek	Frequent fires.
Basin (Graham Co. NC)	
Tallulah Valley	Frequent fire. The humus and undergrowth are much reduced.
(Graham Co. NC)	
HIWASSEE RIVER	Here [compared to the southern slope of the Blue Ridge], fires have been more
BASIN	prevalent and have kept decaying vegetation thoroughly consumed. They have killed
	less timber, but have done no less damage by preventing new growth.
Valley River Basin	Repeated tires have reduced the undergrowth and the humus, and even seriously
above Andrews	injured the pasturage, especially on southward slopes Old burns are slowly covered
(Cherokee Co. NC)	by persimmon, oak, hickory, etc.
Valley River Basin	Fires have been prevalent for many years. Free [reproduction] where not repeatedly
Below Andrews	burned. Old fields are soon recovered with persimmon and oak.
(Cherokee Co. NC)	
Peachtree Creek	Scant [humus and litter] owing to fires and grazing Many fires have seriously injured
District (Cherokee Co.	the greater portion of the forest. The western hills are reduced almost to brush land.
NC)	
,	
Fires Creek District	Scant [humus and litter] owing to customary fires and grazingFires have been so
,	Scant [humus and litter] owing to customary fires and grazingFires have been so frequent that the undergrowth and the pasture are greatly reduced. Some large areas

Tusquitee Creek Basin	Repeated fires have greatly reduced the forest or prevented its best development. The
(Clay County, NC)	people claim that fires have greatly injured the mountain pasturage [Undergrowth
	is] very scant, because the forest is frequently burned over and closely grazed.
Shooting Creek	Fires are frequent and show their effect in the depletion of the forest.
District (Clay County,	
NC)	
Bell Creek District	Scant [humus and litter] owing to repeated fires Repeated light fires have greatly
(Union County, GA)	depleted the forest.
Hightower Creek	Frequent light tires have reduced the undergrowth and the pasturage, at the same
District (Towns	time injuring many of the timber trees and preventing the growth of young stock
County, GA)	[Undergrowth] reduced by fire and grazing. Very little brush, except on damp areas.
Swallow Creek Basin	This tract is much less subject to fires than others of the region, because the exposure
(Towns County, GA)	is toward the north, and the upper portion of the basin is isolated.
TALLULAH-	In condition also the forest is inferior to that of the plateau. The injuries by fire are
CHATTOOGA RIVER	greater The greater portion is in the condition of a natural forest, with many old,
BASIN	
DASIN	crooked, fire scarred and otherwise defective trees and inferior species, and with subordinate saplings, crooked and retarded. Because of prevalent fires the stand is
	imperfect, many spaces being covered with mere brush where a stand of good timber
	is possible. Along the line of the old railroad grade from Walhalla to Rabun Gap, much
	burning was done at the time of grading; this area is now covered with a dense stand
	of saplings, principally oak and hickory The effect of the no-fence law is plainly
	noticeable south of Chattooga River, where the forest is more severely injured by fires,
	which are there fiercer because of more combustible material.
Dicks Creek Basin	Repeated light fires have run everywhere, killing many of the timber trees, scarring
(Rabun County, GA)	many others, and reducing the undergrowth to strips or clumps in the ravines.
Moccasin Creek Basin	Fires are common, but their effect is not as noticeable here as in the valley of Dicks
(Rabun Co. GA)	Creek.
Wild Cat Creek Basin	[Fires are] common. The ridges are burned over nearly every year. Many trees are
(Rabun Co. GA)	injured, and the seedlings are prevented from developing [Second growth is]
	abundant, except on ridges, where much exposed to fire, drought, and grazing.
Soque River District	Scant [humus and litter]. The soil is almost invariably light colored, and the litter is
(Habersham Co. GA)	consumed by the frequent fires. Fires are very frequent, and the whole tract is burned
	over as often as sufficient material accumulates to support the fire Fires and grazing
	on most of the tract have prevented the underbrush from accumulating. There are
	some narrow strips of laurel [rhododendron] along the streams, but elsewhere the
	woods are almost free from brush and seedlings.
Tallulah River Basin	Very light [humus and litter] owing to the frequent fires The land is burned over as
below Timpson Creek	often as material accumulates to support a fire usually every year. Many trees are
(Rabun Co. GA)	injured and the brush is subdued, while young growth is decimated or entirely
	prevented Though many seedlings start very few are able to form trees, as they are
	either killed by fire or eaten off by cattle. The natural supply of brush, which would
	otherwise be abundant in this pine forest, is kept very thin by fires and grazing.
Tiger Creek Basin	Most of the area is burned over ever}7 year, and timber and pasturage are thus
(Rabun County, GA)	injured and young growth is prevented.
Persimmon Creek	Fires are very frequent and the forest shows their effect in injured butts and deficient
District (Rabun Co.	young growth Deficient [second growth] owing to the custom of burning the woods
GA)	frequently. There is very little brush and seedlings are few. Seedlings start abundantly,
	but some reach only 1 foot above the ground before they are killed by fire.
Popcorn Creek Basin	Not as abundant as in most of the adjoining valleys.
(Rabun Co. GA)	
Plum Orchard Creek	Frequent, though not as severe and damaging as farther south.
Basin (Rabun Co. GA)	
	1

Timpson Creek Basin (Rabun Co. GA)	Scant [humus]. The numerous fires and close grazing do not permit it to accumulate Fires prevail in dry periods wherever there is material enough to feed them. The forests are considerably depleted by them.
Tallulah River Basin above Plum Orchard and Persimmon Creeks (Rabun and Towns Counties, GA and Macon County, NC)	Fires have been less prevalent in this region than in that adjoining, owing principally to the sparse population. The development of the mines by introducing more people will undoubtedly make fires more prevalent.
TOXAWAY RIVER BASIN	The forests of this region are variable; they have been seriously injured by fires, and as a result have some large openings on the ridges Improvement in forest condition, may be rather more difficult here than elsewhere, owing to the abundance of brush and the liability to fire.
SALUDA AND FIRST AND SECOND BROAD RIVER BASINS	Even with such protection as the frequently burned forests afford, the humus is washed from the woods, and, being light, is carried far down the stream to still waters before it finds a lodging place In condition these forests are inferior. There is very little log timber. Many of the trees are fire scarred; many, though old, are small because fire and erosion of humus have retarded growth.
CATAWBA RIVER BASIN	Nearly all south and east slopes, especially at a low elevation, have been damaged by fires to some extent.
Wilson Creek Basin (Burke Co. NC)	3 square miles burned of 63 wooded. There is evidence that this forest was at one time far more extensive, but that successive fires have destroyed it Only in the hollows has the ground cover been undisturbed, for nearly all of the slopes have been burned at one time or another. On some of the steep southern slopes humus is almost wanting.
Linville River Basin below falls (Burke Co. NC)	2 square miles burned of 32 wooded. Both slopes of the basin have often been severely burned and the fires have destroyed the previous scant ground cover In a few places there is a dense undergrowth, but the fires keep the woods open except for a year's growth of stool sprouts from the fire killed shrubs and trees. There is no second growth, except the young trees which have appeared on fire scalds. A great many of these have already been injured by fires; this is the case also with nearly all of the old timber. Reproduction is poor on all the slopes. It is better in the hollows where the ravages of the fires are not so great.
John River Basin above Forks (Caldwell Co. NC)	6 square miles burned of 78 wooded. As the prevailing aspect is southerly and the slopes are dry, fires are frequent. The ground cover is proportionately scant. Many of the hollows face the south and fire passes through them In the lower part [of the basin] and on the dryer slopes there is more oak, and chestnut is more largely replaced by various yellow pines. Many of the trees are fire scarred, and on all the coniferous slopes there are pines which have been killed by fires.
N Fork Catawba River (McDowell Co. NC)	8 square miles burned of 107 wooded. The slopes of Linville Mountain and much of the upper part of the Blue Ridge are often severely burned and there is very little humus on these slopes Where the woods are burned at irregular intervals there is often a dense undergrowth of stool sprouts from small trees and shrubs killed by the fire.
Irish, Table Rock, and Upper Creek Basins (Burke Co. NC)	8 square miles severely burned of 227 wooded. Kalmia forms many thickets on rocky land, and there is a considerable amount of brush which has followed fires Young trees are generally not abundant, evidently on account of the fires which destroy the seedlings.
Headwaters of Catawba River above	8 square miles severely burned of 37 wooded. The upper slopes of the mountains are periodically and severely burned There is no second growth of value, as the repeated fires injure stool shoots before they become large enough to be of any use.

Old Fort (McDowell	While there is not very much Kalmia or rhododendron, there is, in nearly all the badly
Co. NC)	burned woods, a considerable undergrowth of sprouts from fire-killed trees and
	deciduous shrubs.
Brush, Clear, and Crib	2 square miles burned of 55 wooded. Active logging. Fires are not infrequent and
Creek Basins	humus is scant over the entire burned area There is a considerable amount of
(McDowell Co. NC)	second-growth poles and saplings at various places in the forest where old tires have
	run. This is especially the case in the pine woods at low elevation.
YADKIN RIVER BASIN	the poverty of the naturally infertile south slopes is augmented by repeated fires
	which destroy the litter and facilitate the removal of the finer particles of the soil by
	the heavy rains.
ROARING RIVER BASIN	Frequent fires on the dry ridges exposed southward have greatly injured the forest by
	preventing reproduction. But little marketable timber has been killed, however.
North and Middle	Light [litter and humus] mostly consumed by the frequent fires Frequent [fire]; the
Forks of the Reddie	damage is not striking, but the forest is in very inferior condition on this account.
River Basins (Wilkes	
Co. NC)	
Mulberry Creek Basin	Light [litter and humus] mostly consumed by the frequent fires. Although frequent,
(Wilkes Co. NC)	very few large trees are killed; the forest is very inferior on this account.
South Fork of the	Light [litter and humus] except in north coves where fire is infrequent The ridges
Reddie River Basin	have been repeatedly burned, and, although little log timber has been killed by fire,
(Wilkes Co. NC)	the forests are in poor condition because of so much burning. Were it not for fire
	reproduction would be abundant, but, as it is, the stand is not half what it should be.

Attachment 08

Landscape Conservation Forecasting: Great Smoky Mountains National Park

Landscape Conservation Forecasting

Great Smoky Mountains National Park



Happy Valley Ridge Wildfire, September 2016. (photo by Greg Salansky)

By Greg Low, Applied Conservation Rob Klein, National Park Service Katherine Medlock, The Nature Conservancy

September, 2017







Front cover photo: Happy Valley Ridge Wildfire, September 2016, by Greg Salansky.

Despite control efforts which limited its size, this fire burned for nearly a month during 2016 through an outstanding remnant of low elevation pine woodland. The effects of this fire will provide important clues about the ecology and restoration of this important ecological system.

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Executive Summary

Preface

In the autumn of 2016 the Southeastern United States experienced an extraordinary number of wildfires, including a tragic fire event the likes of which had not occurred for at least a century in the deciduous hardwood forests of the Southern Appalachians. The Chimney Tops 2 fire that originated in Great Smoky Mountains National Park shocked the nation and devastated local communities, as is the case with many natural disasters. While we rebuild our communities and mourn our losses, we must also study the ecological implications of this fire and learn more about the role of fire in our forests. We hope that the information contained within this report and the associated maps and models will contribute to our understanding of fire and how to use fire constructively as a management tool.

Introduction

Stretching over 500,000 acres in the heart of the Southern Blue Ridge, the Great Smoky Mountains National Park (GRSM) is widely considered among the most important natural areas in the eastern United States. However, GRSM is experiencing significant effects from long-time fire suppression/exclusion. Numerous studies and peer-reviewed papers have documented losses in ecosystem function and diversity resulting from the exclusion of fire.

Developing a vision for management actions to address the losses due to fire exclusion requires a carefully considered approach. Landscape Conservation Forecasting (LCF) is a management decision-making support tool that has been successfully used by public agencies in numerous landscapes across the United States. Examples include the adjacent Cherokee National Forest as well as the Great Basin National Park in Nevada. Benefits of using LCF include:

- Uses the best available science to develop reference conditions that describe a Natural Range of Variability (NRV) for each ecological system modeled
- Uses remote sensing to assess the health of existing ecological systems
- Employs predictive ecological models to demonstrate how those ecosystems will change over time
- Utilizes computer simulations to assess how alternative management actions can influence those changes
- Customizes management actions based on agency mandates or local constraints
- Provides a cost/benefit analysis for management actions

In 2015, the National Park Service and The Nature Conservancy entered into an agreement to collaborate on Landscape Conservation Forecasting, with a primary focus on the firemaintained forests of GRSM. The LCF project proceeded in two stages. Stage one processed and optimized existing park vegetation data, ecological zone data and LiDAR data for use in LCF. Stage two included four workshops in 2016 that engaged park staff and others to develop stateand-transition models for historical vegetation, complete the ecological departure analysis, and compare potential future management scenarios.

Objectives for Great Smoky Mountains National Park Landscape Conservation Forecasting

- Engage NPS Resource Management staff and regional experts to conduct highly credible research that contributes to the establishment of meaningful landscape-scale objectives, effective prioritization, and shared ownership of future fire management direction.
- Synthesize research findings, remote sensing, and spatial data to inform a more complete understanding of past, current, and desired future conditions for fire-maintained forests.
- Use state-and-transition modeling to develop pre-settlement reference conditions for structure and composition of fire-maintained forests in GRSM.
- Complete an ecological departure analysis to highlight the greatest priorities for management action, and provide insight into fuels treatment objectives and effectiveness.
- Produce a final set of management scenarios for a 20-40 year time horizon to serve as a planning guide for future fire management plans, 5-year fuels treatment plans, and prescribed burn plans.

Process and Methodologies

LCF has built upon and modified methodologies developed under the national interagency LANDFIRE program -- including mapping, models, and metrics -- to assess a landscape's ecological condition. The essence of LCF is a measure of ecological departure. Ecological departure is an integrated, landscape-level estimate of the ecological condition of terrestrial and riparian ecological systems. Ecological departure incorporates species composition, vegetation structure, and disturbance regimes to estimate an ecological system's departure from its natural range of variability (NRV). NRV is the percentage of each vegetation succession class that would be expected under a natural disturbance regime. Ecological departure is measured using a scale of 0 to 100 where higher numbers indicate higher departure from NRV.

The LCF project completed the following tasks that were reviewed and revised at the workshops with GRSM's natural resource managers:

- <u>Datasets</u>. Reviewed and processed existing datasets, including historic and existing vegetation mapping, Ecological Zone mapping, disturbance history, and fire history.
- <u>Potential Natural Vegetation</u>. Worked with Steve Simon (Ecological Mapping and Fire Ecology, Inc.) to develop a map of GRSM's potential natural vegetation (the dominant vegetation types expected in the physical environment under a natural disturbance regime). The final "hybrid" map included the best elements from the existing Park vegetation map (1:15,000 scale) (2003), Simon's 10 meter resolution Ecological Zone maps, and a collaboratively developed cross-walk / rule set that defined ecological systems.
- <u>Existing Vegetation</u>. The current/existing ecological systems were largely identified from the 173 dominant vegetation types defined in the 2003 Park map following the same logic and groupings used to identify potential natural vegetation types. Ecological Zone maps were also used to approximate a small number of ecological systems and to help identify 'highly departed vegetation' classes.

- <u>Vegetation Succession Classes</u>. LiDAR remote sensing data for GRSM was processed at 3 meter resolution and used along with disturbance data and a set of decision rules to interpret and map current ecological systems' succession classes.
- <u>Ecological Models</u>. Reviewed and refined state-and-transition ecological models for nine ecological systems, using reference condition models initially developed for the Cherokee National Forest and the Nantahala-Pisgah National Forests based upon the LANDFIRE methodology. Special attention was directed towards refining the models for seven oak and pine-dominated systems, several of which are highly fire-dependent.
- <u>Current Ecological Departure</u>. For each ecological system, compared current vegetation class distributions with the potential natural vegetation and calculated each system's ecological departure from its NRV. Each ecological system was assessed an ecological departure score (0% to 100% departure from NRV).
- <u>Forecast Ecological Departure</u>. Forecasted the future condition of each ecological system over the next 20 40 years without active management, based on computer simulations using ST-Sim software incorporating the predictive ecological models.
- <u>Landscape Restoration Objectives</u>. At the May 2016 workshop, GRSM's natural resources managers confirmed a set of overall landscape restoration objectives for GRSM, as follows:

Landscape Restoration Objectives

- Restore fire as a key ecological process in oak and pine ecosystems where practical and most needed.
- Restore more open canopy conditions in dry oak and pine ecosystems to more closely approximate reference conditions/NRV.
- Restore early and mid-succession vegetation in dry oak and pine ecosystems to more closely approximate reference conditions/NRV.
- Manage fire appropriately to protect life and human & cultural resources within and adjoining GRSM.
- <u>Focal Ecological Systems</u>. Five fire-maintained ecological systems were selected for active management using prescribed fire, based upon their high departure from NRV and likelihood of continued future departure. The five focal systems for active management included: Dry Oak forest; Dry-Mesic Oak Forest; Low Elevation Pine Forest; Low Elevation Pine-Oak Heath; and Montane Pine-Oak Heath.
- <u>Management Models</u>. Reference condition models were modified to incorporate prescribed burning as a management action, as well as reflect current levels of fire exclusion in GRSM. With assistance from TNC's LANDFIRE program, expert assistance was secured to develop ST-Sim models that incorporated three prescribed fire "passes" in simulated non-spatial burn units, designed to achieve positive ecological outcomes.
- <u>Management Scenarios</u>. At and between workshops, prescribed fire management strategies were explored to achieve the objectives for these focal systems. Predictive ST-

Sim computer models were used to simulate conditions under alternative future management scenarios. All scenarios assume current levels of fire exclusion will continue in GRSM. The likely future condition of the five focal systems was assessed after 20 and 40 years under four primary scenarios: No Action, Maximum Management, Current Management, and Preferred Management.

- <u>Return on Investment</u>. Return on investment was calculated to compare ecological benefits to management costs.
- <u>Limitations of LCF</u>. LCF is a landscape-scale planning tool, and thus has some inherent limitations in its applications. The LCF maps, models and metrics for GRSM primarily focused on ecosystem structure and disturbances, and were not able to assess the desired *composition* of a given vegetation succession class for a given ecological system. LCF also does not assess the desired size of forest openings or other stand-level treatments.

Key Findings

The primary findings of the landscape conservation forecasting are summarized as follows:

The Landscape's Current Condition

- The 515,000 acres of Park vegetation support a diversity of Southern Appalachian ecological systems, ranging from lower elevation pine woodland to large cove forests to higher elevation spruce-fir forests. Eleven major ecological system types in GRSM were identified from the vegetation data, including seven oak and pine systems.
- Three xeric oak and pine systems constituting 21% of GRSM show high ecological departure Dry Oak Forest, Low Elevation Pine Forest and Low Elevation Pine-Oak Heath.
- Three other oak and pine systems constituting another 21% of GRSM are moderately departed from NRV – Dry-Mesic Oak Forest, High Elevation Red Oak Forest, and Montane Pine-Oak Heath.
- Three systems that are more mesic show low departure, including the Cove Forest (itself almost one-fourth of GRSM), Northern Hardwood Forest and Mesic Oak Forest.
- The primary reason for ecological departure across the landscape is due to overly closed canopy structure in the oak and pine systems, as compared to more open structure under natural conditions. Across all systems, LIDAR data showed over 80% of GRSM's vegetation structure was closed canopy.
- There is also a substantial shortfall of early succession and mid succession classes in the forest as compared to natural conditions.
- A century of fire suppression and exclusion in GRSM has been a primary cause of these altered conditions.

The Landscape's Future Condition – Without Management

- After 20 years, five oak and pine systems remain substantially departed from NRV (~50% or higher), and there is little improvement over the following 20 years. Somewhat counter-intuitively, these systems do show some slight improvement over their current condition with No Action. A modest increase in early succession and open canopy occurs due to varied disturbances (insects, weather, and some fire) in the models, and over time, some early succession moves to mid succession.
 - Note: this "improvement" only represents improvement to structural classes; it does not account for continued detrimental changes that would likely occur to forest composition during these time periods.
- Without prescribed fire, five fire-maintained ecosystems comprising almost 40% of GRSM will remain substantially departed from NRV.

Future Condition – With Prescribed Fire

- Maximum Management levels of prescribed fire (24,000 acres/year) essentially restore the oak and pine systems to low ecological departure. The large amount of prescribed fire in these simulations approximates the natural fire regime and serves to open up the canopy and create early/mid succession classes that are much closer to NRV.
- Current Management levels of prescribed fire (1,500 acres/year) achieve modest improvement in ecological departure scores. After 40 years, the current level of prescribed fire achieves the greatest improvement in low elevation pine and low elevation pine-oak heath as compared to the No Action scenario. Note: GRSM's ecological departure scores are based fundamentally on forest structure; current levels of prescribed fire are expected to improve vegetation composition for the managed systems, but this improvement is not accounted for in GRSM's ecological departure scores.
- Preferred Management levels of prescribed fire (5,000 acres/year) achieve continued, meaningful improvement over 20 and 40 years (see following table).

Departure from Natural Range of Variability			
Ecological System	No Action Ecological Departure 40 Yrs	Proposed Restore & Maintain (5K/Yr) Ecological Departure 40 Yrs	
Dry Oak Forest	51	42	
Dry Mesic Oak Forest	45	38	
Low Elevation Pine	64	49	
Low Elev Pine-Oak Heath	51	29	
Montane Pine-Oak Heath	45	36	

- GRSM's current and proposed allocation of prescribed fire among the ecological systems is reflective of their sizes and fire regimes and is achieving desirable results.
- Return on Investment (ROI) analysis also confirmed the allocations of prescribed fire among the systems. There were very small differences in ROI across the five focal systems when their respective size in acres was taken into account.
- The average annual cost of the Preferred Management prescribed fire is approximately \$250,000 per year, as compared to approximately \$75,000 per year currently.
- Reducing fire suppression/exclusion in GRSM would also improve ecological departure

 recognizing, however, the many difficulties of implementing this strategy. Current
 fire management practice allows approximately 7.5% of "natural" fire to occur;
 increasing this level to 15% would improve average ecological departure scores by 4
 points over 40 years.

Preface

In the autumn of 2016 the Southeastern United States experienced an extraordinary number of wildfires, including a tragic fire event the likes of which had not occurred for at least a century in the deciduous hardwood forests of the Southern Appalachians. The Chimney Tops 2 fire that originated in Great Smoky Mountains National Park shocked the nation and devastated local communities, as is the case with many natural disasters. While we rebuild our communities and mourn our losses, we must also study the ecological implications of this fire and learn more about the role of fire in our forests. We hope that the information contained within this report and the associated maps and models will contribute to our understanding of fire and how to use fire constructively as a management tool.

Introduction

Stretching over 500,000 acres in the heart of the Southern Blue Ridge, the Great Smoky Mountains National Park (GRSM) represents a major North American refuge for temperate zone flora and fauna. GRSM is home to over 1,600 species of flowering plants, including 100 native tree species and over 100 native shrub species, as well as many rare or endemic plants and animals. It is widely considered among the most important natural areas in the eastern U.S. and is a designated World Heritage Site. However, GRSM is experiencing significant negative impacts from disruption of natural disturbances regimes – most notably the long-term exclusion of fire. Numerous studies and peer-reviewed papers have documented losses in ecosystem function and diversity resulting from the exclusion of fire (Flatley and others 2015, Harrod and others 2000, Harrod and others 1998, Turrill and others 1995, Harmon and others 1983, Dimmick and others 1980).

Determining the appropriate role of fire on any modern landscape is not a simple task. While fire exclusion has social and ecological costs, determining the need for management actions requires a carefully considered approach. Landscape Conservation Forecasting (LCF) is a management decision-making support tool that has been successfully used by public agencies in numerous landscapes across the United States (Low et al. 2010). Examples include the adjacent Cherokee National Forest (Medlock et al. 2012) as well as the Great Basin National Park in Nevada (Provencher et al. 2013). Benefits of using LCF include:

- Uses the best available science to develop and use reference conditions that describe a Natural Range of Variability (NRV) for each natural community (or *ecological system*) modeled
- Uses remote-sensing to assess the health of existing ecological systems
- Employs predictive ecological models to demonstrate how those ecosystems will change over time
- Utilizes computer simulations to assess how alternative management actions can influence those changes

- Measures success by calculating an ecosystem's departure from its NRV, on a scale of 1 to 100, with and without various management actions
- Uses local or expert derived knowledge
- Customizes management actions based on agency mandates or local constraints
- Provides a cost benefit analysis for management actions

In 2015, the National Park Service (NPS) and The Nature Conservancy (TNC) entered into an agreement to collaborate on landscape conservation forecasting for each of GRSM's ecological systems, with a focus on the fire-maintained forests of GRSM. The LCF project proceeded in two stages. Stage one processed and optimized existing park vegetation data, ecological zone data and LiDAR data for use in LCF. Stage two included four workshops in 2016 that engaged park staff and others to develop state-and-transition models for historical vegetation, complete the ecological departure analysis, and compare potential future management scenarios.

Project Area

Great Smoky Mountains National Park (GRSM) straddles the border between North Carolina and Tennessee (Figure 1). It encompasses over 500,000 acres, making it one of the largest protected areas in the eastern United States. The main park entrances are located along U.S. Highway 441 (Newfound Gap Road) at the towns of Gatlinburg, Tennessee, and Cherokee, North Carolina. It is the most visited national park in the United States.

The Great Smoky Mountains (also known as the Smokies) are a portion of the Appalachian Mountain range, among the oldest mountain ranges in the world. The Smokies are among the tallest mountains in the Appalachian chain. Within GRSM, elevations range from about 875' to 6,643', with sixteen peaks rising more than 5,000 feet. Mount Le Conte rises to 6,593' from a base of 1,292', making it the tallest (but not the highest), mountain in the Eastern United States. The GRSM's highest summit, Clingmans Dome, is the third tallest peak east of the Mississippi River (NPS 2016).

This range in altitude mimics the climate and habitat changes a person would experience driving north or south across the eastern United States. Plants and animals common in the southern United States thrive in the lowlands of the GRSM while species common in the northern states find suitable habitat at the higher elevations. The north-south orientation of the Appalachian chain allowed the Smokies to become a refuge for many species of plants and animals that were displaced from their northern homes by glaciers in the last ice age around 10,000 years ago.

In terms of weather, GRSM's abundant rainfall and high summertime humidity provide excellent growing conditions. In the Smokies, the average annual rainfall varies from approximately 55 inches in the valleys to over 85 inches on some peaks. The relative humidity in GRSM during the growing season is about twice that of the Rocky Mountain region.

Environmental conditions range from xeric (dry) ridgetops and rock outcroppings to very mesic (moist) coves and mountaintops that are often enveloped in low-lying clouds. Forest composition varies continually with differing combinations of elevation and exposure. Major forest community types include oak-hickory forest, hemlock forest, pine-oak forest, cove-hardwood forest, northern hardwood forest and spruce-fir forest (White and others 2004). Almost 95% of GRSM is forested, and about 20% of that area is old-growth forest.

GRSM is one of the most biodiverse parks in the National Park system. Biological diversity, or 'biodiversity', means the number and variety of different types of animals, plants, fungi, and other organisms in a location or habitat. No other area of equal size in a temperate climate can match GRSM's amazing diversity. Some 100 species of native trees find homes in GRSM, more than in any other North American national park. Over 1,500 additional flowering plant species have been identified in GRSM. GRSM is also the center of diversity for salamanders and is home to more than 200 species of birds, 68 species of mammals, 67 native fish species, 39 species of reptiles, and 43 species of amphibians. Mollusks, millipedes, and mushrooms reach record diversity there. All told, over 19,000 species have been documented within GRSM and scientists believe an additional 80,000-100,000 species may live there (NPS 2016).

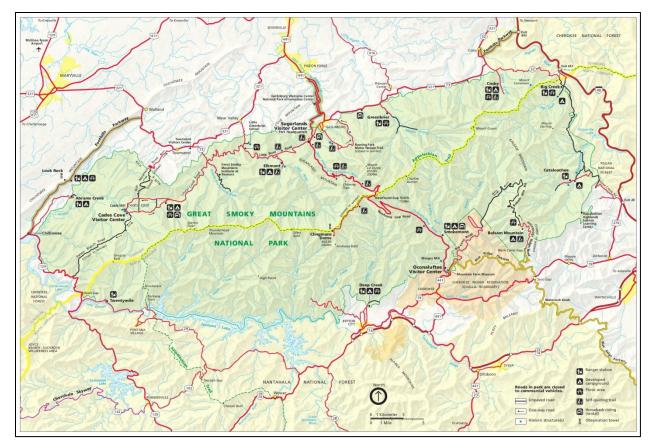


Figure 1. Great Smoky Mountains National Park.

Humans and the Landscape

The interaction between humans and the Great Smoky Mountains landscape has had a major impact on the vegetation and wildlife of the area for the past 10,000 years. The nature of these interactions and their effects on the natural landscape and biota have been studied by numerous authors, and no understanding of past or present vegetation can be complete without acknowledging humans as principal agents of disturbance and change.

The first humans to inhabit the area were very likely Paleo-Indians who arrived over 10,000 years ago. These people are known to have lived in small, multi-family bands that were a migratory, hunting and gathering society. The earliest physical evidence of human use of the Smokies landscape dates to the later Archaic Period, approximately 8000 years ago (Bass 1977). Societies during the Archaic Period were still mostly comprised of small, migratory groups that relied on hunting and gathering subsistence methods, though by the Late Archaic around 4000 years ago, humans had started to develop agricultural systems.

These trends toward plant domestication and larger, more complex and sedentary societies continued into the Woodland and Mississippian Periods, which began around 3000 and 1000 years ago, respectively. These larger societies were found in the river valleys and foothills surrounding GRSM - at sites along the Little Tennessee River, and in places like

modern-day Sevierville, Townsend, and Bryson City. Though these populations were centered in locations outside the modern-day Park, the GRSM landscape was continually utilized for hunting, collection of plant resources, and travel. Paleoecological evidence suggests that longterm, widespread use of fire by Woodland and Mississippian people had substantial impacts to the Southern Appalachian landscape, favoring forests dominated by fire-adapted species like oak, chestnut, and pine (Delcourt and Delcourt 1998). After the 16th century, Native American culture began to be heavily influenced by the European presence in North America, and resulted in the Cherokee culture that dominated the area when the first European settlers arrived.

The GRSM area was permanently settled in the late 1700s/early 1800s by pioneers of European descent. In the 1880s, the invention of the band saw and the logging railroad led to a boom in the lumber industry. As forests throughout the Southeastern United States were harvested, lumber companies pushed deeper into the mountain areas of the Appalachian highlands, including GRSM. The GRSM area was heavily logged in the early 1900s. Between 1910 and 1920, corporate lumbermen built railroads into the most remote watersheds and removed more than 60 percent of the old-growth forest (Brown 2000).

Extensive and intensive human-related disturbances in the pre-Park era were carefully chronicled in a 1985 Park research report by Charlotte Pyle (Pyle 1985). Pyle reported that logging occurred to some degree on approximately 70% of GRSM. Mechanized corporate logging occurred on 40% of GRSM, often followed by intensive fires. Diffuse disturbance occurred on 29% of GRSM (large tracts with patches of intensive logging; smaller forest stands with small logging operations, livestock grazing and frequent, non-intensive fires; and disturbed tracts where some big trees remained). Concentrated human settlement occurred on an additional 9% of GRSM. Conversely, 20% of GRSM was found to have little or no record of major disturbance from logging or settlement (Pyle 1988).

As a response to societal concerns about the rapidly vanishing wilderness, GRSM was chartered by the <u>United States Congress</u> in 1934. The mission of the National Park Service is "...to promote and regulate the use of ...national parks... to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (<u>National Park Service Organic Act, 16 U.S.C.1.</u>).

The human relationship to this landscape endures today in the conservation and protection of GRSM. The NPS Foundation Document for the GRSM (2016) (see excerpt below) serves as a guide for planning and decision-making to "protect resources and values that are integral to park purpose and identity." The purpose statement and the values listed in the Foundation Document reflect the GRSM enabling legislation and the legislative history that accompanied the GRSM development.

Great Smoky Mountain National Park Foundation Document (2016) Purpose Statement : Great Smoky Mountains National Park preserves a vast expanse of the southern Appalachian Mountains ecosystem including it scenic beauty, extraordinary diversity of natural resources, and rich human history, and provides opportunities for the enjoyment and inspiration of present and future generations.

https://www.nps.gov/grsm/learn/management/upload/GRSM_FD_SP.pdf

Fire in Great Smoky Mountains National Park

For thousands of years, wildland fires have been a common and repeated natural event in the Southern Appalachian region, including the area that is now called the Great Smoky Mountains (Underwood 2013, Flatley and others 2013, Laforest 2012, Fesenmyer and Christensen 2010, Delcourt and Delcourt 1998, Harmon 1982). The countless interactions between these frequent fires and weather, topography, and vegetation have played a critical role in the development of several of the widespread natural communities that are found in the Great Smoky Mountains.

Pine woodlands, oak forests, and chestnut forests (prior to the introduction of chestnut blight) were all expanded and maintained on the landscape by various regimes of recurring fire that resulted from both human ignitions and lightning (Flatley and others 2015, Delcourt and Delcourt 1998). Natural communities that are rare in the Southern Appalachian landscape, such as meadows and heath balds, were also very likely created or maintained by fire (Langdon 2005). Numerous other species - from grasses to birds to reptiles to insects - were able to thrive in the unique habitats that resulted from burning, thus increasing the genetic, species, and landscape diversity found throughout the region.

A primary goal of the National Park Service is to preserve native plants and animals inGRSM, as well as the natural processes which perpetuate them. Fire history and ecology research have clearly established wildland fire as one of the natural processes upon which many plants and animals depend. However, when the Great Smoky Mountains National Park was established in 1934, fire was seen as only a destructive force by park managers, and a policy of fire exclusion was instituted. This policy sought to prevent all wildland fires, and used people and tools to suppress any wildland fires that were started, whether by humans or lightning. This disruption of the thousands-year-old disturbance regime had many unforeseen impacts to GRSM ecology, and some of those impacts are still being discovered today - over 80 years after fire exclusion policies were originally put in place.

Historical Role of Fire

Studies of soil and pond charcoal provide direct evidence that wildland fires have occurred on the Southern Appalachian landscape for nearly 10,000 years (Underwood 2013, Fesenmyer and Christensen 2010, Delcourt and Delcourt 1998). Additionally, these paleoecology studies have used fossil pollen and species identification of charcoal fragments to show that prehistoric fires were associated with expanding forests of pine, oak, and chestnut. Though no direct evidence of ignition source exists for these ancient fires, Delcourt and Delcourt (2004) have developed a compelling body of work suggesting that: 1) use of fire by Native American populations was pervasive in the Southern Appalachian region, particularly during the Woodland and Mississippian cultural Periods, and 2) this pervasive use of fire was associated with "profound" impacts to vegetation composition and structure.

In addition to the prehistoric fire history developed from paleoecology, dendrochronology offers a higher-resolution picture of fire history over the past several centuries. Dendrochronology is the study of growth rings and fire scars from trees, and such research can provide data as to the specific year, season, associated climate, and specific fire frequency for a given site. Several dendrochronology studies have been completed within GRSM, with the focus on the pine and oak-dominated western end. These studies have demonstrated that for numerous sites in GRSM's western end, fire was occurring quite frequently for the 100-200 years prior to GRSM establishment (Flatley and others 2013, Laforest 2012, Harmon 1982). When the results from these studies are viewed collectively, we have strong evidence that fires burned, on average, every 5-15 years through lower-elevation pine and oak forests in GRSM. Other studies and observations suggest that more remote or higher-elevation pine and oak sites may have burned less frequently (Brose and Waldrop 2006, Armbrister 2002, Harmon 1982).

These frequent fires acted in conjunction with climatic and soil factors to favor the widespread development and maintenance of disturbance-dependent woodlands and forests across the lower and middle elevations of GRSM. The specific roles that fire played in the GRSM landscape and within these natural communities include:

Maintenance of structural heterogeneity (stand, watershed, and landscape scales)

- Selection of fire-adapted and sun-loving plant species
- Creation/maintenance of wildlife habitat
- Enhancement of biodiversity (genetic, species, community)
- Building resilience (by maintaining healthy populations of fire and drought tolerant species).

Consistent with the pattern of fine-scale vegetation diversity across the Southern Appalachian Mountains, numerous natural communities developed within the footprints of repeated fires. These natural communities included a wide array of woodlands and open forests dominated principally by a variety of yellow pines, oaks, and American chestnut. The sunny, open conditions resulting from frequent fire acted to favor regeneration of these species and to increase the cover and diversity of sun-loving grasses and forbs relative to the more shade-tolerant trees and shrubs that dominate the forest understory today (Harrod et al 2000). The structure and food resources (foliage, nectar, seeds, etc.) associated with these herbdominated woodlands, in turn, provided the foundation for a rich ecological web that was essentially dependent on the occurrence of frequent fire.

Ecological Impacts of Fire Exclusion

The establishment of Great Smoky Mountains National Park in 1934 heralded a dramatic shift in the role of fire in the southern appalachian mountains. Concerns about damage to forest resources, impacts to scenic values, and protection of life and property led to policies of complete fire exclusion from the landscape. The prevention of wildland fires became a core goal, and when fires were started (by lightning or humans), GRSM managers acted to suppress the fire as quickly as possible. This focus on prevention, detection, and suppression resulted in a dramatic change to the fire regime that had acted on the GRSM landscape for thousands of years. The resultant decrease in fire frequency in the 20th century was recorded by the same dendrochronology studies that showed how fires were occurring frequently for centuries prior to park establishment (Flatley and others 2015, Laforest 2012, Harmon 1982).

This long-term exclusion of fire from GRSM forests has been a major factor driving changes to forest structure, function, and composition, particularly among forest types dominated by yellow pines (shortleaf, pitch, table mountain, and Virginia) and oaks. The ecological impacts of fire exclusion from GRSM include:

- Native pine and oak species have been greatly diminished, while fire sensitive trees and shrubs have proliferated. This has rendered many areas more vulnerable to wildfires, and changed vegetation to species poorly adapted to drought and a changing climate
- Wildland fuels particularly duff, woody debris, and evergreen shrubs have accumulated substantially, leading to a higher risk of more severe wildfires
- Sun-loving grasses and forbs, which are the foundation of biodiversity in dry forest communities, have been shaded out and reduced across the landscape

- Table mountain pine, which needs fire to release its seeds, has declined dramatically
- Unique 200-400 year old Shortleaf pine forests are threatened by forest pests and lack of regeneration.
- The federally endangered red-cockaded woodpecker, which depends upon fire- maintained mature pine forests for its habitat, was extirpated from GRSM in the 1980s
- Loss of habitat for a unique set of plants, insects, and wildlife that are not found in other parts of GRSM.

All of these changes are the direct result of long-term suppression and exclusion of fire, and they have been documented by GRSM scientists and managers over the past 40 years. These are only the most obvious impacts of fire exclusion in the most fire-prone portion of the GRSM landscape. In the longer term, the continued lack of fire will result in widespread declines in plant and animal diversity, increased difficulty in controlling unwanted wildfires, and will lead to dominance by species that are poorly adapted to drought, fire, and changing climatic conditions. These changes over such a substantial portion of the GRSM land base are believed to pose a serious threat to GRSM's ability to achieve its goals for protection of life and property and preservation of a diverse, resilient, and naturally functioning ecosystem.

Current Fire Management

The Fire Management Plan (FMP) of 1996 was developed as a response to direction in the GRSM General Management Plan, Resource Management Plan, and National Park Service policy to take action in order to prevent and reverse these negative impacts. The 2015 FMP provides the most current update to NPS policy and park direction for the management of fire, and includes the following goals:

GRSM Fire Management Goals

- Protect human life, communities, and resources from the adverse effects of wildfire without compromising safety
- Maintain and restore fire adapted ecosystems using appropriate tools and techniques in a manner that will provide sustainable, ecological and social benefits
- Integrate knowledge generated through fire and natural resource research into fire management priorities, decisions and actions
- Integrate fire as a natural process into GRSM's ecosystem to the fullest extent possible
- Communicate and coordinate with interagency organizations and other stakeholders to pursue common goals, programs and projects

Build and promote organizational effectiveness by building program capacity, leadership, and effective management practices.

The protection of human life, property and resources from the adverse effects of wildfires remains the most important goal for fire management at GRSM. While the complete exclusion of fire was the policy until 1996, wildfires have still occurred. Over 900 wildfires have been recorded in GRSM between 1942 and 2016. There have been an average of approximately 13 wildfires per year in that time span, and over 70,000 total acres have burned. The vast majority (70%) of wildfires has been 10-acres or less in size, and nearly half (46%) have been 1-acre or less. Fires greater than 1000-acres have been very rare (1% of total), and the largest wildfire in GRSM history was the 17,140-acre (10,964 in Park) Chimney Tops 2 wildfire of November 2016.

Aside from re-emphasizing the primary objective of wildfire protection, the 1996 FMP recognized the importance of using fire to reverse the decades of fuel buildup and ecosystem decline. One of the tools identified as appropriate to achieve these objectives was the management of selected natural (lightning-caused) wildfires for resource benefits. Lightning ignitions have been recorded in GRSM since at least 1942, with over 144 total occurrences, or an average of 2 per year. Prior to 1996, the average size of these fires was 16 acres, and after 1996, the average size was 72 acres – the largest being the Chilly Spring Knob Fire of 2006 (913 acres). The total number of acres burned by managed lightning fires since 1996 is 2,949.

The other tools that were identified in the 1996 FMP were manual thinning of fuels and prescribed burning. Since 1996, manual thinning of fuels has occurred along the GRSM Wildland-Urban-Interface at several locations in Sevier and Blount Counties in Tennessee. These fuel reduction efforts have been accompanied by both pile-burning and broadcast-prescribed burning, with the primary goal to remove large numbers of evergreen shrub stems and heavy fuel accumulations from the GRSM boundary with private residences.

In areas of GRSM that could benefit from fire, the Park Service has conducted prescribed burns. Prescribed fire is a planned fire (also sometimes called a "controlled burn" or "prescribed burn") and is used to meet management objectives. A prescription is a set of conditions that considers the safety of the public and fire staff, weather, and probability of meeting the burn objectives. Such fires have pre-determined boundaries and are ignited only under very specific conditions. Limiting conditions include weather, fuel moisture, soil moisture, availability of trained fire-fighting personnel, and air quality conditions.

GRSM has conducted 106 prescribed burns since 1996 for a total of nearly 20,000 acres, or an average of about 1000 acres per year. Some focal areas for the prescribed burns have included Cades Cove, Tabcat Creek, the landscape just west of Cades Cove known as "North of Abrams", and the forests around Cataloochee Valley. Scientific monitoring is conducted before and after the burns to make sure the fires achieve the desired results. This monitoring has shown that prescribed burns can successfully reduce fuels and restore fire-adapted species (Jenkins et al 2011), though multiple burns may be required to effectively achieve long-term objectives. The important work of fuels reduction and fire restoration will continue. In 2016, Great Smoky Mountains National Park produced a *Foundation Document* that reemphasized the important role of fire and prescribed burning in effectively managing GRSM resources into the future (see excerpt below).

Great Smoky Mountain National Park Foundation Document (2016) Fire Management Excerpts : In "Threats to Ancient Mountain Ecosystems:" "Alteration of the natural fire regime is creating uncharacteristically dense forests or converting them to mixed mesophytic community types." In "Trends of Biodiversity – Wondrous Variety of Life:" "While the number of known species is increasing, overall biodiversity is decreasing due to the lack of natural disturbance (namely natural fire regimes)." In "Threats to Biodiversity:" "Climate change may reduce the range and distribution of some vegetation communities and amplify invasive species, diseases and pests, and possibly fire." In "Opportunities for Biodiversity:" "Prescribed and natural fire will continue to restore fire-adapted ecosystems including both open meadow and forest areas where fuel loads are high and increasing. Increased funding through federal or private sources is needed to expand this effort." Finally, in the *Wilderness Character Narrative*, the need for responsible fire management is summarized in the context of the "Natural" qualities of GRSM's wilderness: "Restoration of some semblance of natural fire regimes would help to maintain the ecological integrity of fire-adapted habitats and associated wildlife species, while enhancing the diversity of vegetation in the wilderness." https://www.nps.gov/grsm/learn/management/upload/GRSM FD SP.pdf

Objectives

The Great Smoky Mountains National Park's large landscape, with its legacy of decades of fire suppression, along with the promising more recent use of prescribed fire, now provide opportunities to improve the ecological condition of the fire-maintained ecosystems. The Landscape Conservation Forecasting project aimed to help make this happen.

The specific objectives for GRSM Landscape Conservation Forecasting project were as follows:

- Engage NPS Resource Management staff and regional experts to conduct highly credible research that contributes to the establishment of meaningful landscape-scale objectives, effective prioritization, and shared ownership of future fire management direction.
- Synthesize past and current research findings, remote sensing, and spatial data to inform a more complete understanding of past, current, and desired future conditions for fire-maintained forests.
- Use state-and-transition modeling to develop pre-settlement reference conditions for structure and composition of fire maintained forests in GRSM.
- Complete an ecological departure analysis that will highlight the greatest priorities for management action, and provide insight into fuels treatment objectives and effectiveness.
- Produce a final set of management scenarios for a 20-50 year time horizon to serve as a planning guide for future fire management plans, 5-year fuels treatment plans, and prescribed burn plans.

Process and Methods

Landscape Conservation Forecasting (LCF) has built upon and modified methodologies developed under the national interagency LANDFIRE program (Rollins 2009, LANDFIRE 2016) -- including mapping, models, and metrics -- to assess a landscape's ecological condition. The LCF process used for GRSM consisted of six primary components or steps, as follows:

- 1. Develop maps of potential vegetation types, called ecological systems, and current vegetation succession classes (s-classes) within ecological systems.
- 2. Refine computerized predictive state-and-transition ecological models for the ecological systems by updating previously developed models, or developing new models as needed.
- 3. Determine current condition of all ecological systems (a broad-scale measure of their "health"), using the ecological departure metric. Ecological departure is measured by comparing the current condition of vegetation with the Natural Range of Variability (NRV), which represents the reference condition for the ecological systems.
- 4. Use computerized ecological models to forecast anticipated future condition of ecological systems with no management action.
- 5. Use the computerized ecological models to forecast anticipated future condition of ecological systems under alternative management strategies and scenarios.
- 6. Use return-on-investment analysis to assess which strategies for which ecological systems yield the most advantageous results.

A schematic diagram that displays the relationship of these components to each other is presented below (Figure 2):

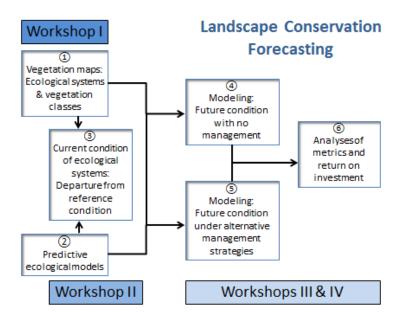


Figure 2. LCF Process Diagram.

The LCF project at GRSM proceeded in two stages. Stage one processed and optimized existing park vegetation data, ecological zone data and LiDAR data for use in LCF. Stage two included four workshops in 2016 that engaged park staff and others to develop state-and-transition models for historical vegetation, complete the ecological departure analysis, and compare potential future management scenarios.

Detailed descriptions of methods used in each of the project's component steps are presented in the following subsections.

Vegetation Data

The fundamental elements of LCF's ecological departure analysis include: 1) mapping the distribution of ecological systems as potential natural vegetation – i.e., the dominant vegetation types expected in the physical environment under a natural disturbance regime; 2) mapping current vegetation succession classes of each ecological system; and 3) for each ecological system, comparing the current structural class distribution with the expected "natural" distribution and calculating each system's departure from its NRV. NRV is the percentage of each vegetation succession class that would be expected under a natural disturbance regime.

Steve Simon (Ecological Mapping and Fire Ecology, Inc.) was engaged to develop a map of GRSM potential natural vegetation and integrate this map with current vegetation data. Existing datasets were reviewed and processed, including current and historic vegetation mapping, ecological zone mapping, disturbance history, and fire history. A set of crosswalks and decision rules were applied as needed to conform with the LANDFIRE-based vegetation data classification methods used by LCF.

Spatially referenced data is necessary for determining composition and structure parameters and for evaluating LCF results at a given project area. The following vegetation data were spatially defined in a Geographic Information System (GIS) for GRSM. These data were grouped within NatureServe's Ecological Systems classification approach (Comer et al. 2003) which is deployed by LANDFIRE and LCF:

- 1. Potential Natural Vegetation, defined as either -
 - Biophysical Settings (BpS): 'the vegetation that may have been dominant on the landscape prior to Euro-American settlement based on both the current biophysical environment and an approximation of the historical disturbance regime' (LANDFIRE 2016), or
 - Ecological Zones: 'units of land that delineate the environment that can support a specific plant community or plant community group under historical disturbance regimes that may or may not represent current vegetation composition' (Simon 2011).

- 2. Current/Existing Vegetation, as determined by existing vegetation mapping geospatial data, generally created through interpretation of aerial photography or remotely-sensed data.
- 3. Succession Classes, identified primarily by
 - a. canopy height, and
 - b. canopy gaps and/or dNBR (pre- and post-fire Landsat imagery radiance and reflectance values), and
 - c. canopy cover (tree and evergreen shrub)

The following sub-sections providing details on the mapping of potential natural vegetation, current vegetation and succession classes are extracted from Simon's report.

Potential Natural Vegetation

Three primary data sources were available for developing a map of potential natural vegetation suitable for NRV measurements at GRSM:

- An existing vegetation map produced in 2003 (1:15,000 scale) that included 173 dominant vegetation types and two companion documents that, in combination, provided a rough cross-walk between the dominant vegetation types and ecological systems:
 - a. Final Report May 2003: 'Vegetation classification of Great Smoky Mountains National Park': Unpublished report submitted to BRDNPS Vegetation Mapping Program. NatureServe: Durham, NC. (White, R.D., K.D. Patterson, A. Weakley, C.J. Ulrey, and J.Drake. 2003)
 - b. Draft Report May 2004: Vegetation Classification System Outline for Mapping Great Smoky Mountain National Park (Center for Remote Sensing and Mapping Science (CRMS)
 Department of Geography, the University of Georgia & NatureServe-Durham Office.
- A preliminary grouping of the 173 dominant vegetation types by reference and current condition, Great Smoky Mountains Park Ecological Systems, and LANDFIRE Ecological Systems (GRSM staff -Rob Klein), and
- 3) An Ecological Zone map (10 meter resolution) produced in 2011 that included 21 Zones and 12 Ecological Systems and a companion document that described these types (Ecological Zones in the Southern Blue Ridge ^{3rd} Approximation, S.Simon, 2011: Unpublished report submitted to the National Forests in North Carolina).

GIS map representations of these data were produced for ecological systems from both intersected and independent data coverages; these GIS map data were then evaluated at both broad and local landscape levels. Some relatively minor map unit errors in both mapped data sources were evident. For example, for the Cades Cove and Mount Guyot USGS quads, data reflected different photo interpreter's judgment of existing vegetation classes. However, these errors were very localized.

Based upon these observations, a "hybrid" map of potential natural vegetation was produced that included the best elements from the existing vegetation and ecological zone

maps, along with a collaborative effort at developing a crosswalk / rule set that defined ecological systems. The final ecological system "rules" are included in Appendix 1.

The hybrid map included some minor adjustments of polygons based upon an analysis of over 300 field reference plots that were used in both the existing vegetation and ecological zone map development. Approximately 620 acres, primarily at higher elevations, were adjusted to better reflect ecological systems where reference plots were not in agreement with existing vegetation map units.

The hybrid map was created to allow flexibility for different types of ecosystem evaluation, i.e., types were split as much as the data would allow but could be easily aggregated. For example, Spruce and Fir types were identified separately, but combined for the LCF ecological system analysis. On the other hand, some ecological systems were split into elevation or moisture-temperature gradients to reflect major types that were evident in the field and for which differences existed in disturbance regimes. For example, the oak types were split into four systems - Dry Oak Forest, Dry-Mesic Oak Forest, Mesic Oak Forest, and High Elevation Red Oak Forest based on differences in composition and fire regime. A total of eleven ecological systems were identified in the final map (Table 1).

Other highlights of the final hybrid map of potential natural vegetation include:

- Low Elevation Pine-Oak ecological system split into: (1) Low Elevation Pine-Oak Heath at elevations < 2,300' and within the Pine-Oak Heath Ecological Zone, and (2) Low Elevation Pine = other Pine-Oak existing vegetation < 2,300' (all Yellow Pine-Oak > 2,300 = Montane Pine-Oak Heath),
- Identified Northern Hardwood, Hemlock-Northern Hardwood, and Beech Gaps but aggregated these into the Northern Hardwood ecological system,
- Identified Hemlock and Hemlock-White Pine but these aggregated to Acidic Cove,
- Identified Acidic Cove and Rich Cove but aggregated these types to the Cove Forest ecological system, and
- Split White Pine-Oak into either Dry Oak or the ecological zone model prediction.

Approximately 90% of the final hybrid map area was derived by grouping existing vegetation map units into logical ecological systems; approximately 10% of the area was derived from ecological zone models.

Table 1: Ecological systems identified by the hybrid map. Original LANDFIRE-based system names were shortened for naming GRSM systems for LCF

LANDFIRE Ecological System Name	System Name for GRSM LCF	Acres
Central and Southern Appalachian Spruce-Fir Forest	Spruce-Fir Forest	40,830

		T
Southern Appalachian Northern Hardwood Forest	Northern Hardwood Forest	67,830
Southern and Central Appalachian Cove Forest	Cove Forest	123,900
Central Interior and Appalachian Riparian and Floodplain Systems	Montane Alluvial	7,920
Central and Southern Appalachian Montane Oak	High Elevation Red Oak Forest	22,410
Central and Southern Appalachian Northern Red Oak- Chestnut Oak	Mesic Oak Forest	60,560
Southern Appalachian Oak Forest – dry type Southern Appalachian Oak Forest – dry-mesic type	Dry Oak Forest Dry-Mesic Oak Forest	80,370 65,850
Southern Appalachian Montane Pine Forest and Woodland - high elevation type	Montane Pine-Oak Heath	18,760
Southern Appalachian Montane Pine Forest and Woodland - low elevation type	Low Elevation Pine-Oak Heath	8,760
Southern Appalachian Low-Elevation Pine Forest	Low Elevation Pine Forest	17,870
Not included in LCF evaluation (developed areas, roads, balds, water, fields, etc.)		29,130
TOTAL		544,190

Current (Existing) Vegetation

Ecological departure analysis requires that both the potential and existing vegetation are defined as ecological systems map units. The GRSM existing vegetation map produced in 2003 clearly defined vegetation composition at that time; this map was used to define current vegetation types. The significant but highly localized forest disturbances that have occurred since the 2003 map was produced have been documented and were included in the evaluation of vegetation succession classes for the LCF analysis.

For approximately 90% of GRSM, the current/existing ecological systems were identified from the 173 dominant vegetation types defined in the 2003 map following the same logic and groupings used to identify potential natural vegetation types.

The other 10% of the area (52,260 acres) included the following more generalized "types" that could not be accurately placed within an ecological system using the dominant vegetation type classification:

- Southern Appalachian Early Successional Hardwoods (19,710 ac.),
- Southern Appalachian Mixed Hardwood Forest (Acidic) (23,355 ac.),
- High Elevation Xeric Woodlands (885 ac.),
- Eastern White Pine and Mixed Eastern White Pine-Dry Oak (7,027 ac),
- Eastern White Pine-Mesic Oak Forest (548 ac.), and

• Chestnut Oak/Hardwoods with White Pine (735 ac).

Ecological zone maps were used to approximate where these types fit within ecological systems (Table 2).

LANDFIRE Ecological System Name	System Name for GRSM LCF	Acres
Central and Southern Appalachian Spruce-Fir Forest	Spruce-Fir Forest	1,470
Southern Appalachian Northern Hardwood Forest	Northern Hardwood Forest	2,640
Southern and Central Appalachian Cove Forest	Cove Forest	25,990
Central Interior and Appalachian Riparian and Floodplain Systems	Montane Alluvial	1,010
Central and Southern Appalachian Montane Oak	High Elevation Red Oak Forest	2,210
Central and Southern Appalachian Northern Red Oak-	Mesic Oak Forest	8,870
Chestnut Oak		0,070
Southern Appalachian Oak Forest	Dry Oak Forest	680
Southern Appalachian Oak Forest	Dry-Mesic Oak Forest	5,150
Southern Appalachian Montane Pine Forest and Woodland - high elevation type	Montane Pine-Oak Heath	3,210
Southern Appalachian Low-Elevation Pine Forest	Low Elevation Pine Forest	900
Not included in LCF evaluation (developed areas, roads, balds, water, fields, etc.)		
TOTAL		52,260

Ecological zone maps were also used in combination with GRSM existing vegetation map to identify "highly departed vegetation" (i.e., uncharacteristic) classes. LANDFIRE describes a vegetation class that is outside the historic range of variability in vegetation composition and structure as "uncharacteristic" – either uncharacteristic native vegetation or uncharacteristic exotic vegetation. For example, cheatgrass (an exotic annual grass) that occurs in sagebrush ecological systems in the Western U.S. is often used to characterize an 'uncharacteristic exotic' LANDFIRE condition. The extent and severity of this type of uncharacteristic condition does not occur in ecological systems within GRSM. However, uncharacteristic classes can also include <u>native</u> vegetation when the vegetation structure or composition would not have been expected to occur on the ecological system during the reference condition period. Within GRSM, only 5,475 acres were found to be of this uncharacteristic type, which were labeled as "highly departed vegetation"; they include stands where tulip poplar is dominant in Oak ecological systems or where white pine or oak is dominant in Low Elevation Pine or Pine-Oak Heath ecological systems.

Succession Classes (s-classes)

Seral Stages

Forest seral stages are most easily categorized by stand age. Stand age is used in the 5-box LANDFIRE ecological models (see following section) to define early, mid, and late succession classes. Stand age, however, is not available spatially for GRSM and consequently a combination of factors was needed to estimate seral stages for the GRSM ecological systems.

At the time of GRSM establishment in 1934, over half of the total area of GRSM had been cut over by large corporately owned logging companies, and pioneers had settled and farmed in some areas for 100 years (Pyle, 1985). Most of the logging occurred between 1910 and 1930 (Brown, 2001) which would suggest an average current age of 86 to 106 years for over half of GRSM, i.e., at or near late seral condition for most ecological systems. Pyle (1985) also identified and mapped over 110,000 acres as "undisturbed" at the time of park establishment. This would suggest that much of these areas are likely in late seral "old growth" condition because there has been no extensive logging or widespread natural stand-replacing disturbance since park establishment.

Although disturbance history data would indicate that most forests in GRSM are late successional, natural disturbances (e.g., wind and fire) have occurred since park establishment that have caused localized stand replacement and more widespread canopy gaps. These disturbances have either reset succession to early seral stages or maintained mid-successional conditions, but not all of these disturbances have been documented or mapped. In order to estimate where these conditions might occur, tree canopy height and canopy gap size were considered to be suitable surrogates or indicators of stand age and therefore seral condition. LiDAR (Light Detection and Ranging) data were available across GRSM and were used to spatially measure canopy height. The LiDAR data were processed at 3 meter resolution.

Early succession vegetation was defined as forests where canopy height is less than 20' in canopy gaps greater than 1/20 of an acre in size, regardless of ecological system. A similar method was applied and field reviewed on the adjacent Nantahala-Pisgah National Forests and proved reasonably accurate (Josh Kelly, personal communication). In addition, early succession was evaluated from 12 documented disturbance events (wildfire, prescribed fire, and a tornado), three of which occurred after the 2009 acquisition of LiDAR data. The relationship between LiDAR early succession estimates and dNBR (the difference in pre- and post-disturbance vegetation radiance and reflectance values) were evaluated to estimate early succession in the largest of these disturbance events, the 2011 tornado concentrated in the Calderwood USGS quad. A dNBR score of > 270 was considered indicative of significant canopy mortality and found to correlate well with LiDAR early succession estimates for disturbance events early succession estimates for disturbance events fo

Determining mid-succession forest was also accomplished using canopy height (although with somewhat less confidence for this hard-to-determine seral stage, which GRSM staff have found to be much less prevalent in the GRSM current vegetation structure). Height growth rates for different species on different sites were considered and the following "rules" established to identify mid-successional classes:

- canopy height > 20' but < 60' in Low Elevation Pine, Dry-Mesic Oak, Mesic Oak, Cove Forest, Northern Hardwood Forest, Spruce-Fir, and Alluvial Forest ecological systems, and
- canopy height > 20' but < 30' in Montane Oak, Low Elevation Pine-Oak Heath, Montane Pine-Oak Heath, and Dry Oak ecological systems.

All other areas within GRSM, except those excluded from the LCF analysis (developed areas, roads, balds, water, and fields) were considered late-succession vegetation. Areas mapped as "undisturbed" by Pyle (1985) were separately identified as "old growth," which could be used as a potential "Late 2" seral stage in the ecological models.

Canopy Cover

In addition to seral stages, canopy cover is the other key component of identifying vegetation s-classes in the LANDFIRE methodology. LANDFIRE models typically include both Open and Closed canopy cover for the Mid and Late seral stages. Early succession is typically classified as Open canopy structure.

Due to the high degree of competition and shading that can result in areas of GRSM that have dense evergreen shrub cover, shrub cover was included as a factor in the determination of canopy cover. The LiDAR data were used to estimate both canopy cover and evergreen shrub cover. The following rules were used to define open and closed canopy classes within different succession classes in the ecological models:

- mid-succession open canopy class =
 - canopy cover < 60% and shrub cover < 75% (all ecological systems)
- mid-succession closed canopy class =
 - \circ canopy cover ≥ 60% or shrub cover > 75% (all ecological systems)
- late-succession open canopy class =
 - canopy cover < 80% in the Cove Forest ecological system
 - canopy cover < 80% and shrub cover < 75% in the Mesic Oak ecological system
 - canopy cover < 60% and shrub cover < 75% in all other Oak ecological systems
 - canopy cover < 60% and shrub cover < 75% in all Pine-Oak ecological systems
 - canopy cover < 60% in Northern Hardwood, Spruce-Fir, and Alluvial Forest systems
 - dNBR > 270 within the 2011 tornado disturbance area
- late-succession closed canopy class =
 - \circ canopy cover ≥ 80% in the Cove Forest ecological system
 - \circ canopy cover ≥ 80% or < 80% and shrub cover > 75% in the Mesic Oak ecological system
 - \circ canopy cover ≥ 60% or < 60% and shrub cover > 75% in all other Oak ecological systems
 - \circ canopy cover ≥ 60% or < 60% and shrub cover > 75% in all Pine-Oak ecological systems
 - canopy cover ≥ 60% in Northern Hardwood, Spruce-Fir, and Alluvial systems

Ecological Models

Landscape Conservation Forecasting uses state-and-transition models to estimate vegetation succession class distributions for reference conditions and to simulate future management scenarios. A state-and-transition model is a discrete non-spatial, box-and-arrow representation of the continuous variation in vegetation composition and structure of an ecological system (Bestelmeyer et al. 2004). The LANDFIRE program worked with hundreds of experts to develop state-and-transition model descriptions for every terrestrial ecological system in the United States. These descriptive models are accompanied by quantitative models that can be viewed and manipulated in ST-Sim State-and-Transition Simulation Model (hereafter ST-Sim), computer-based simulation software developed with LANDFIRE support by Apex Resource Management Solutions. ST-Sim is a successor program to the Vegetation Dynamics Development Tool (VDDT) used in earlier LCF applications. LANDFIRE used the computer models to estimate reference conditions (also referred to as "Natural Range of Variability" or NRV) for each ecological system, which are then used to help evaluate ecosystem health through the ecological departure metric (Low et al. 2010; LANDFIRE 2016).

At their core, LANDFIRE models have the reference condition represented by some variation around succession classes labeled by five "boxes" (Figure 3). Each box represents a distinct developmental stage of forest growth, usually from early succession herbaceous vegetation to increasing woody species dominance where the dominant woody vegetation might be shrubs or trees. Two classes (boxes) typically represent mid-succession seral stages, and two classes (boxes) represent late-succession stages. Each Class is also considered to be either Open or Closed canopy. Therefore the 5th box for a forest system might represent Late-succession (e.g., age 71+), Open-canopy condition (Figure 3).

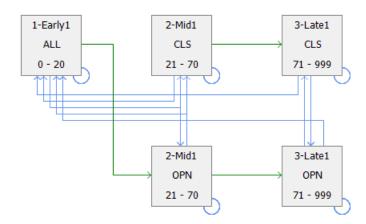


Figure 3. S-classes with age ranges and transition pathways for Dry Oak Forest model in ST-Sim. Green lines represent primary succession pathways. Blue lines represent transitions due to disturbances.

The models all incorporate the relevant natural disturbances that influence each ecological system. Disturbances for forest systems might include fire, insects, disease, wind, and weather events. These disturbances may be further sub-divided – fire typically includes surface fire, mixed fire and replacement fire. Each disturbance has an average return interval under natural conditions (e.g. 100 year return interval for replacement fire); these return

intervals for disturbances are converted into probabilities for a given year in the ST-Sim software (i.e., a 100 year return interval equals a .01 probability that replacement fire will occur in any given year). The replacement fire would typically convert a mid-succession or late-succession class back to an early succession state in the ST-Sim software.

In addition to modeling reference conditions, the predictive models allow for addition of management actions to allow managers to simulate future conditions under alternative management strategies and scenarios (Low et al. 2010; TNC 2009).

Models and Descriptions

State-and-transition models were reviewed and refined for nine ecological systems within GRSM. These systems included: Dry Oak Forest, Dry-Mesic Oak Forest, Mesic Oak Forest, High Elevation Red Oak Forest, Low Elevation Pine Forest, Low Elevation Pine-Oak Heath, Montane Pine-Oak Heath, Cove Forest, and Northern Hardwood Forest.

Most of these models had a long "lineage" going back to original LANDFIRE models, and many were subsequently refined for LCF application in the Cherokee National Forest Landscape Restoration Initiative (Medlock 2012). Additional refinements were made for the Nantahala-Pisgah National Forest by Gary Kauffman, USFS Botanist, and Kori Blankenship with the TNC-LANDFIRE program. These latter models were used as the starting point for refinements and modifications for LCF models at GRSM. An entirely new model was developed for one system, the Low Elevation Pine-Oak Heath, building off the model parameters for similar systems.

Special attention was directed towards refining the models for the seven oak and pinedominated systems, several of which are highly fire-dependent. In particular, the fire return intervals (FRI) for all three types of fire (surface, mixed and replacement) were compared across all of the oak and pine systems, and refinements made by GRSM resources staff based upon their experience in GRSM, knowledge of the systems, and available scientific literature. The fire return intervals for the reference condition models of the oak and pine systems are displayed in Table 3 below. The shortest FRI is 8 years for surface fire in Early and Mid-Open classes of Low Elevation Pine. The longest FRI is 333 years for replacement fire for Mid-Open and Late-Open classes in Mesic Oak. A discussion of the fire regime and development of model parameters is included in the descriptions of ecological systems (Appendix 2).

Other relatively minor adjustments and refinements were made to the Kaufmann model parameters in the process of comparing age ranges for the succession classes, other disturbances (e.g., insects, weather) and alternative succession (i.e., conversion Open to Closed condition in absence of fire) across systems. These changes are documented in the ST-Sim model database descriptions.

Kaufmann's revised LANDFIRE models for Cove Forest and Northern Hardwood Forest at the Nantahala-Pisgah National Forest were used to assess conditions for these two systems at GRSM. The FRIs in the models for these two mesic systems were very long, with replacement fire occurring every 1000 years for Cove Forest and every 667 years for Northern Hardwood, as well as infrequent Surface and Mixed fire. These two systems account for approximately 38% of the vegetation in GRSM, but represent a very small fraction of the fire across all systems within GRSM in the reference condition models (see Appendix 6).

The LANDFIRE-based models for two other ecological systems – Montane Alluvial and Spruce-Fir Forest – were not reflective of these systems within GRSM. Trying to refine or rebuild these models had issues going beyond the project team's expertise and the scope of the project; accordingly, these models were not used for the LCF project.

		Type of Fire	
	Surface	Mixed	Replacement
Dry Mesic Oak	28	127	224
Early	29	50	83
Mid-Closed	29	83	200
Mid-Open	20	200	303
Late-Closed	32	100	200
Late-Open	22	200	333
Dry Oak	17	73	136
Early	15	22	67
Mid-Closed	18	56	100
Mid-Open	12	100	200
Late-Closed	20	77	111
Late-Open	13	111	200
High Elevation Red Oak	33	102	163
Early	25	50	67
Mid-Closed	37	91	100
Mid-Open	25	125	200
Late-Closed	40	100	200
Late-Open	28	143	250
Low Elevation Pine	10	74	145
Early	8	20	100
Mid-Closed	10	50	100
Mid-Open	8	100	200
Late-Closed	11	77	125
Late-Open	9	125	200
Low Elev Pine-Oak Heath	14	55	115
Early	12	15	50
Mid-Closed	15	34	75
Mid-Open	12	75	149
Late-Closed	17	50	100
Late-Open	13	100	200
Mesic Oak	37	175	243
Early	33	67	100
Mid-Closed	37	143	200
Mid-Open	33	250	333
Late-Closed	40	167	250
Late-Open	37	250	333
Montane Pine-Oak Heath	22	60	97
Early	20	25	50
Mid-Closed	22	50	75
Mid-Open	20	75	125
Late-Closed	25	67	83
Late-Open	22	83	149

Table 3. Fire return intervals, by s-class, for GRSM 9 modeled ecological systems. The shaded bars for each system display the average FRI for all 5 s-classes.

	Surface	Mixed	Replacement
Cove Forest	100	500	1000
Early	100	500	1000
Mid-Closed	100	500	1000
Mid-Open	100	500	1000
Late-Closed	100	500	1000
Late-Open	100	500	1000
Northern Hardwood	333	667	667
Early	333	500	667
Mid-Closed	333	667	667
Mid-Open	333	500	667
Late-Closed	333	667	667
Late-Open	333	1000	667

"Back tests" were conducted on the models of two representative fire-dependent systems – Dry Oak Forest and Low Elevation Pine Forest – to help confirm the validity of the fire-return intervals and other key variables in the models. These tests were designed to roughly mimic the major human-caused disturbances in GRSM over the last century and see if the models would generate results that approximate actual current conditions. Using ST-Sim, the back tests populated the reference condition s-classes as the Initial Conditions for these two systems as of 1910. It then simulated heavy logging (50% clearcut) over a 20 year period, and recorded the s-class outcomes after those simulations as new Initial Conditions as of 1930. It then simulated 85 years of 98% fire suppression and recorded the s-class outcomes after those simulations. The final simulated 2015 results for both systems very closely tracked actual current conditions with only about 10% overall variance (Appendix 3).

The project team considered and tested both 5-box and 7-box models for GRSM's ecological systems. 7-box models had been developed for several ecological systems in the Cherokee National Forest in order to account specifically for old-growth forest, which was determined to need special attention in regard to National Forest management decisions. "Late 2" classes were added for both Open and Closed old-growth condition, thereby creating 7-box models. This approach was continued for the Nantahala-Pisgah models.

However, after reviewing simulations for both 5-box and 7-box models at GRSM, it was determined that the 5-box models provided sufficient, simpler and clearer information. This was the case for several reasons: (1) GRSM manages for overall natural conditions and does not need to focus special attention on managing for old growth forest, unlike the National Forests which manage for multiple use including timber harvest; (2) GRSM has abundant old growth forest – approximately 20% – due to an absence of logging since GRSM park establishment; (3) much of GRSM's current late-succession forest that is not *now* old growth will soon *become* old growth due to natural aging of the forest, which was heavily logged about a century ago; and (4) the disturbance parameters for the old-growth classes in the 7-box models were identical to the late-succession classes in the 5-box models, thereby providing no distinction in the combined late-class outcomes in simulations.

Descriptions of all ecological systems are provided in Appendix 2. Model parameter values for the age ranges of classes (deterministic transitions) are provided in Appendix 4. Model parameter values for all disturbances (probabilistic transitions) are provided in Appendix 5. The ST-Sim model databases, including outcomes of all simulations, are available online at https://tnc.app.box.com/s/489f7i45kmbjkskgc0tsd4wrcq2c4a9t/1/8487753965. They will also be made available on the NPS Date Store.

Natural Range of Variability

The vegetation composition and structure prior to European settlement was considered to be each ecological system's reference condition or natural range of variability (NRV). ST-Sim model runs were conducted to re-simulate NRV, using 10 simulations over a 1,000 year time horizon. The mean natural range of variability for each ecological system is listed below in Table 4.

The project team considered and tested using a *range* for the frequency of each disturbance regime (as was included in the Nantahala-Pisgah models) to estimate NRV (Blankenship 2015). For example, instead of a surface fire return interval of 17 years for the Dry Oak system, the *range* may be 5-20 years. This approach calculates a *range* of NRV for each s-class, in addition to a *mean* score. [While the mean NRV provides a useful benchmark, land managers and researchers are often interested in knowing the range of variability around the mean.] However, this methodology requires determining not only an *average* return interval for each disturbance. The GRSM LCF project team did not feel there was sufficient science information to establish these minimum and maximum return intervals with confidence, and therefore used the traditional LANDFIRE methodology with stochastic variance in ST-Sim for determining mean-based NRV.

	Vegetation S-Class						
Ecological System		Mid-	Mid-	Late-	Late-		
	Early	Closed	Open	Closed	Open		
Dry Oak Forest	17%	9%	21%	24%	29%		
Dry-Mesic Oak Forest	9%	9%	18%	32%	31%		
Mesic Oak Forest	6%	17%	14%	46%	17%		
High Elevation Red Oak Forest	14%	14%	12%	37%	23%		
Low Elevation Pine Woodland	13%	10%	30%	12%	35%		
Low Elevation Pine-Oak Heath	21%	13%	30%	15%	21%		
Montane Pine-Oak Heath	25%	16%	25%	15%	19%		
Cove Forest	4%	24%	4%	57%	11%		
Northern Hardwood Forest	6%	22%	1%	59%	12%		

Table 4. The natural range of variability for the GRSM nine modeled systems.

Assessment of Ecological Condition - Metrics

Ecological Departure

The ecological departure methodology was used to assess the overall ecological condition of each of the modeled systems. Ecological departure is a broad-scale measure of ecosystem "health" – an integrated, landscape-level estimate of the ecological condition of terrestrial and riparian ecological systems. Ecological departure estimates an ecological system's *departure* from its NRV. The level of departure, or dis-similarity, from NRV for each ecological system was calculated by comparing the current vegetation succession-class distribution with the expected "natural" distribution (see Dry Oak example in Table 5).

Ecological departure (Low et al. 2010) – currently known in LANDFIRE as Vegetation Departure or VDEP (LANDFIRE 2016) – is scored on a scale of 0% to 100% departure from reference conditions: Zero percent represents NRV while 100% represents total departure from NRV [i.e., the higher the number, the greater the departure]. Originally In LANDFIRE, a coarserscale metric known as Fire Regime Condition Class (FRCC) was used by federal agencies to group ecological departure scores into three classes (FRCC Guidebook 2010): FRCC 1 represents ecological systems with low (<34%) departure, which is color coded green; FRCC 2 indicates ecological systems with moderate (34 to 66%) departure, which is color coded yellow; and FRCC 3 indicates ecological systems with high (>66) departure, which is color coded red. The new VDEP-based metric in LANDFIRE is called Vegetation Condition Class (VCC) rather than FRCC. VCC now provides a six-category classification system in addition to the original three class-FRCC system. The LCF scorecard at GRSM therefore uses six color shades (two red shades for >66, orange for >50, yellow for > 33, and two green shades for <33). An example of ecological departure scoring is shown in Table 5.

Dry Oak Forest							
Vegetation Class	NRV Mean	Current %	Current Acres	Delta vs Mean NRV			
Early	17%	2%	1,600	-15%			
Mid-Closed	9%	0%	0	-9%			
Mid-Open	21%	0%	100	-21%			
Late-Closed	24%	90%	72,300	66%			
Late-Open	29%	8%	6,200	-21%			
Highly Departed Composition	0%	0%	100	0%			
Totals	100%	100%	80,300	0			
Ecological Departure		66					

Table 5. Calculation of Ecological Departure for Dry Oak at GRSM

Ecological Departure = 100% - $\sum_{i=1}^{n} \min\{Current_i, NRV_i\}$

Other Metrics Considered

Ecological departure can be caused by two factors: departure from the expected natural seral stage structure and/or departure from the expected natural canopy structure. For LCF at GRSM, a new *Open Canopy Departure* metric was used as a working metric by the project team to quickly assess the departure from historical open canopy conditions. This metric proved to be a useful analysis tool since much of the ecological departure of the fire-dependent systems was often accounted for by the forest's overly closed canopy conditions due to long-time fire suppression. The calculation was derived by adding the total percentage of Mid-Closed and Late-Closed classes, and then subtracting the combined NRV percentages for these two classes. In the Dry Oak example, as shown in Table 6 below, total current Closed canopy is 90% as compared to NRV closed canopy of only 33%; the difference is 57%. As with the Ecological Departure metric, a score of 0 would represent no departure from historic open conditions, whereas higher scores would indicate more overly closed forest conditions. For the Dry Oak system, Open Canopy Departure was 57% as compared to the 66% overall Ecological Departure, meaning that much of the ecological departure was attributable to departure in canopy structure (versus changes in seral stage).

Dry Oak Forest							
Vegetation Class	NRV Mean	Current %	Current Acres	Delta Mean			
Early	17%	2%	1,600	-15%			
Mid-Closed	9%	0%	0	-9%			
Mid-Open	21%	0%	100	-21%			
Late-Closed	24%	90%	72,300	66%			
Late-Open	29%	8%	6,200	-21%			
Highly Departed Composition	0%	0%	100	0%			
Totals	100%	100%	80,300	0			
Total Closed	33%	90%	72,300	57%			
Ecological Departure		66					
Open Canopy Departure		57					

Table 6. Calculation of Open Canopy Departure for Dry Oak at GRSM

The project team also tested and temporarily deployed a new metric to assess departure from the *range* of NRV as was calculated in the Nantahala-Pisgah models, but discarded this metric when it decided that the ranges for the disturbance return intervals could not be scientifically established at GRSM (see Natural Range of Variability section above).

Management Objectives

At the May 2016 workshop, after reviewing the initial ecological departure scores for current condition, GRSM natural resources managers developed a set of overall landscape restoration objectives for GRSM, as follows:

- Restore fire as a key ecological process in oak and pine ecosystems where practical and most needed.
- Restore more open canopy conditions in dry oak and pine ecosystems to more closely approximate reference conditions/NRV.
- Restore early and mid-succession vegetation in dry oak and pine ecosystems to more closely approximate reference conditions/NRV.
- Manage fire and fuels appropriately to protect life and human & cultural resources in and adjoining the park.

Five fire-maintained ecological systems were selected for active management using prescribed fire, based upon their high departure from NRV and likelihood of continued future departure. The five focal systems for active management included: Dry Oak Forest; Dry-Mesic Oak Forest; Low Elevation Pine Forest; Low Elevation Pine-Oak Heath; and Montane Pine-Oak Heath.

Assessment of Future Ecological Condition – Alternative Management Scenarios

Predictive state-and-transition computer models are a valuable tool for assessing future condition because they can simulate management actions. A fundamental purpose of LCF is to identify specific, cost-effective vegetation management strategies to maintain, enhance or restore the desired more natural conditions. The assessment of current ecological condition is merely a precursor to this ultimate endpoint.

Fire in the Management Models

Reference condition models for the five focal systems were modified to incorporate prescribed burning as a management action, as well as reflect current levels of fire exclusion in GRSM. These models are considered to be <u>management</u> models. In order to conduct simulations of future management scenarios (in contrast to the historical NRV simulations described previously), it was necessary to determine the amount of fire that would occur in the management models. Two types of fire were built into the management models – the *suppressed reference condition fire* and the *prescribed fire that is added* as a management action. [Note: Reference condition fire was based on the modeled fire return intervals as shown previously in Table 3.]

Fire Suppression/Exclusion

Two factors were considered in accounting for fire activity in GRSM models: the amount and type of total fire activity in the GRSM over its recent history, and the virtual certainty of substantially continued fire suppression/exclusion as an overarching management activity (see Introduction) in the foreseeable future.

Fire history data for GRSM was analyzed for the period from 1920 to 2012 and compared to the amount of "natural" fire that was predicted in the NRV simulations for the models (Appendix 6). During the decades from the 1930s to the 1990s, GRSM's fire management policy was essentially complete fire suppression – i.e., "out by 10am" the following morning after a fire was reported. Data show approximately 98% fire suppression over these decades as compared to the amount of fire that occurs during reference conditions in the models. In 1996, Park management changed from its previous policy of near-total suppression to provide for the addition of some prescribed fire, as well as some limited "wildland fire use." From 2000 to 2012 data show that wildfire equaled approximately 92.5% suppression on average. Prescribed fire equaled an additional 5.5% of the predicted reference condition fire.

It is relatively straightforward to model fire suppression in ST-Sim, using transition multipliers. A transition multiplier is a number that multiplies a base disturbance rate in the ST-Sim models: e.g., for a given year, a transition multiplier of 1.0 creates no change in a disturbance rate, whereas a multiplier of 0 is a complete suppression of the disturbance rate, and a multiplier of 0.50 halves the disturbance rate. For GRSM, a transition multiplier of .075 (1.00 - .925) was applied for all three types of fire to reflect the rate of fire suppression/ exclusion as compared to fire during reference conditions, based on the analysis described above.

Prescribed Fire

Adding prescribed fire to ecological models is typically a relatively straightforward modeling task that has been applied during many LCF applications. The ecological effects of the prescribed fire are determined for each s-class in which it might occur. Then the management action is added as a new Transition type in the ST-Sim models (e.g., RxFire). The modeler then determines the number of acres and years they wish to simulate prescribed burning for a given ecological system or set of systems, and conducts a simulation computer run (TNC 2009).

However, this modeling task was more complex for GRSM. Prescribed burning in GRSM is not a one-off event to achieve the desired outcomes. Rather, fire managers typically define a burn unit and apply prescribed fire within that unit in a number of "passes" over a number of years. This approach is necessary to achieve the desired ecological effects; trying to achieve the effects with a one-time burn has been found to produce results which are undesirable over large spatial scales. Accordingly, with assistance from TNC's LANDFIRE program, expert assistance was secured from the developers of ST-Sim to develop models that incorporated three prescribed fire "passes" in simulated non-spatial burn units, designed to achieve the desired ecological outcomes. Each pass was modeled to occur within 10 years after the previous pass.

Collectively, the three passes of prescribed fire were considered to be *restoration burning*. The ecological effects were programmed to occur upon the completion of the 3rd pass. Based upon knowledge of previous control burns in GRSM, the effects were deemed to be different for Closed versus Open canopy classes of the fire-maintained systems, with the bigger impacts occurring in the Closed canopy classes, as follows:

- In Closed canopy
 - 20% converts to Early succession
 - 60% converts to Open canopy
 - 20% remains Closed canopy (i.e., no change in class)
- In Open canopy
 - 10% converts to Early succession
 - 90% remains Open canopy (i.e., no change in class)

For the second 20-year period in the models (i.e., years 21-40), the allocation of prescribed fire was modified to include *maintenance* burning in addition to the restoration burning used exclusively in the first 20 years. Maintenance burning was programmed to occur in forest patches that were in Open condition as a result of previous prescribed burns or otherwise. Maintenance burning is intended to retain the Open canopy structure, versus converting Closed canopy to Open. The effects of the maintenance fire are the same as described for Open canopy above (i.e., 90% remains Open and 10% converts to Early succession). In the management scenario modeling, fifty percent of the prescribed burning during years 21-40 was allocated to maintenance burning and fifty percent to restoration burning.

Allocation of Prescribed Fire Across Systems

The ecological systems within GRSM are frequently arrayed in a mosaic pattern, and prescribed burns are not directed towards one single ecosystem, but rather to multiple ecological systems within a functional burn unit. Therefore it was necessary to determine how the controlled burning in the non-spatial ST-Sim models would be allocated among the five focal systems, along with other ecological systems in GRSM that receive burning as a result of the functional design of burn units on the ground.

The models deployed an allocation ratio based largely upon the recent allocation of prescribed fire among the ecological systems during controlled burns, based upon an assessment by GRSM staff. This allocation is shown in Table 7 below. Thus if 1000 acres of prescribed burning were to occur in a given year across GRSM, 300 acres (30%) would be allocated to Dry Oak Forest, and so on. The 25% of prescribed burning allocated to Cove Forest and all other systems represents the less fire-prone portions of functional burn units. These areas are not the focal point for fire restoration and they often do not burn under controlled-burning conditions, and so were not accounted for in the ST-Sim models.

Table 7. Allocation of Prescribed Fire Across Ecological Systems

Ecological System	% of Rx Fire
Dry Oak Forest	30%
Dry Mesic Oak Forest	15%
Low Elevation Pine Woodland	12%
Low Elevation Pine-Oak Heath	10%
Montane Pine-Oak Heath	8%
Cove Forest/All Others	25%
Total	100%

Management Scenarios

At and between workshops, prescribed fire management strategies were explored to achieve the objectives for the focal systems. ST-Sim computer models were used to simulate conditions under alternative future management scenarios. All scenarios assume current levels of wildfire exclusion will continue in GRSM. The likely future condition of the five focal systems was assessed after 20 and 40 years under four primary scenarios:

- 1. <u>No Action</u> i.e., no prescribed fire.
- 2. <u>Maximum Management</u> use of prescribed fire to restore ecological departure to the lowest possible level, regardless of budget or practicality.
- 3. <u>Current Management</u> prescribed fire at current levels -- approximately 1,500 acres/year average parkwide.
- 4. <u>Preferred Management</u> prescribed fire at proposed levels 5,000 acres/year average parkwide.

Computer Simulations and Reporting Variables

ST-Sim computer simulations were used to test the scenarios for each of the focal ecological systems over a 20-year and 40-year time horizon. Five replicates were run for each scenario to capture some degree of stochastic variability in fire activity and other natural disturbances. The mean of the five replicates was used for reporting.

The primary reporting variables for simulations were: (1) ecological departure score, (2) total acres treated with prescribed fire, and (3) total cost. Results were tallied in an Excel-based Model Runs Workbook.

Reducing Levels of Fire Suppression/Exclusion

ST-Sim computer simulations were also used to test the effect of reducing the degree of fire suppression/exclusion in GRSM, which as reported previously was set at a rate of 92.5% suppression of reference condition fire in the models. Rates of 85% exclusion and 77.5% exclusion were tested (i.e., allowing additional increments of 7.5% of natural wildland fire to occur in GRSM), using the No Action scenario as the baseline. The reporting variable for this exercise was the ecological departure score.

Return on Investment (ROI) Analysis

The final step in the LCF process was the calculation of benefits (magnitude of ecological improvement) as compared to the costs of management. Two ROI metrics were used to determine which of the five focal systems received the greatest ecological benefits per dollar invested, independent of their size (absolute) and reflecting their varying acreage (systemwide). The two ROI metrics calculated were:

- (1) <u>Absolute ROI</u>. The change of ecological departure between the NO ACTION scenario and an ALTERNATIVE MANAGEMENT scenario for a given ecological system in year 20 or year 40, divided by total cost of the scenario over the period of years. Correction factors were used to bring all measures to a common order of magnitude.
- (2) <u>Systemwide ROI</u>. The change of ecological departure between the NO ACTION scenario and an ALTERNATIVE MANAGEMENT scenario for a given ecological system in year 20 or year 40, *multiplied by total area of the ecological system*, divided by total cost of the scenario over the period of years. Correction factors were used to bring all measures to a common order of magnitude.

If ROI values differ substantially, they are sometimes a useful tool for land managers to decide where to allocate scarce management resources among many possible choices on lands that they administer. Of course, managers also select final strategies or treatment areas based upon a variety of additional factors, such as availability of financial resources, policy constraints, and other societal objectives.

LCF Benefits and Limitations

By developing a decision support tool to assess alternative management strategies, LCF provides many benefits to natural resource managers. Among the key benefits are the answers that LCF provides to the following questions:

- What is the current condition of each ecological system in the landscape
- What systems are likely to change in condition, and how much
- Which management treatments, and how much, will improve altered ecosystems
- What degree of improvement can be feasibly achieved
- Where to place treatments on the landscape, by ecological system
- Which management treatments produce the most cost effective results

The models used to help develop the answers to these questions are relatively simple, transparent and easily adaptable, thereby providing a solid framework for adaptive ecosystem management.

Some additional LCF benefits include:

- Scorecards of current & future condition
- Scientific documentation for Fire Planning and National Environmental Policy Act (NEPA) documents
- Help attract funding for implementation
- Help build collaborative learning and consensus among resource managers and stakeholders

Landscape Conservation Forecasting has some limitations in its applications. Some constraints were overcome by adaptations for the Great Smoky Mountain National Park project, such as revising LANDFIRE ecological models based upon local expertise and substituting higher resolution local vegetation data for national LANDFIRE data. The following general constraints and challenges were inherent in the LCF methods used at GRSM.

- <u>Maps and Data</u>. The assessment of current condition is only as good as the vegetation data that supports it. High-resolution and well-interpreted geospatial data is best for understanding current conditions and was used at GRSM; nevertheless a number of crosswalks, assumptions and rules were required to interpret that data and apply it for LCF.
- <u>Models</u>. "All models are wrong, but some are useful," said prominent statistician George Box. A well-developed predictive model can provide a reasonable approximation of reality. LANDFIRE was designed to use relatively simple, peer-reviewed, consistent, and repeatable scientific methods in developing ecological models. However, many standard LANDFIRE models do not accurately reflect local conditions, and therefore require local, expert-based modifications, as was done with all models for GRSM.

Incorporating management actions into models also requires expert-based judgments on their ecological effects and probability of success.

- <u>Metrics</u>. While ecological departure is a powerful, unified metric of overall ecological "health" generally incorporating vegetation structure, composition, and all relevant ecological processes it does not fully account for all impairments to ecosystems or all improvements in ecological health from potential management actions. Ecological departure typically is based upon the NRV for the reference conditions of an ecosystem. NRV reflects many elements of what is typically desired for a given ecosystem, such as the amount of early succession habitat and the degree of open canopy structure. However, its application at GRSM generally does not capture the desired vegetation *composition* within a given succession class, other than the designation of "highly altered vegetation" found within some ecological systems.
- <u>Perceived Precision</u>. The 0-100 ecological departure scores and other related metrics may suggest a high level of precision to some readers (e.g. a departure score of 53), whereas the scores should be more appropriately viewed as approximations that reflect ranges of outcomes. A small percentage difference in scores (e.g. 52 vs. 55) is not meaningful, given the inherent imprecision of the underlying models and/or data.
- <u>Climate Change</u>. LCF has addressed climate change effects in a few projects, but it is complex and challenging to do so and with a high confidence level in the models. LCF climate change forecasting in the northern Sierra Nevada found that effects were not occurring at a significant level until 40 years out. Two important findings were that management actions taken to restore ecosystems closer to NRV helped to improve future condition in the face of climate change, and the sooner these restoration actions were taken, the better the long-term outcome.
- <u>Non-Spatial</u>. While LCF can be assessed with spatial models, spatial modeling is very complex, time-intensive and expensive. The more common non-spatial application of LCF using ST-Sim models does not address the *pattern* of vegetation and succession classes across the landscape. Addressing vegetation heterogeneity and fragmentation requires the addition of complex and more expensive spatial modeling tools and metrics.
- <u>Stand-level Dynamics and Treatments</u>. LCF is a landscape-scale planning tool. The nonspatial application of LCF does not address vegetation patch size, openings, or standlevel treatments. Qualitative management treatment guidelines cannot be simulated because quantitative rules are required by all simulation platforms.
- <u>Vegetation Composition</u>. The LCF maps, models and metrics for GRSM primarily focused on ecosystem *structure* and *disturbances*, and generally were not able to reflect or assess the desired *composition* of a given vegetation succession class for a given ecological system. However, the Ecological System Descriptions found in Appendix 2 provide an account of the dominant vegetation expected for each succession class in a given ecological system.
- <u>Aquatics</u>. LCF does not address aquatic ecosystems.

Findings

Current Ecological Condition

Ecological Systems

The 515,000 acres of Park vegetation supports a diversity of Southern Appalachian ecological systems, ranging from low-elevation pine woodland to large cove forests to higher elevation spruce-fir forests. Eleven major ecological system types in GRSM were identified from the vegetation data, including seven oak and pine systems. These systems and the acreage of each system (rounded) are as follows:

Ecological System	% of Acres	Acres
Dry Oak Forest	16%	80,300
Dry Mesic Oak Forest	13%	66,000
Mesic Oak Forest	12%	60,500
High Elevation Red Oak Forest	4%	22,300
Low Elevation Pine Forest	3%	17,800
Low Elevation Pine-Oak Heath	2%	8,800
Montane Pine-Oak Heath	4%	18,800
Cove Forest	24%	123,800
Northern Hardwood Forest	13%	67,800
Spruce-Fir Forest	8%	40,900
Montane Alluvial	2%	7,900
Total Acres		514,900

Cove Forest is the largest ecological system in GRSM; at approximately 124,000 acres it comprises almost one-fourth of the GRSM's total vegetation. Four oak systems collectively constitute approximately 229,000 acres, or 45% of GRSM's vegetation. Three pine-dominated systems equal approximately 45,000 acres, or almost 10% of the vegetation. Three other systems (Northern Hardwood Forest, Spruce-Fir Forest, and Montane Alluvial) make up the remainder of the vegetation. All of the ecological systems are described in Appendix 2.

Ecological Departure

The current condition of GRSM's varied ecological systems ranges from good (low ecological departure) to relatively poor (high ecological departure) – see Table 8. Three xeric oak and pine systems constituting 21% of GRSM show *high* ecological departure – Dry Oak Forest, Low Elevation Pine Forest and Low Elevation Pine-Oak Heath. Three other oak and pine systems – constituting another 21% of GRSM are *moderately* departed from NRV – Dry-Mesic Oak Forest, High Elevation Red Oak Forest and Montane Pine-Oak Heath. Three systems that are more mesic show *low* departure, including the Cove Forest, Northern Hardwood Forest and Mesic Oak Forest.

The primary reason for ecological departure across the landscape is due to overly closed canopy structure in the oak and pine systems, as compared to more open structure under reference conditions (Table 9). Across all systems, LIDAR data showed over 80% of GRSM vegetation was closed canopy. There is also a substantial shortfall of early succession and mid succession classes in the most-departed systems as compared to reference conditions. The large-scale logging operations prior to the Park's establishment, followed by a century of fire suppression and exclusion, have been the primary causes of the currently altered conditions, most notably in the drier oak and pine systems. In contrast, the more closed-canopy conditions within mesic systems – including Cove Forest, Northern Hardwood Forest and Mesic Oak Forest – which are much less influenced by fire, show low departure from reference conditions.

Table 8. Current Ecological Departure of GRSM's ecological systems. The measure of Ecological Departure is scored on a scale of 0% to 100% departure from NRV: 0% represents NRV while 100% represents total departure. Departure was not calculated for the two systems that were not modeled.

Ecological System	Acres	Current Ecological Departure
Dry Oak Forest	80,300	66
Dry-Mesic Oak Forest	66,000	57
Mesic Oak Forest	60,500	32
High Elevation Red Oak Forest	22,300	59
Low Elevation Pine Forest	17,800	66
Low Elevation Pine-Oak Heath	8,800	70
Montane Pine-Oak Heath	18,800	64
Cove Forest	123,800	30
Northern Hardwood Forest	67,800	25

Dry Oak Forest							
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	1,600	-	100	72,300	6,200	100	80,300
NRV %	17%	9%	21%	24%	29%	0%	100%
Current % in Class	2%	0%	0%	90%	8%	0%	100%
Ecological Departure							66
Dry-Mesic Oak Fores	st						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	500	4,500	500	56,300	1,500	2,700	66,000
NRV %	9%	9%	18%	32%	31%	0%	99%
Current % in Class	1%	7%	1%	85%	2%	4%	100%
Ecological Departure							57
Mesic Oak Forest							
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	400	2,300	400	39,700	15,900	1,800	60,500
NRV %	6%	17%	14%	46%	17%	0%	100%
Current % in Class	1%	4%	1%	66%	26%	3%	100%
Ecological Departure							32
High Elevation Red C	Dak Forest						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	300	10	10	21,400	600	-	22,320
NRV %	14%	14%	12%	37%	23%	0%	100%
Current % in Class	1%	0%	0%	96%	3%	0%	100%
Ecological Departure							59
Low Elevation Pine F	Forest						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	500	2,200	700	12,900	900	600	17,800
NRV %	13%	10%	30%	12%	35%	0%	100%
Current % in Class	3%	12%	4%	72%	5%	3%	100%
Ecological Departure							66
Low Elevation Pine-0	Dak Heath						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	190	-	-	7,370	1,100	100	8,760
NRV %	21%	13%	30%	15%	21%	0%	100%
Current % in Class	2%	0%	0%	84%	13%	1%	100%
Ecological Departure							70
Montane Pine-Oak H	eath						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	1,100	100	100	14,700	2,600	200	18,800
NRV %	25%	16%	25%	15%	19%	0%	100%
Current % in Class	6%	1%	1%	78%	14%	1%	100%
Ecological Departure							64
Cove Forest							
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	900	1,500	200	84,500	36,700	-	123,800
NRV %	4%	24%	4%	57%	11%	0%	100%
Current % in Class	1%	1%	0%	68%	30%	0%	100%
Ecological Departure							30
Northern Hardwood							Tatal
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	1,200	7,000	700 1%	56,900	2,000	-	67,800
NRV % Current % in Class	6% 2%	22%	1% 1%	59% 84%	12%	0% 0%	100%
	2%	10%	1 /0	0470	3%	0%	100%
Ecological Departure							25
All Oak & Pine Syste	ms (7)						
Class	Early	Mid-Closed	Mid-Open	Late-Closed	Late-Open	Highly Departed	Total
Acres in Class	4,590	9,110	1,810	224,670	28,800	5,500	274,480
Simple Ave NRV %	4,590	13%	21%	224,670	28,800	0%	100%
	1370	1370					100/0
Current % in Class	2%	3%	1%	82%	10%	2%	100%

Future Condition Without Management

Using ST-Sim, the future condition of each modeled system was simulated after 20 years and 40 years, assuming no active management action to restore ecological condition. This essentially represents a "no action" scenario – other than the continuation of current levels of fire exclusion.

20 Year Forecast

After 20 years, five oak and pine systems remain substantially departed from NRV (~50% or higher): Dry Oak Forest (56% departure), Dry-Mesic Oak Forest (48% departure), Low Elevation Pine Forest (63% departure), Low Elevation Pine-Oak Heath (57% departure), and Montane Pine-Oak Heath (51% departure) – see Table 10. These five ecological systems are the most fire-dependent systems in GRSM. High Elevation Red Oak, which has a longer fire return interval, remains moderately departed but shows substantial improvement without management. The three more mesic systems that are currently low departure remain in low departure.

Ecological System	Acres	Current Ecological Departure	No Action Ecological Departure 20 Yrs
Dry Oak Forest	80,300	66	56
Dry-Mesic Oak Forest	66,000	57	48
Mesic Oak Forest	60,500	32	30
High Elevation Red Oak Forest	22,300	59	44
Low Elevation Pine Forest	17,800	66	63
Low Elevation Pine-Oak Heath	8,800	70	57
Montane Pine-Oak Heath	18,800	64	51
Cove Forest	123,800	30	22
Northern Hardwood Forest	67,800	25	14

Table 10. Forecasted Ecological Departure summary after 20 Years

Somewhat counter-intuitively, the fire-maintained systems do show some improvement over their current condition without management. Over the 20 years, a modest increase in early succession and open canopy occurs due to varied disturbances (insects, weather, and some fire) in the models, and over time, some early succession moves to mid succession. Departure analysis for each of the five focal systems is summarized in Tables 11-15 below: Table 11. Forecasted Ecological Departure after 20 Years – Dry Oak Forest

Dry Oak - 80,000 acres

and the state		-	-
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs
Early	17%	2%	6%
Mid-Closed	9%	0%	2%
Mid-Open	2 196	0%	0%
Late-Closed	2.4%	90%	80%
Late-Open	29%	8%	12%
Highly Departed Composition	0%	0%	0%
Totals	100%	100%	100%
Total Early/Open			
Total Closed	33%	90%	82%
Ecological Departure		66	56
Open Canopy Departure		57	49

- 2nd largest system
- Modest improvement with No Action – a little more Early & Open
- Still highly Closed canopy after 20 years
- Still large shortfall in Early & Mid succession

Table 12. Forecasted Ecological Departure after 20 Years – Dry-Mesic Oak Forest

Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs
Early	9%	1%	3%
Mid-Closed	9%	7%	5%
Mid-Open	18%	1%	2%
Late-Closed	32%	85%	76%
Late-Open	31%	2%	10%
Highly Departed Composition	0%	4%	4%
Totals	99%	100%	100%
Total Early/Open			
Total Closed	41%	92%	81%
Ecological Departure		57	48
Open Canopy Departure		51	40

- Dry-Mesic Oak 66,000 acres
 - Same overall story as Dry Oak, but slightly better condition
 - 4% highly departed vegetation -tulip poplar
 - Modest improvement with No Action – more Open canopy
 - Still highly Closed canopy after 20 years
 - Still large shortfall in Early & Mid succession

Table 13. Forecasted Ecological Departure after 20 Years – Low Elevation Pine Forest

and the second		-	
Vegetation Class	N RV Mean	Current %	No Action - 20 Yrs
Early	13%	3%	5%
Mid-Closed	10%	12%	16%
Mid-Open	30%	4%	2%
Late-Closed	12%	72%	66%
Late-Open	35%	5%	8%
Highly Departed Composition	0%	3%	3%
Totals	100%	100%	100%
Total Early/Open			
Total Closed	22%	85%	82%
Ecological Departure		66	63
Open Canopy Departure		63	60

- Low Elevation Pine 18,000 acres
 - Highly departed system
 - Virtually no improvement with No Action
 - Still very Closed canopy
 - Large shortfall in Early & Mid succession (but more in Mid classes than other systems)
 - 3% highly departed vegetation- white pine

 Table 14. Forecasted Ecological Departure after 20 Years – Low Elevation Pine-Oak Heath

Low Elevation Pine-Oak Heath - 9,000 acres

Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs
Early	21%	2%	9%
Mid-Closed	13%	0%	7%
Mid-Open	30%	0%	1%
Late-Closed	15%	84%	71%
Late-Open	21%	13%	11%
Highly Departed Composition		1%	1%
Totals	100%	100%	100%
Total Early/Open			
Total Closed	28%	84%	78%
Ecological Departure		70	57
Open Canopy Departure		56	50

- Some improvement with No Action – more Early & Mid succession
- But still large shortfall in Early & Mid
- Still overly Closed canopy
- 1% highly departed vegetation- oak species

Table 15. Forecasted Ecological Departure after 20 Years – Montane Pine-Oak Heath

Montane Pine-Oak Heath - 19,000 acres

Vegetation Class	N RV Mean	Current %	No Action - 20 Yrs
Early	25%	6%	10%
Mid-Closed	16%	1%	9%
Mid-Open	25%	196	1%
Late-Closed	15%	78%	65%
Late-Open	19%	14%	13%
Highly Departed Composition	0%	1%	1%
Totals	100%	100%	99%
Total Early/Open			
Total Closed	31%	79%	74%
Ecological Departure		64	51
Open Canopy Departure		48	43

- Similar to LEPOH but slightly less departed
- Some improvement with No Action – more Early & Mid succession
- But still large shortfall in Early & Mid
- Still overly Closed canopy
- 1% highly departed vegetation- oak species

The four other modeled systems in GRSM, which are less fire dependent, also show improvement over their current condition without management. Over 20 years, varied disturbances (e.g., insects, weather, and some fire) and/or natural age succession in the models bring all of these systems closer to their NRV. The departure analysis for the other systems is summarized in Table 16.

	Me	sic Oak Fo	orest	High Elevation Red Oak		Cove Forest			Northern Hardwood			
Vegetation Class	NRV	Current %	No Action 20 Yrs	NRV	Current %	No Action - 20 Yrs	NRV	Current %	No Action - 20 Yrs	NRV	Current %	No Action 20 Yrs
Early	6%	1%	2%	14%	1%	5%	4%	1%	4%	6%	2%	5%
Mid-Closed	17%	4%	2%	14%	0%	2%	24%	1%	5%	22%	10%	10%
Mid-Open	14%	1%	3%	12%	0%	0%	4%	0%	0%	1%	1%	1%
Late-Closed	46%	66%	57%	37%	96%	81%	57%	68%	76%	59%	84%	73%
Late-Open	17%	26%	33%	23%	3%	12%	11%	30%	14%	12%	3%	12%
Highly Departed Composition	0%	3%	3%									
Totals	100%	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	101%
Total Early/Open	37%	28%	38%	49%	4%	17%	19%	31%	18%	19%	6%	18%
Total Closed	63%	69%	59%	51%	96%	83%	81%	69%	81%	81%	94%	83%
Ecological Departure		32	30		59	44		30	22		25	14
Open Canopy Departure		6	-4		45	32		-12	0		13	2

40 Year Forecast

Without active management, there is little improvement in ecological departure forecasts over the second 20 years (Table 17). Without management (i.e., prescribed burning), all five fire-dependent ecosystems comprising almost 40% of GRSM will remain substantially departed from NRV after 40 years: Dry Oak Forest (51% departure), Dry-Mesic Oak Forest (45% departure), Low Elevation Pine Forest (64% departure), Low Elevation Pine-Oak Heath (51% departure), and Montane Pine-Oak Heath (45% departure)

Ecological System	Acres	No Action Ecological Departure 20 Yrs	No Action Ecological Departure 40 Yrs
Dry Oak Forest	80,300	56	51
Dry-Mesic Oak Forest	66,000	48	45
Mesic Oak Forest	60,500	30	34
High Elevation Red Oak Forest	22,300	44	40
Low Elevation Pine Forest	17,800	63	64
Low Elevation Pine-Oak Heath	8,800	57	51
Montane Pine-Oak Heath	18,800	51	45
Cove Forest	123,800	22	16
Northern Hardwood Forest	67,800	14	12

Table 17. Forecasted Ecological Departure Summary after 40 Years

Management Scenarios Forecasts

Using ST-Sim, the future condition of the five focal fire-maintained systems (Dry Oak Forest, Dry-Mesic Oak Forest, Low Elevation Pine Forest, Low Elevation Pine-Oak Heath, and Montane Pine-Oak Heath) was simulated after 20 years and 40 years under three different management scenarios to restore ecological condition. The three management scenarios deployed different levels of prescribed fire. The average annual amount of prescribed fire, parkwide, in the scenarios was:

MAXIMUM MANAGEMENT	24,000 acres
CURRENT MANAGEMENT	1,500 acres
PREFERRED MANAGEMENT	5,000 acres

A summary of the outcomes for all scenarios is shown in Appendix 7. Detailed outcomes for all scenarios for the five focal systems are shown in the Excel Model Runs Worksheets in Appendices 7-11.

Maximum Management

Maximum Management is typically run in LCF as a "bookend" scenario to determine how much ecological improvement is possible, regardless of cost or feasibility. At GRSM, Maximum Management restores the five oak and pine systems to low ecological departure (Table 18). After just 20 years, the large amount of prescribed fire in the Maximum Management simulations, which approximates the natural fire regime for these systems, serves to open up the canopy and create early succession and mid succession classes that are much closer to NRV.

Ecological System	Acres	No Action Ecological Departure 20 Yrs	No Action Ecological Departure 40 Yrs	Max Mgmt Ecological Departure 20 Yrs	Max Mgmt Ecological Departure 40 Yrs
Dry Oak Forest	80,300	56	51	28	20
Dry-Mesic Oak Forest	66,000	48	45	32	21
Low Elevation Pine Forest	17,800	63	64	28	26
Low Elevation Pine-Oak Heath	8,800	57	51	34	21
Montane Pine-Oak Heath	18,800	51	45	32	17

Table 18. Forecasted Ecological Departure with Maximum Management as Compared to No Action – 20 & 40 Years

Current Management

Current Management levels of prescribed fire (1,500 acres/year average parkwide) achieve modest improvement in ecological departure scores after 20 and 40 years, as compared to the No Action scenario (Table 19). After 40 years, the current level of prescribed fire achieves the greatest improvement in Low Elevation Pine Forest and Low Elevation Pine-Oak Heath as compared to No Action. Departure scores for all systems, except for Low Elevation Pine, fall below 50% after 40 years under current management.

It should be noted that ecological departure scores for GRSM are based fundamentally on forest <u>structure</u>; current levels of prescribed fire are expected to improve vegetation <u>composition</u> for the managed systems, but this improvement is not accounted for in GRSM's ecological departure scores.

Ecological System	Acres	No Action Ecological Departure 20 Yrs	No Action Ecological Departure 40 Yrs	(1500 Ac/Yr)	Current Mgmt Restore & Maintain (1500 Ac/Yr) 40 Yrs
Dry Oak Forest	80,300	56	51	54	48
Dry-Mesic Oak Forest	66,000	48	45	47	43
Low Elevation Pine Forest	17,800	63	64	60	58
Low Elevation Pine-Oak Heath	8,800	57	51	52	43
Montane Pine-Oak Heath	18,800	51	45	50	42

Table 19. Forecasted Ecological Departure with Current Management as Compared to No Action – 20 & 40 Years

Preferred Management

The Preferred Management levels of prescribed fire (5,000 acres/year average parkwide) achieve continued, meaningful improvement in ecological departure for all five systems over 20 and 40 years (Table 20). As with the Current Management scenario, the greatest 40-year improvements as compared to No Action occur in in Low Elevation Pine Forest and Low Elevation Pine-Oak Heath (which actually falls into the low departure category after 40 years).

Table 20. Forecasted Ecological Departure with Preferred M	lanagement as Compared to No Action – 20 & 40 Years
--	---

Ecological System	Acres	No Action Ecological Departure 20 Yrs	No Action Ecological Departure 40 Yrs	Preferred Mgmt (5000 Ac/Yr) Ecological Departure 20 Yrs	Preferred Restore & Maintain (5000 Ac/Yr) Ecological Departure 40 Yrs
Dry Oak Forest	80,300	56	51	50	42
Dry-Mesic Oak Forest	66,000	48	45	45	38
Low Elevation Pine Forest	17,800	63	64	52	49
Low Elevation Pine-Oak Heath	8,800	57	51	43	29
Montane Pine-Oak Heath	18,800	51	45	46	36

Allocation of Fire in Management Scenarios

The management models assigned the amount of prescribed fire to each system based largely upon the ratio of prescribed fire among GRSM's ecological systems during actual controlled burns. The relative amount of modeled prescribed fire the management models matched up closely with the relative amount of modeled natural fire in the reference models (Table 21). For example, Montane Pine-Oak Heath accounts for approximately 4% of the vegetated acres in GRSM but 8% of the total natural fire in the reference model simulations. Accordingly, it has an approximately 2 to 1 ratio of fire to system acres. The amount of prescribed fire in the management models almost exactly replicated this 2 to 1 ratio. The comparative ratios were very close for four of the five focal systems, with the only exception being Low Elevation Pine-Oak Heath. Low Elevation Pine-Oak Heath received the highest comparative ratio of prescribed fire in the management models, comprising about twice as much relative fire as the other four systems. Therefore, not surprisingly, as reported in the previous section, this system had the lowest of all departure scores (29) after 40 years.

 Table 21. Percentages of Fire as Compared to Park Acres in Reference Models and Management Models for Focal Systems

 Natural Fire in Reference Model Simulations
 Prescribed Fire in Management Models

Ecological System	% ot Total Acres	% ot Total Fire	Ratio	
Dry Oak	15%	38%	2.4	
Dry-Mesic Oak	12%	16%	1.4	
Low Elevation Pine	3%	11%	3.4	
Low Elev Pine-Oak Heath	2%	5%	3.0	
Montane Pine-Oak Heath	4%	8%	2.1	

% of % of **Ecological System** Park Ratio **Rx Fire** Acres Dry Oak Forest 16% 30% 1.9 Dry Mesic Oak Forest 13% 15% 1.2 Low Elevation Pine 3% 12% 3.5 Low Elev Pine-Oak Heath 2% 10% 5.9 Montane Pine-Oak Heath 4% 8% 2.2

Alternative Levels of Fire Exclusion

The effect of reducing the degree of fire suppression/exclusion in GRSM was also tested using ST-Sim. Just as adding prescribed fire improves ecological departure, reducing fire suppression/ exclusion in GRSM would also improve ecological departure – recognizing, however, the many challenges, risks and difficulties of implementing this strategy, especially in the light of the recent deadly wildfires in and around GRSM. Current fire management practice allows approximately 7.5% of "natural" wildfire to occur (i.e., 92.5% suppression) ; increasing this level to 15% (i.e., 85% suppression) would improve average ecological departure scores for the five focal systems by an average of 4 points over 40 years (Table 22).

Table 22. Ecological Departure Scores with Alternative Level of Fire Suppression/Exclusion – No Action Scenario - 40 Years

Ecological Departure with Alternative Fire Suppression Levels							
"No Action" Scenarios							
Year	40 🖵						
		Fire Supp	ression				
Row Labels	77.5%	85.0%	92.5%				
DryMesicOak	39	41	45				
DryOak	43	46	51				
LowElevationPine	55	59	64				
LowElevPineOakHeath	43	48	52				
MontanePineOakHeath	38	42	45				

Management Budgets & Return-on-Investment

The final step in the LCF process was calculating the cost of proposed management actions and the benefits (magnitude of ecological improvement) as compared to costs of management. Two return-on-investment (ROI) metrics were used to determine which of the systems received the greatest ecological benefits per dollar invested.

Budgets

The *average* cost of implementing prescribed fire was estimated at \$50 per acre by GRSM's fire management staff. Actual cost on the ground for a given prescribed burn will vary depending upon many circumstances, but it was felt that \$50 per acre represented a reasonable average cost. These costs do *not* include the regularly scheduled time of Park staff.

Based upon the current level of prescribed burning (1,500 acres/year), the average annual cost is \$75,000 per year. The proposed level of burning to achieve the desired ecological outcomes (5,000 acres/year) would cost approximately \$250,000 per year. These are *average* estimated costs; actual costs will vary depending upon actual acres burned in a given year, as well as other variables.

Return-on-Investment

Two ROI metrics were used to determine which of the five focal systems received the greatest ecological benefits per dollar invested, independent of their size (absolute) and reflecting their varying acreage (systemwide). Overall, there were not dramatic differences in the results among the five focal systems that might influence management decisions.

The "absolute" return on investment (Table 23) was highest for the Low Elevation Pine-Oak Heath (8.8), followed by Low Elevation Pine (5.0) and Montane Pine-Oak Heath (4.5), as

compared to the two larger oak systems. This is not a surprising outcome, as the three high ROI systems are all small in size and cost less to burn to achieve the desired results.

On the other hand the "systemwide" ROI, which takes the relative sizes of the systems into account, showed roughly equivalent results across all five ecological systems. With this metric the two larger oak systems actually achieved the highest scores.

		RxFire	Ecological		Absoute	Systemwide
	Total	Acres /	Improvement	Annual	ROI 40	ROI 40
	Acres	Year	vs No Action	Cost	Years	Years
Dry Oak	80,300	1,500	9	\$ 75,000	1.2	2.4
Dry-Mesic Oak	66,000	750	7	\$ 37,500	1.9	3.1
Low Elevation Pine	17,800	600	15	\$ 30,000	5.0	2.2
Low Elevation Pine-Oak Heath	8,800	500	22	\$ 25,000	8.8	1.9
Montane Pine-Oak Heath	18,800	400	9	\$ 20,000	4.5	2.1

Table 23. Absolute and Systemwide Return-on-Investment over 40 Years (ROI calculations are multiplied by constants)

Acknowledgements

The Landscape Conservation Forecasting process is a collaborative one, so, first and foremost we'd like to acknowledge all the participants in the four workshops. Participation by National Park Service staff and partners created a rich dialogue that resulted in a robust product. Special thanks go to the Great Smoky Mountain National Park staff: Chris Corrigan, Katie Corrigan, Troy Evans, Kristine Johnson, Shane Paxton, Wylie Paxton, Tom Remaley, Greg Salansky, Jeff Troutman, Jesse Webster, and Matt Wood, as well as Missy Forder from the NPS Atlanta Regional Office. Other partners participating in workshops included Margit Bucher, Gary Kauffman, Josh Kelly, Steve Simon, Rob Sutter, Megan Sutton and Alex Wyss. Thanks also to Jim Smith with TNC-LANDFIRE, Leonardo Frid with Apex Resources Management Solutions, and Gary Kauffman with National Forests of North Carolina for their assistance with modeling.

Rob Klein, Great Smoky Mountains National Park Fire Ecologist, served as the NPS project leader. Greg Low with Applied Conservation LLC led the overall LCF process and model simulations. Steve Simon, Josh Kelly and Jess Riddle with Ecological Mapping and Fire Ecology Inc. led the vegetation mapping work. Katherine Medlock with The Nature Conservancy served as project leader and facilitator.

Very special thanks go to our funders, the Tallassee Fund and the National Park Service fire program.

Literature Cited

- Armbrister, M.R. 2002. Changes in fire regimes and the successional status of Table Mountain Pine (Pinus pungens Lamb.) in the Southern Appalachians, USA. M.S. Thesis. University of Tennessee. 151 pp.
- Bass, Quentin R. II, "Prehistoric Settlement and Subsistence Patterns in the Great Smoky Mountains." Master's Thesis, University of Tennessee, 1977. <u>http://trace.tennessee.edu/utk_gradthes/1463</u>
- Bestelmeyer BT, Brown JR, Trujillo DA, and Havstad KM (2004) Land management in the American Southwest: A state-and-transition approach to ecosystem complexity. Environmental Management 34:38-51.
- Blankenship K, Frid L, and Smith J (2015) A state-and-transition simulation modeling approach for estimating the historical range of variability. AIMS Environmental Science, Volume 2, Issue 2, pp253-268.
- Brose, P.H., and T.A. Waldrop. 2006. Fire and the origin of Table Mountain-pitch pine communities in the southern Appalachian mountains, USA. Canadian Journal of Forestry Research 36: 710-718
- Brown, ML (2000) The Wild East: A Biography of the Great Smoky Mountains, University of Florida Press.
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague (2003). Ecological Systems of the United States: A Working Classification of U.S. Terrestrial Systems. NatureServe, Arlington, VA.
- Delcourt, P., and H. Delcourt, 1998. The influence of prehistoric human-set fires on oakchestnut forests in the southern Appalachians. Castanea 63(3): 337-345.
- Dimmick, R.W., W.W. Dimmick, and C. Watson. 1980. Red-cockaded woodpeckers in the Great Smoky Mountains National Park: their status and habitat. U.S. Department of the Interior, National Park Service, NPS-SER Research/Resources Management Report No. 38. 21 pp.
- Fesenmyer, K.A. and N.L. Christensen. 2010. Reconstructing Holocene fire history in a southern Appalachian forest using soil charcoal. Ecology 91 (3): 662-670.
- Flatley, W.T., C.W. Lafon, H.D. Grissino-Mayer, and L.B. LaForest. 2013. Fire history and its relation to climate and land use in three southern Appalachian landscapes in the eastern U.S. Ecology. Preprint.

Flatley, W.T., C.W. Lafon, H.D. Grissino-Mayer, L.B. LaForest. 2015. Changing fire regimes and old-growth forest succession along a topographic gradient in the Great Smoky Mountains. Forest Ecology and Management. Vol. 350: pp. 96-106.

Great Smoky Mountain National Park Fire Management Plan – 2015

Great Smoky Mountain National Park Fire Management Plan – 1996

Interagency Fire Regime Condition Class (FRCC) Guidebook, Version 3, September, 2010

Laforest, L.B. 2012. Fire regimes of lower-elevation forests in Great Smoky Mountains National Park, Tennessee, U.S.A. Dissertation. University of Tennessee. 291pp.

- Harmon, Bratton and White. 1983. Disturbance and vegetation response in relation to environmental gradients in the Great Smoky Mountains.
- Harmon, M., 1982. Fire history of the westernmost portion of Great Smoky Mountains National Park. Bulletin of the Torrey Botanical Club Vol. 109, No. 1, pp. 74-79.
- Harrod, J., P. S. White, and M. E. Harmon. 1998. Changes in xeric forests in western Great Smoky Mountains National Park, 1936-1995. Castanea 63: 346-360.
- Harrod J.C., M.E. Harmon, and P.S. White. 2000. Post-fire succession and 20th century reduction in fire frequency on xeric southern Appalachian sites. Journal of Vegetation Science 11: 465-472.
- Jenkins, M.A., R.N.Klein, V.L. McDaniel. 2011. Yellow pine regeneration as a function of fire severity and post-burn stand structure in the southern Appalachian mountains. Forest Ecology and Management. 262: 681-691.

LANDFIRE (2016)

http://www.landfire.gov/documents/LF Data Product Descriptions 2016.pdf

- Langdon, K. 2005. Highlights: Mysterious heath balds investigated at Great Smoky Mountains National Park. Park Science 23(2):11. Available at: <u>http://www.nature.nps.gov/ParkScience/archive/PDF/Article_PDFs/ParkScience23(2)Fal_12005_11_Langdon_2478.pdf</u>.
- Low G, Provencher L, and Abele S (2010) Enhanced conservation action planning: assessing landscape condition and predicting benefits of conservation strategies. Journal of Conservation Planning 6:36-60.
- Medlock, K (2012) Cherokee National Forest Landscape Restoration Initiative Steering Committee Recommendations to the Forest Service for the North Zone (Watauga and

Unaka Districts) of the Cherokee National Forest. (Primarily compiled by Katherine G. Medlock, Tennessee Chapter of The Nature Conservancy).

- National Park Service (2016). Great Smoky Mountains. Nature and Science. http://www.nps.gov/grsm/learn/nature.
- Provencher L, Anderson T, Low G, Hamilton B, Williams T, and Roberts B (2013) Landscape conservation forecasting for Great Basin National Park. Park Science, Vol. 30, No 1.

Pyle, C (1988) The Type and Extent of Anthropogenic Vegetation Disturbance in the Great Smoky Mountains before National Park Service Acquisition. Castanea, Vol. 53, No. 3 (pp. 183-196).

Pyle, C (1985) Vegetation Disturbance History of Great Smoky Mountains National Park: An Analysis of Archival Maps and Records, NPS Research/Resources Management Report.

Rollins, MG (2009) LANDFIRE: a nationally consistent vegetation, wildland fire, and fuel assessment, International Journal of Wildland Fire, 18, pp235–249

Simon, S.A. (2011). Ecological zones in the southern Blue Ridge: third approximation. Unpublished report submitted to the National Forests in NC, Asheville, NC

The Nature Conservancy (2006) LANDFIRE Vegetation Dynamics Modeling Manual v4.1.

The Nature Conservancy (2009) Adapting LANDFIRE Vegetation Dynamics Models Manual v. 1.

Turrill, N.L., E.R. Buckner, and T.A. Waldrop. 1995. *Pinus pungens* Lam. (Table mountain pine): a threatened species without fire? Proceedings: Fire Effects on Rare and Endangered Species and Habitats Conference, Nov. 13-16, 1995.

Appendix 1. "Rules" for Vegetation Mapping at Great Smoky Mountains National Park.

GRSM Ecological Systems Ecological Zone	Landfire Ecological System	"DOMINANT VE" Classes Reference Condition (original grouping unless indicated)	Approx. extent ^{1/} acres	Hybrid Model Comments	"DOMINANT VE" Classes Current Condition ^{2,}
Southern Appalachian Low Elevation Pine-Oak Forest	Southern Appalachian Low Elevation Pine Forest	PI, PIp, PIr, PIv, PI-OzH, PI/OmH, PI/OzH, PIp-OzH, PIp/OzH, PIv-OzH, PIv/OzH	17,850 total	all classes included < 2300' RULE	PI, PIp, PIr, PIv, PI-OzH, PI/OmH, PI/OzH, PIp-OzH, PIp/OzH, PIv-OzH, PIv/OzH
	Torest	Oak/Pine and Oak-Pine that intersect with Miller YPH? OzH/PI, OzH-PI, OzH/PIp, OzH/PIv,		all classes included < 2300' RULE	
Shortleaf Pine-Oak		OzH/PIr	DINECUL	includes ≈ 15 acres from reference plot analysis s can be separated out, but would like to do that.	
Original Comments: In	is system contains much g	reater amounts of PINRIG than PINECH. Not sur	e PINECH type	s can be separated out, but would like to do that.	
Montane Pine-Oak- Heath	Southern Appalachian Montane Pine Forest and	Same as Low-Elev Pine RULE = > 2300'	18,775 total		Same as Low-Elev Pine
Pine-Oak Heath	Woodland			includes ≈ 265 acres from reference plot analysis	
Low Elevation Pine-Oak Heath Pine-Oak Heath	not defined	Same as Low-Elev Pine	8,775 total	Same as Low-Elev Pine and Ecological Zone = Pine-Oak Heath includes ≈ 100 acres from reference plot analysis	Same as Low-Elev Pine
Low Elevation Dry to Xeric Oak	Southern Appalachian Oak Forest	OzH, OzHf, OzHfA < 2300'	79,144 total	all units included regardless of Elevation Rule	OzH, OzHf, OzH/P OzH-PI,
		Och < 2300'		moved to Dry-Mesic Oak regardless of Elev. Rule	OcH, OzHfA, OzH/Pip, OzH/Piv,
		OzH-PIs, OzH/PIs, OzHF/PIs (that does not intersect with Miller WPH) < 2300'		all classes included < 2300' per RULE	OzH/Pir
		Oak/Pine and Oak-Pine that do not intersect with Miller YPH? < 2300' OzH-PI, OzH/PIp, OzH/PIv, OzH/PIr, OzH/PI		all classes included < 2300' per RULE	
Dry Oak				PIs/OzH added (Rob-March 2016), was described as 'uncharacteristic' originally. At Feb 22 nd mtg. it was decided that White Pine is not 'uncharacteristic' in oak types	
	r all oak types that would	have had chestnut as a dominant/codominant.	we have decide	ed to pretend chestnut never existed. This because is it functio	nally gone and has no
	ning at any appreciable sc				, , , , , , , , , , , , , , , , , , , ,

GRSM Ecological Systems Ecological Zone	Landfire Ecological System	"DOMINANT VE" Classes Reference Condition (original grouping unless indicated)	Approx. extent acres	Hybrid Model Comments	"DOMINANT VE" Classes Current Condition
Dry-Mesic Oak- Hickory	Southern Appalachian Oak Forest	OmHA, OmHA-PI, OmHA/PI, OmHA/PIs (That does not intersect with Miller WPH) OmHA/T	60,233 total	split from Dry-Mesic to Mesic Oak Hickory original group	OmH, OmHA, OmHr, OmHR, OmHp/R, OmHL, OmH/T, OmHA/T,
		OmH	15,283	split by elevation (< 2300' to Dry-Mesic Oak)	OmHA/PI, OmHA-PI
		Should this group be its own Mixed Hardwood system? HxA, HxBI, HxBI/R, HxAz, HxA/T		HxBI moved to CoveForest HxA, HxBI/R, HxAz, HxA/T: moved to 'use Ecological Zones to define'	
				Och added (Rob-March 2016, all elevations)	
Dry-Mesic Oak				includes ≈ 130 acres from reference plot analysis	
Mesic Oak-Hickory	Montane Red Oak- Chestnut Oak	OmHr, OmHR, OmHL, OmH/T, OmHr/PIs	60,431 total		
Montane Oak Cove&Slope		OmH	20,996	split by elevation (> 2300' to Mesic Oak) includes ≈ 87 acres from reference plot analysis	
Original comments: This		robably be divided according to landform. OmHA	and associate	d variants have a different disturbance ecology than many of t	he "Om" types, but may
not rise to the same reg	ime as "Oz" types.			Γ	
Montane Oak		MOz/K, MOa/K		not in GIS, but listed in Draft Report (May 2004)	MOz, MOz/K, MOa, MOa/K, MOr/Sb,
		MOz, MOa, MOr/Sb, MOr, MOr/R-K, MOr/G, MOr/K, MOr/R, MOr/T		all classes included as the 'core'	MOr, MOr/R-K, MOr/G, MOr/K, MOr/R, MOr/T At elevations > 2300':
		At elevations > 2300': OzH, OzHf, OzHfA		moved to Dry Oak (Rob-March 2016)	OzH, OzHf, OzH/PI, OzH-PI.OcH, OzHfA,
		Och		moved to Dry-Mesic Oak (Rob-March 2016)	OzH/Pip, OzH/Piv, OzH/Pir
High Elev. Red Oak				includes ≈ 247 acres from reference plot analysis	
Original comments: T	reatment of elevatior	is based on higher frequency of fire at lower	elevations.		
Southern Appalachian	Central & Southern Appalachian	Fir & Spruce-Fir = (F), (F)S, F, F/S, S(F), S-F, S-F/Sb, S/F, S/R,	40,490 total	added to original grouping: NHxS, NHxB/S, NHxE, T/S	S/NHxB, S, S/NHx, S/T, S/R, S/F, S(F), F, S-
Spruce-Fir Spruce-Fir	Spruce-Forests	S/Sb: Spruce =S, S-NHx, S-NHxB, S-R, S-T, S-TR, S/NHx, S/NHxA, S/NHxB, S/T		includes ≈ 13 acres from reference plot analysis	NHxB, S/HNxA, S-T, S/Sb, F/S, S-F, S-F/Sb , S-NHx, (F), (F)S, S-R
				area is less today than in the ref. condition (Beyond just loss i ook for a better way to deal with this loss? The veg map uses	rom BWA). Don't know
GRSM Ecological	Landfire Ecological	"DOMINANT VE" Classes	Approx.	Hybrid Model Comments	"DOMINANT VE"
Systems –	System	Reference Condition	extent	nybna moder comments	Classes
Ecological Zone		(original grouping unless indicated)	acres		Current Condition
Hemlock and Hemlock/White	None	T/HxA, T/OmH, T/OmHA, OmHA-T, T/PIs, PIs-T, PIs/T, T/CHxA, T/HxL,	0 total	moved to Cove Forest	T, T/R, T/CHxA, T/CHx, T/NHxA,
Pine Forest		T/CHx, T/CHxR, T/MAL, T, T/R, T/ <u>K</u>	10101		T/HxA, T/PIs, PIs-T,
		 MAL-T, MALc-T		moved to Alluvial Forest	MAL-T, NHxR-T, NHxA-T, HxA-T, T/NHx, T/OmH, PIs/T,
		T/NHxA, T/NHx, T/NHxB, NHxA-T, T/NHxR, NHxR-T		moved to Hemlock-Northern Hardwood	T/NHX, T/OHH, PIS/T, T/OHHA, T/S, T/NHxR, T/NHxB, T/K , OMHA-T, MALc-T,
		T/S		moved to Spruce-Fir	T/HxBI, T/CHxR, T/HxL, T/MAL
None		 HxA-T		moved to 'use Ecological Zones to define'	
Original comments: Sign	nificant Hemlock also exi	sts in Acid Cove, Acidic NH, and Spruce. How to de	eal with loss of	hemlock? "Treated" Hemlock is a Vegetation Management g	eodatabase.

White Pine - Oak		None	PIs/OzH	0 total	moved to Dry Oak (Rob-March 2016)	PIs, PIs/OzH, OzH-PIs OzHf/PIs, OzH/PIs,
			OmHA/PIs PIs, PIs/OmHA, PIs/OzHf, PIs/OmH, OzH-PIs, OzHf/PIs, OzH/PIs	10107	All in DMoak because none = Miller WPH moved to 'use Ecological Zones to define' Note Original Rules for classes: WP-Oak, = intersects with Miller WPH (2,700 acres) Uncharacteristic = not Miller as above (6,156 acres)	OmHA/PIs, OmHr/P PIs/OmHA, PIs/OzH PIs/OmH (that intersects with Mill WPH)
Cove Forests Rich & Acidic Cove	Rich <u>Cove</u> Acidic <u>Cove</u> Oak/ Rhodo	Southern and Central Appalachian Cove Forest	CHx, CHxR, CHxL, CHxO, CHxR/T, CHxR-T, HxF, HxF/T CHxA, CHxA-T, CHx-T, CHx/T, CHxA/T, CHxL/T, HxL, Hx, HxL/T, HxL-T	128,859 total	all classes included all but highlighted classes included added to the original group: HxBI T/HxA, T/OmH, T/OmHA, OmHA-T, T/PIs, PIs-T, PIs/T, T/CHxA, T/HxL, T/CHx, T/CHxR, T/MAL, T/HxF (T & T/R & T/K) may include Northern Hardwood - Hemlock on S-facing slopes at higher elevations. 	CHx, CHxR, CHxL, CHxO, CHxR/T, CHxA-T, CHxA, CHxA-T, CHx-T, CHx/T, CHx-T, CHx/T, CHxA/T, CHxL/T
					Is there a way to capture the loss of hemlock in Acid Cove? Fo	r example, the veg map
distinguish GRSM Ec Systems Ecologica	ological 	e with hemlock (CHxA-T, C Landfire Ecological System	Hx-T). Could we simply call these types "unchar "DOMINANT VE" Classes Reference Condition (original grouping unless indicated)	Approx. extent acres	e current veg? (unless they are in a "treated" polygon). Hybrid Model Comments	"DOMINANT VE" Classes Current Condition
Northern Hardwoo		Appalachian Northern Hardwood	Nothern Hardwood: NHx, NHxR, NHxB, NHxY, NHxR/T, NHxB/S, NHxBe, NHxE, NHxY-T	67,329 total	all classes included	NHx, NHxR, NHxB, NHx-T, NHxY, NHxA/T, NHx/T,
Hardwoo and Cove	d Slope	itto the comment on hemi	Hemlock Northern Hardwood: NHx-T, NHx/T, NHxB/T, T/NHxAz 		all classes included Beech Gaps lumped with Northern Hardwood added to the original group: Hemlock-Northern Hardwood = T/NHxA, T/NHx, T/NHxB, NHxB-T, NHxA-T, T/NHxR, NHxR-T moved out of this System: approx. 250 acres in 13 polygons based upon Ecological Zone ref. plots 	NHxBI/R, NHxR/T, NHxB/S, NHxAZ, NHxBe, NHxB/T, NHxE NHxA (acidic)
Montane	d Slope comments: Di	itto the comment on hemi Central Interior	NHx/T, NHxB/T, T/NHxAz Beech Gaps: NHxBe, NHxBe/Hb, NHxBE/G NHxA, NHxA/T, NHxBI/R, NHxAz, NHxAz/T	7,850	Beech Gaps lumped with Northern Hardwood added to the original group: Hemlock-Northern Hardwood = T/NHxA, T/NHx, T/NHxB, NHxB-T, NHxA-T, T/NHxR, NHxR-T moved out of this System: approx. 250 acres in 13 polygons based upon Ecological Zone ref. plots defined by Ecological Zones	NHxB/S, NHxAz, NHxBe, NHxB/T, NHxE NHxA (acidic) MAL, MALc, MALt,
Hardwoo and Cove Original Co	d Slope omments: Di	Central Interior and Appalachian Riparian and	NHx/T, NHxB/T, T/NHxAz Beech Gaps: NHxBe, NHxBe/Hb, NHxBE/G NHxA, NHxA/T, NHxBI/R, NHxAz, NHxAz/T ock loss in Acid Cove.	7,850 total	Beech Gaps lumped with Northern Hardwood added to the original group: Hemlock-Northern Hardwood = T/NHxA, T/NHx, T/NHxB, NHxB-T, NHxA-T, T/NHxR, NHxR-T moved out of this System: approx. 250 acres in 13 polygons based upon Ecological Zone ref. plots defined by Ecological Zones	NHxB/S, NHxAz, NHxBe, NHxB/T, NHxE NHxA (acidic)
Hardwoo and Cove Original Co Montane Forest	d Slope omments: Di	Central Interior and Appalachian	NHx/T, NHxB/T, T/NHxAz Beech Gaps: NHxBe, NHxBe/Hb, NHxBE/G NHxA, NHxA/T, NHxBI/R, NHxAz, NHxAz/T ock loss in Acid Cove.		Beech Gaps lumped with Northern Hardwood added to the original group: Hemlock-Northern Hardwood = T/NHxA, T/NHx, T/NHxB, NHxB-T, NHxA-T, T/NHxR, NHxR-T moved out of this System: approx. 250 acres in 13 polygons based upon Ecological Zone ref. plots defined by Ecological Zones	NHxB/S, NHxAz, NHxBe, NHxB/T, NHxE NHxA (acidic) MAL, MALc, MALt

GRSM Ecological Systems	Landfire Ecological System	"DOMINANT VE" Classes Reference Condition	Approx. extent	Hybrid Model Comments: Description of DOMINANTVE Classes	"DOMINANT VE" Classes
Ecological Zone		(original grouping unless indicated)	acres 52,260 total 10.1 % of LCF area		Current Condition use the original Rules or new Rules
Use Ecological	Variable	Hx, HxL, HxL/T, HxL-T	19,710	Southern App. Early Successional Hardwoods	
Zones to define: Variable Systems		HxA-T, HxA, HxBI/R, HxAz, HxA/T, NHxA, NHxA/T, NHxBI/R	23,355	Southern App. Mixed Hardwood Forest, Acidic	
		NHxAz , NHxAz/T	885	High Elevation Xeric Woodlands	
		Pis, Pis/OzHf	7,027	Eastern White Pine and Mixed Eastern White Pine - Dry Oak	
		Pis/OmHA, Pis/OmH	548	Eastern White Pine Mesic Oak Forest	
		OzH-PIs ^{1/} , OzHf/PIs, OzH/PIs	735	Chestnut Oak/Hardwoods with White Pine	
		^{1/} not listed in 2004 Report but is a GIS mapunit			
Uncharacteristic ORIGINAL GROUPING				Mixed Hardwoods (Hx) should maybe not be considered uncharacteristic? Though some of these sites may have been logged or dominated by chestnut, this does seem to be a distinct veg type?	Pis,Pis/O2H, O2H- Pis, O2Hf/Pis, O2Hf/Pis, OmHA/Pis, OmHr/Pis, OmHA/Pis, Pis/OmHA, Pis/O2Hf Pis/OmH (that does not intersect with Miller WPH) HxL, HxL/T, HxL-T, Hx, HxF, HxF/T (successional LIRTUL) HxA, HxBI, HxBI/R, HxAz, HxA/T? (former Chestnut forest?) HxJ (old homesites along streams - former Montane Alluvial?) "Untreated" T, T/R, T/CHxA, T/CHx, T/CHxA, T/HXA, T/Pis, Pis-T, NAL-T, NHXR-T, NHXA-T, T/NHx, T/OmH, Pis/T, T/OmHA, T/S,

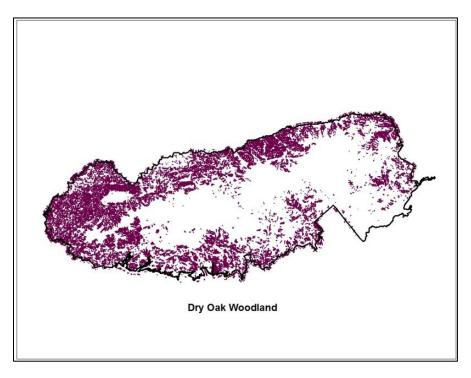
Appendix 2. Description of fire-maintained ecological systems in Great Smoky Mountains National Park.

Dry Oak Woodland

Dominant Species (Reference Condition): *Quercus montana, Q. coccinea, Q. velutina, Q. falcata, Carya glabra*

Dominant Species (Current Condition): *Quercus montana, Q. coccinea, Acer rubrum, Pinus strobus*

LCF Mapping Rules (Reference Condition): All occurrences of included vegetation map codes; all occurrences of veg map codes with codominant white pine; all occurrences of veg map codes with codominant yellow pine *if* they do not intersect with Miller "YPH"



- 56% is 6271 Chestnut oak forest (xeric ridge type); veg map codes OzH
- 36% is 7267 Appalachian montane oak-hickory forest (Chestnut oak type); veg map code OzHf
- 3% is 7230 Appalachian montane oak-hickory forest (Typic acidic type); veg map code OzHfA
- 3% is 7519 Appalachian white pine xeric oak forest; veg map codes PIs/OzHf, PIs-OzHf
- Concept also includes 7691 Appalachian oak-hickory forest (low elevation xeric type)
 - 7691 was apparently not included in the 2004 veg map; not sure why, but this association would have probably been 10-20% of the Dry Oak type parkwide, with a distribution related to that of shortleaf pine. It is prominent in the Community Classification document.

- Landfire BPS 5713150 Southern Appalachian Oak Forest
 - Early 5%
 - Mid closed 25%
 - o Mid open 35%
 - Late open 26%
 - Late closed 9%
- GRSM LCF Model Reference Conditions:
 - Early 17%
 - Mid closed 9%
 Mid open 21%
 Late open 29%
 - Late closed
 24%
- GRSM LCF Model Current:

0	Early	2%
0	Mid closed	0%
0	Mid open	0%
0	Late open	8%
0	Late closed	90%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary and sedimentary rocks of the Great Smoky, Snowbird, Walden Creek, and Chilhowee Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale

Western Foothills (Beard Cane to Chilhowee): "diverse" Sedimentary/metasedimentary geology: sandstone, shale, slate, siltstone, quartzite (which is metamorphic), isolated dolomite

Soils - Dystrudepts of the Ditney-Unicoi and Soco-Stecoah series; Hapludults of the Junaluska-Tsali series. These soils are generally nutrient-poor, well-drained, rocky, and strongly acidic.

Topography – Ridgetops and convex middle to upper slopes. Slopes have primarily south and west aspects. Elevations range from 900' to 4000', though this is primarily a low elevation type. Most occurrences are below 3000'.

Vegetation Description:

Vegetation ranges from oak and oak-pine woodlands with shrub layers dominated by ericaceous species to stands with more open understories dominated by a diverse set of dry-site herbs and grasses. Chestnut oak and scarlet oak are the characteristic trees, with black oak, white oak, and southern red oak co-occurring or becoming dominant on lower elevation sites. Blackjack oak and post oak are infrequent and localized, but are strong indicators of low-elevation dry oak woodlands. Other associated tree species include shortleaf pine, Virginia pine, pitch pine, pignut hickory, red maple, and black gum. Under current conditions, red maple, black gum, and white pine may have high densities in all size classes except the largest tree classes.

Typical understory trees include sourwood, dogwood, sassafras, and black locust. The density of the shrub layer can be highly variable. Under reference conditions, shrubs have moderate to sparse cover, but shrubs like mountain laurel and bear huckleberry could become well-established and dense in stands where the fire-return interval exceeds the historical average. High cover of these shrubs is very common in contemporary, unburned stands. *Vaccinium pallidum, V. stamineum, V. arboreum*, and *V. hirsutum* are other common shrubs and are good indicators of low-elevation dry oak forests.

The herb layer is also variable, ranging from sparse-to-moderate coverage by waxy-leaved evergreen subshrubs like *Gaultheria procumbens, Epigaea repens*, and *Galax urceolata* to high coverage by a diverse set of herbs and grasses that includes *Schizachyrium scoparium, Danthonia sericea, Piptochaetium avenaceum, Dichanthelium commutatum, Eurybia surculosa, Coreopsis major, Sericocarpus asteroides,* and *Baptisia tinctoria*. The vine species *Smilax rotundifolia* and *Smilax glauca* are also common.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713150)
Surface fire – 17 year MFI	Surface Fire – 16 year
Mixed Fire – 73 year MFI	Mixed Fire – 139 year
Replacement – 136 years MFI	Replacement – 602 year

Description:

Frequent, low severity fires are the norm, with mean fire-free intervals (MFI) of 12-18 years, on average. This system is included in Landfire Fire Regime Group 1. Fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter

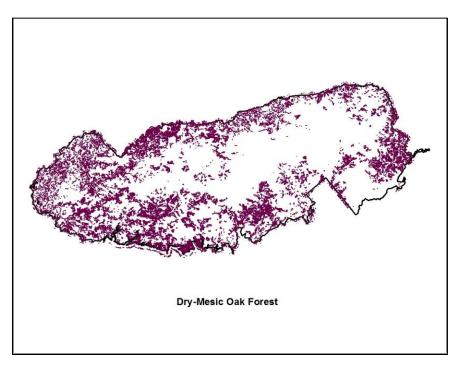
months of December and January are rare. Mixed severity fires, where fires top-kill 25-75% of the dominant vegetation (Landfire definition), are much less common, occurring every 50-100 years. Replacement fires (>75% top-kill) are rare events that occur every 100-200 years in an average stand. Both mixed severity and replacement fires are most likely to occur during the growing season and they are typically associated with extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Dry Mesic Oak Forest

Dominant Species (Reference Condition): *Quercus alba, Q. montana, Castanea dentata, Q. rubra, Carya glabra*

Dominant Species (Current Condition): *Quercus alba, Q. montana, Q. rubra, Carya glabra, Acer rubrum, Carya alba, Pinus strobus, Liriodendron tulipifera*

LCF Mapping Rules (Reference Conditions): All occurrences of included vegetation map codes, except for OmH, for which occurrences below 2300' elevation were mapped as Dry-Mesic Oak (above 2300' were mapped as mesic oak).



- 47% is 7230 Appalachian montane oak-hickory forest (Typic acidic type); veg map code OmHA
- 23% is 6192 Appalachian montane oak-hickory forest (Red Oak Type); veg map code OmH < 2300'
- 14% is 7267/7230 Appalachian montane oak-hickory forest (Typic acidic type); veg map code OcH. Appalachian montane oak-hickory forest (Chestnut oak type) ; veg map code OcH
- 8% is 6286 Chestnut Oak Forest (Mesic Slope Heath Type); veg map code OmHp/R
- 4% is 7219 Early Successional Appalachian Hardwood Forest; veg map code HxL
- Trace of 7100, 7944, 7519, 8558, 6271, 7517

- Landfire BPS 5713150 Southern Appalachian Oak Forest
 - Early 5%
 - Mid closed 25%
 - 35% • Mid open
 - Late open 26%
 - 9% • Late closed
- **GRSM LCF Model Reference Conditions:**
 - 9% • Early
 - 9% • Mid closed • Mid open 18% • Late open 31%
 - 32%
 - Late closed
- GRSM LCF Model Current:

0	Early	1%
0	Mid closed	7%
0	Mid open	1%
0	Late open	2%
0	Late closed	85%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary and sedimentary rocks of the Great Smoky, Snowbird, Walden Creek, and Chilhowee Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale

Western Foothills (Beard Cane to Chilhowee): "diverse" Sedimentary/metasedimentary geology: sandstone, shale, slate, siltstone, quartzite (which is metamorphic), isolated dolomite

Soils - Dystrudepts of the Soco-Stecoah and Ditney-Unicoi series; Hapludults of the Junaluska-Tsali series. These soils are good to nutrient-poor, well-drained, rocky, and strongly acidic.

Topography – Protected ridgetops and saddles. South and west-facing low slopes and concave slopes. Upper north and east-facing slopes. Elevations range from 1200' to 4500'.

Vegetation Description:

Vegetation ranges from open oak-hickory forests to oak woodlands. The shrub layer can moderately dense and dominated by a single ericaceous species, but is most often sparse to moderate with several deciduous species and no clear dominant. White oak and chestnut oak are the characteristic species, though they often occur separately with other species such as northern red oak, black oak, mockernut hickory, and pignut hickory. White pine, red maple or tulip poplar may be much more important in current forests than they were in reference-condition forests. American chestnut was likely very important in reference-condition forests, though it is relegated to the shrub layer in current forests.

Typical understory trees include sourwood, dogwood, Fraser magnolia, and black gum. White pine and (now dead) hemlock saplings may occur at high densities. The density and composition of the shrub layer can be highly variable. Under reference conditions in typical sites, a wide variety of shrubs (including *Acer pensylvanicum, Rhododendron calendulaceum, Castanea dentata, and Pyrularia pubera*) can occur at moderate to sparse cover, but shrubs like great rhododendron or bear huckleberry can become well-established and dense in stands where the fire-return interval exceeds the historical average.

The herb layer can range from sparse with species such as *Galax urceolata, Chimaphila maculata, and Goodyera pubescens* to high coverage by a diverse set of herbs and ferns that includes *Amphicarpa bracteata, Desmodium nudiflorum, Polystichum acrosticoides, Maianthemum racemosum, Eurybia divaricata, Dennstaedtia punctilobula, and Dichanthelium spp.*

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713150)
Surface fire – 28 year MFI	Surface Fire – 16 year
Mixed Fire – 127 year MFI	Mixed Fire – 139 year
Replacement – 224 years MFI	Replacement – 602 year

Description:

In the Dry-Mesic Oak system, low severity fires are the norm. Mean fire-free intervals (MFI) for surface fires can be long (20-32 years), but are still classified as Fire Regime Group 1 by Landfire. Surface fires occur more frequently in the open s-classes and less frequently in the closed s-classes due to subtle differences in fuel composition, site exposure, and hence fuel moisture/availability. These fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Mixed severity fires, where fires top-kill 25-75% of the dominant vegetation (Landfire definition), are much less

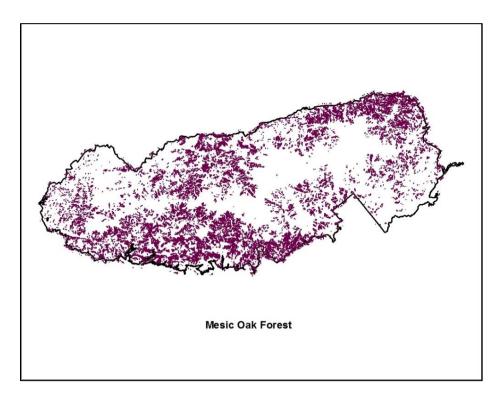
common, occurring every 100-200 years. Replacement fires (>75% top-kill) are rare events that may occur every 200-400 years in an average stand. Both mixed severity and replacement fires are most likely to occur during the growing season and they are typically associated with extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Mesic Oak Forest

Dominant Species (Reference Condition): *Quercus rubra, Q. alba, Catanea dentata, Carya alba, Acer rubrum, Liriodendron tulipifera, Q. montana*

Dominant Species (Current Condition): *Quercus rubra, Q. alba, Acer rubrum, Carya alba, Liriodendron tulipifera, Q. montana*

LCF Mapping Rules: All occurrences of OmH above 2300' elevation. All occurrences of OmHr, OmHL, OmH/T, or OmH/PIs. All current occurrences of HxA and NxA were included in this concept because these areas were historically believed to be dominated by Chestnut or oak that failed to regenerate following logging or fire.



- 75% is 6192 Appalachian montane oak-hickory forest (Red Oak Type); veg map codes OmH > 2300', OmHr, OmHL, OmH/T, OmH/PIs
- 11% is 7692 Appalachian montane oak-hickory forest (Rich Type); veg map code OmHr
- 10% is 8558 Southern Appalachian Mixed Hardwood Forest; veg map code HxA, NxA
- 3% is 7219 Early Successional Appalachian Hardwood Forest; veg map code HxL
- Trace of 7100, 7944, 7519, 6271, 7517, 7267

- Landfire BPS 5713150 Southern Appalachian Oak Forest
 - Early 5%
 - Mid closed 25%
 - o Mid open 35%
 - Late open 26%
 - Late closed 9%

• GRSM LCF Model - Reference Conditions:

- Early 6%
- Mid closed 17%
 Mid open 14%
 Late open 17%
- Late closed 46%
- GRSM LCF Model Current:

0	Early	1%
0	Mid closed	4%
0	Mid open	1%
0	Late open	26%
0	Late closed	66%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary and sedimentary rocks of the Great Smoky, Snowbird, Walden Creek, and Chilhowee Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale

Western Foothills (Beard Cane to Chilhowee): "diverse" Sedimentary/metasedimentary geology: sandstone, shale, slate, siltstone, quartzite (which is metamorphic), isolated dolomite

Soils - Primarily Dystrudepts of the Soco-Stecoah and Ditney-Unicoi series; some occurrence on Hapludults of the Junaluska-Tsali series. These soils are good to nutrient-poor, well-drained, rocky, and circumneutral to strongly acidic.

Topography – Typically on protected slopes with northern, eastern, southeastern aspect. Some occurrences have been documented on western slopes. Typical elevations range from 2000' to 4500', though small examples of this system can occur at elevations down to 1000' in GRSM's western end.

Vegetation Description:

Vegetation is oak, oak-hickory, and oak-mixed hardwood closed forest. Well-developed subcanopies, shrub layers, and herb layers are typical, though open s-classes may approach open forest conditions. Red oak is the characteristic species of the mesic oak system, though white oak or chestnut oak may also dominate or share dominance. Red maple, tulip poplar, mockernut hickory, and/or pignut hickory may be locally important, and red maple may be codominant. Under current conditions, red maple is the most abundant species in the subcanopy, and (now dead) eastern hemlock may be abundant in the understory. American chestnut was likely very important in reference-condition forests, though it is relegated to the shrub layer in current forests.

Typical understory trees include sourwood, silverbell, and dogwood. Shrub coverage is moderate to high and includes the following species: *Gaylussacia ursina, Calycanthus floridus, Castanea dentata, Pyrularia pubera, and Acer pensylvanicum. Rhododendron maximum* can be present and may be abundant.

The herb layer is typically very diverse and can range from sparse to high cover, with species such as *Galax urceolata*, *Thelypteris noveboracensis*, *Eurybia divaricata*, several *Carex spp.*, *Polygonatum biflorum*, *Houstonia purpurea*, *Lysimachia quadrifolia*, and *Dioscorea quaternata*. The richest, closed forests within this system may approach cove forest in species diversity and composition. These stands may include: *Cimicifuga racemosa*, *Adiantum pedatum*, *Dryopteris intermedia*, *Collinsonia Canadensis*, *Caulophyllum thalictroides*, *Amphicarpa bracteata*, and *Athyrium filix-femina*, among many others.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713150)
Surface fire – 37 year MFI	Surface Fire – 16 year
Mixed Fire – 175 year MFI	Mixed Fire – 139 year
Replacement – 243 years MFI	Replacement – 602 year

Description:

The fire regime of the Mesic Oak system represents the lowest frequency among the oak forest systems, with mean fire-free intervals (MFI) for surface fires between 33-40 years. This fire regime falls within the Landfire Fire Regime Group III. Low severity surface fires are the norm, and like the dry-mesic oak system, fires occur most frequently in the early and mid- s-classes due to subtle differences in fuel composition, site exposure, and hence fuel moisture/availability. These fires can occur virtually any time

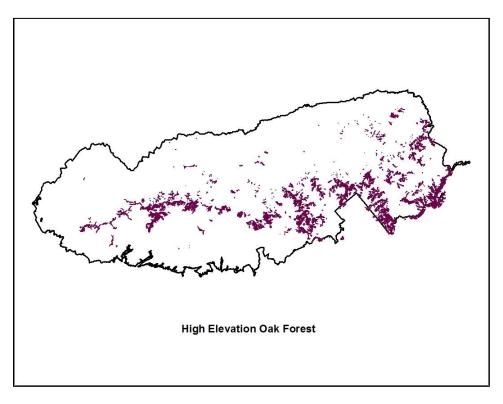
of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Mixed severity fires, where fires top-kill 25-75% of the dominant vegetation (Landfire definition), are much less common, occurring every 150-250 years. Replacement fires (>75% top-kill) are very rare events that may occur every 250-400 years in an average stand. Both mixed severity and replacement fires are most likely to occur during the growing season and they are typically associated with extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

High Elevation Oak Forest

Dominant Species (Reference Condition): Castanea dentata, Quercus rubra, Quercus alba,

Dominant Species (Current Condition): *Quercus rubra, Q. alba, Acer rubrum, Prunus serotina, Betula alleghaniensis*

LCF Mapping Rules: All occurrences of veg map codes listed below.



- 34% is 7300 High-Elevation Red Oak Forest (Deciduous Shrub Type); veg map code MOr/Sb
- 31% is undifferentiated 7298, 7299, 7300 High Elevation Red Oak Forest; veg map code MOr
- 21% is 7299 High-Elevation Red Oak Forest (Evergreen Shrub Type); veg map code MOr/K, MOr/R, MOz
- 5% is 8558 Southern Appalachian Mixed Hardwood Forest; veg map code HxA, NxA
- 5% is 7298 High-Elevation Red Oak Forest (Tall Herb Type); veg map code MOr/G
- 4% is 7295 Southern Blue Ridge High Elevation White Oak Forest; veg map code MOa
- Trace of 7230, 7517, 4973, 7219, 6192

• Landfire BPS 5713200 Central and Southern Appalachian Montane Oak Forest (Note: This BPS is narrowly-defined as stunted talus-slope woodlands)

- Early 2%
- Mid closed 21%
- Mid open
 77%
- Late open 0% (not used)
- Late closed 0% (not used)
- GRSM LCF Model Reference Conditions:
 - o Early 14%
 - Mid closed 14%
 - o Mid open 12%
 - Late open 38%
 - Late closed 22%
- GRSM LCF Model Current:

0	Early	1%
0	Mid closed	0%
0	Mid open	0%
0	Late open	3%
0	Late closed	96%

Physical Description (Geology, Soils, Topography):

Geology – Predominantly found on metasedimentary rocks of the Great Smoky Group, with some occurrence on Snowbird Group geology, and on the small areas of Biotite augen gneiss found in the Balsam Mountains.

Soils - Primarily Dystrudepts of the Soco-Stecoah series; some occurrence on Dystrudepts of Cataska-Sylco, Hapludults of Evard-Cowee, and Humudepts of Breakneck-Pullback soils. These soils range from good to nutrient-poor, are well-drained, stony, and strongly acidic.

Topography – High ridges, mid- to upper slopes of all aspects, but primarily south and southeast-facing. This is a high-elevation system that occurs between 3500' – 5000'.

Vegetation Description:

Vegetation includes high-elevation forests and woodlands strongly dominated by northern red oak, with a small percentage of stands dominated by white oak. The upper canopy oak trees may be stunted and

gnarled by exposure to wind and ice. Other tree species include: yellow birch, red maple, and cherry. The subcanopy is typically open to poorly developed. American chestnut was very important in reference-condition forests, though it is relegated to the shrub layer in current forests.

There are four distinct associations within this system, and these associations are largely distinguished by differences in the structure of the understory. Most stands in this system have a very dense shrub layer, which may be dominated by evergreen or deciduous species. Stands with evergreen shrubs typically have a high cover of *Rhododendron maximum*, though *Kalmia latifolia* can be present. Stands dominated by white oak more often have a shrub layer dominated by *Kalmia*. These forests have low herbaceous cover and diversity, typically dominated by *Galax urceolata*.

Forests in this system that are dominated by deciduous shrubs may include the following species in the understory: *Ilex montana, Rhodendron calendulaceum, Castanea dentata, Rubus canadensis, Vaccinium erythrocarpum, or V. corymbosum*. These stands often have a high coverage of diverse herbs that is dominated by the ferns Dennstaedtia puntilobula and Thelypteris noveboracensis. The final montane oak association has a sparse, open shrub layer and an herb layer that is strongly dominated by Carex pensylvanica, which can appear a dense carpet. Other herbs may include: *Angelica triquinata, Eurybia chlorolepis, Cuscuta rostrate, Dryopteris intermedia, Prenanthes altissima,* and *Lilium superbum*, among others.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713200)
Surface fire – 33 year MFI	Surface Fire – 13 year
Mixed Fire – 102 year MFI	Mixed Fire – none
Replacement – 163 years MFI	Replacement – none

Description:

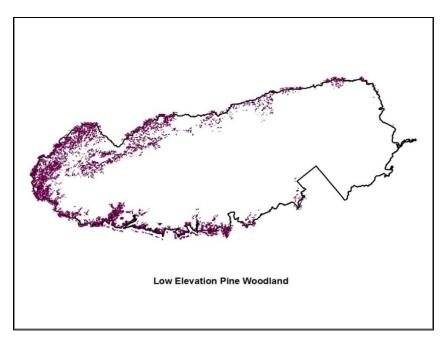
The fire regime of the High Elevation Oak Forest is not well understood. It is generally thought to be a frequent, low severity regime due to its woodland-like structure and the exposed nature of its highelevation sites; however, due to the isolation of most stands and the higher moisture levels that are present at higher elevations, it is likely a much longer mean fire-free interval than lower-elevation dry oak stands. This project maintained this system in the Landfire Fire Regime Group I, but used a relatively long MFI of 25-40 years (average 33 years). Due to the high moisture conditions at high elevations in GRSM, fires likely occurred most frequently in the early and open s-classes, and this is reflected in the modelled fire regime. Low severity fires are the norm, however mixed severity (MFI 100 years) and replacement fires (160 years) likely occurred more frequently than in lower-elevation mesic oak forests due to topographic features such as exposure and slope. Fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Both mixed severity and replacement fires are most likely to occur during extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Low Elevation Pine Woodland

Dominant Species (Reference Condition): *Pinus echinata, Pinus virginiana, Quercus coccinea,Q. falcata, Q. montana, Q. velutina, Q. stellata*

Dominant Species (Current Condition): *Pinus echinata, P. rigida, P. virginiana, P. strobus, Quercus coccinea, Q. falcata, Q. montana, Q. velutina, Acer rubrum*

LCF Mapping Rules: The two low-elevation pine types presented here are not distinguished by the current GRSM veg map. These systems were mapped using our pine map units (<2300' elevation) intersected with Simon's Low Elevation Pine system model. For reference conditions mapping, if current oak-pine types intersected with areas mapped as "Yellow Pine" by Miller in 1938, they were included as pine map units. Of those, the areas that intersected Simon's Low-Elevation Pine model were included here as Low-Elevation Pine. If our pine units (again, only those less than 2300') *did not* intersect with Simon's Low-Elevation Pine model, they were placed in our Low-Elevation Pine-Oak-Heath.



- 40% has no CEGL code –veg map codes are PI, PIr
 The most likely CEGL is currently: 7493 SBR Escarpment Shortleaf Pine Oak Forest
- 26% is undifferentiated 7119, 7078, 2591, 3560; veg map code PI/OzH
- 16% is undifferentiated 7097, 7119; veg map code PI-OzH
- 9% is 6271 Chestnut Oak Forest (Xeric Ridge); veg map codes OzH/PI, OzH/PIv, OzH-PIs, OzH
- 3% is 7097 Blue Ridge Table Mt. Pine Pitch Pine Woodland (Typic Type); veg map code PIp, PIp/OzH, PIp-OzH
- 3% is undifferentiated 7100, 7944, 7519 various White Pine types; veg map code PIs, PIs/OzHf
- Trace of 2591, 7219, 7517, 8558, 6192

- Landfire BPS 5713530 Southern Appalachian Low-Elevation Pine Forest
 - Early 32%
 - Mid closed 2%
 - o Mid open 32%
 - Late open 33%
 - Late closed 1%

• GRSM LCF Model – Reference Conditions:

- Early 13%
- Mid closed 10%
 Mid open 30%
- o Late open 35%
- Late closed 12%
- GRSM LCF Model Current:
 - Early 3%
 Mid closed 12%
 Mid open 4%
 Late open 5%
 Late closed 72%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary and sedimentary rocks of the Walden Creek, Chilhowee, Great Smoky, and Snowbird, Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale, -

Western Foothills (Beard Cane to Chilhowee): "diverse" Sedimentary/metasedimentary geology: sandstone, shale, slate, siltstone, quartzite (which is metamorphic), isolated dolomite

Soils - Dystrudepts of the Ditney-Unicoi, Soco-Stecoah and Cataska-Sylco series; Hapludults of the Junaluska-Tsali series. These soils are generally nutrient-poor, well-drained, rocky to stony, and strongly acidic.

Topography – Low ridges and summits. Convex, low to middle slopes, and some upper slopes. Slopes have primarily south and west aspects. Elevations range from 900' to 2300'. This system is primarily limited to the lowest elevations in GRSM, and is distributed largely along the park boundary and in the western end of GRSM.

Vegetation Description:

The low-elevation pine system is rare in the Southern Appalachians, and it is one of the most departed from its reference conditions. Few good examples of the system remain within GRSM, but there remain exceptional stands of shortleaf pine, some of which have been aged at 200-300 years old. There also remain vital remnants of the diverse herb layer of xeric grasses and forbs, though these are largely relegated to trail-sides, roadsides, and burned areas that intersect areas where this system formerly existed.

Much of this system is thought to have existed as Shortleaf Pine/Little Bluestem Appalachian Woodland (CEGL 3560) under reference conditions (roughly pre-Columbian), though this association is not mapped in GRSM's vegetation map. Most of the shortleaf stands are better described today as CEGL 7078 or 7493, and this is likely due to homogenization and degradation of the low elevation pine system due to fire exclusion. The presence of Shortleaf Pine and a more abundant and diverse herb layer are the two things that differentiate this system from the related Low-Elevation Pine-Oak-Heath. Subtle differences in site conditions (topography, solar exposure, moisture index) are some of the primary factors separating the two low elevation pine types, and these site differences in turn contribute to a different disturbance ecology and differences in species dominance. Southern pine beetle has hastened the loss of shortleaf pine in many areas, but several sites have been partially restored by fire, and show great promise for further restoration.

Reference conditions were primarily pine to pine-oak woodlands with open subcanopies and shrub layers. Herb layers were diverse and had moderate to high cover. Dominant trees included shortleaf pine, Virginia pine, and various species of dry-site oaks, and these species accounted for most of the trees in the subcanopy and seedling layer. Shrub layers were open and included species such as *Vaccinium pallidum, V. hirsutum, V. stamineum, V. arboreum, Lyonia ligustrina, and Kalmia latifolia*. The herb layer was very diverse, and included dominants such as: *Schizachyrium scoparium, Danthonia sericea, Piptochaetium avenaceum, Pityopsis graminifolia, Baptisia tinctoria, Coreopsis major, Pteridium aquilinum, Solidago odora, and Eurybia surculosa*.

Current conditions range from reasonable remnants with canopy dominance or codominance by shortleaf pine to highly degraded examples with few of the characteristic herbs remaining and very little shortleaf pine. All of these current stands have advanced succession to a variety of hardwoods or white pine. Canopy hardwoods include the dry oaks, but subcanopies are dominated by red maple, black gum, and white pine. Numerous other species crowd the midstory, including sourwood, sassafras, and mountain laurel. Shrub layers include the characteristic *Vaccinium* spp., and herb layers are sparse.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713530)
Surface fire – 10 year MFI	Surface Fire – 4 year
Mixed Fire – 74 year MFI	Mixed Fire – 145 year
Replacement – 145 years MFI	Replacement – 25 year

Description:

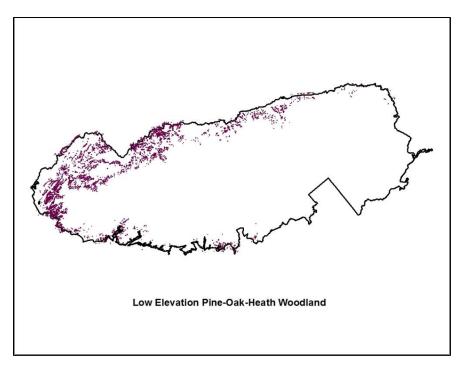
Under reference conditions, the low-elevation pine system experienced the most frequent fire of any system in the Great Smoky Mountains. Frequent, low severity fires are the norm, with mean fire-free intervals (MFI) of 8-11 years, on average. This system is included in Landfire Fire Regime Group 1. Fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Mixed severity fires, where fires top-kill 25-75% of the dominant vegetation (Landfire definition), are much less common, occurring every 50-125 years. Replacement fires (>75% top-kill) are rare events that occur every 100-200 years in an average stand. Both mixed severity and replacement fires are most likely to occur during the growing season and they are typically associated with several missed fire rotations and extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Low Elevation Pine-Oak-Heath

Dominant Species (Reference Condition): Pinus rigida, P. virginiana, Quercus coccinea, Kalmia latifolia

Dominant Species (Current Condition): *P. rigida, P. virginiana, P. strobus, Quercus coccinea, Q. montana, Acer rubrum*

LCF Mapping Rules: The two low-elevation pine types presented here are not distinguished by the current GRSM veg map. These systems were mapped using our pine map units (<2300' elevation) intersected with Simon's Low Elevation Pine system model. For reference conditions mapping, if current oak-pine types intersected with areas mapped as "Yellow Pine" by Miller in 1938, they were included as "pine" map units. Of those, the areas that intersected Simon's Low-Elevation Pine model were included in the Low-Elevation Pine system. Those pine units that *did not* intersect with Simon's Low-Elevation Pine model (again, only those less than 2300'), were placed in this Low-Elevation Pine-Oak-Heath ecological system.



- 34% is undifferentiated 7119, 7078, 2591, 3560; veg map code PI/OzH
- 29% has no defined CEGL; veg map codes are PI and PIr The most likely CEGL is currently: 7119 – Appalachian Low Elevation Mixed Pine Forest
- 18% is undifferentiated 7097, 7119; veg map code PI-OzH
- 12% is 6271 Chestnut Oak Forest (Xeric Ridge Type); veg map codes OzH, OzH/PI, OzH/PIv, OzH-PIs
- 4% is 7219 Early Successional Appalachian Hardwood Forest: veg map code Hx, HxL, /T-T
- Trace of 2591, 7097, 8558, 7267

- Landfire BPS 5713520 Southern Appalachian Montane Pine Forest and Woodland
 - Early 12%
 - Mid closed 3%
 - o Mid open 25%
 - Late open 55%
 - Late closed 5%
- GRSM LCF Model Reference Conditions:
 - Early 21%
 - Mid closed 13%
 Mid open 30%
 Late open 21%
 - Late closed 15%
- GRSM LCF Model Current:

0	Early	2%
0	Mid closed	0%
0	Mid open	0%
0	Late open	13%
0	Late closed	84%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary and sedimentary rocks of the Walden Creek, Chilhowee, Great Smoky, and Snowbird Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale

Western Foothills (Beard Cane to Chilhowee): "diverse" Sedimentary/metasedimentary geology: sandstone, shale, slate, siltstone, quartzite (which is metamorphic), isolated dolomite

Soils - Dystrudepts of the Ditney-Unicoi, Soco-Stecoah and Cataska-Sylco series; Hapludults of the Junaluska-Tsali series. These soils are generally nutrient-poor, well-drained, rocky to stony, and strongly acidic.

Topography – Ridgetops and convex, steep middle to upper slopes. Slopes have primarily south and west aspects. Elevations range from 900' to 2300'.

Vegetation Description:

Vegetation is pine woodlands with a high percentage of early and mid-successional stand classes. Under reference conditions, most stands are open in the canopy and subcanopy, but have a moderate to high density of stems in the shrub layer. The herb layer is sparse to moderate in cover, depending on stand conditions. Pitch pine and Virginia pine are the characteristic trees, with scarlet oak, black oak, and blackjack oak frequently present. Under current conditions, red maple, black gum, white pine, and the dry oak spp. may have high densities in all size classes except the largest tree classes. Southern pine beetle has hastened the loss of the yellow pines in many areas, and most stands have at least some large standing dead or fallen pine trees.

Typical understory trees include sourwood, sassafras, and black locust. The density of the shrub layer is typically high, with high cover values for *Kalmia latifolia, Gaylussacia baccata, G. ursina, Vaccinium stamineum*, and *V. pallidum*. Under reference conditions, shrubs may have been shorter in stature and had more moderate cover, but the shrub *Kalmia latifolia* could become well-established and dense in stands where the fire-return interval exceeded the historical average. High cover of these shrubs is very common in contemporary, unburned stands.

The herb layer is also variable, ranging from sparse-to-moderate coverage by waxy-leaved evergreen subshrubs like *Gaultheria procumbens, Epigaea repens*, and *Galax urceolata* to sparse coverage by grasses and forbs including: *Schizachyrium scoparium, Dichanthelium commutatum, Pteridium aquilinum and Chimaphila maculata*. The vine species *Smilax rotundifolia* and *Smilax glauca* are also common.

Low Elevation Pine-Oak Heath is perhaps most closely related to Montane Pine-Oak-Heath (TMP/Pitch Pine), with which it shares a fire regime that is more mixed-severity than that of the Low Elevation Pine system. However, the species composition of the vegetation is transitional between Low Elevation Pine and the Montane Pine systems. It differs from Montane pine-oak-heath by occurring in less mountainous and isolated terrain and by the general absence of TMP.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713520)
Surface fire – 14 year MFI	Surface Fire – 5 year
Mixed Fire – 55 year MFI	Mixed Fire – 101 year
Replacement – 115 years MFI	Replacement – 88 year

Description:

Low Elevation Pine-Oak-Heath has a mixed-severity fire regime, which contrasts with the geographicallyrelated Low Elevation Pine system. This difference is due to the greater extremes of topographic exposure of the POH system, and the tendency of POH to occur in locations that are slightly more rugged and isolated than the Low Elevation Pine Woodlands. These more rugged, isolated landscapes have had a greater average distance from prehistoric and historic human use (thus less prone to be impacted by anthropogenic fire regimes) and smaller fire compartments. The effect of the greater isolation is less frequent fire and corresponding fuel buildup that tends to increase fire severity when fires do occur.

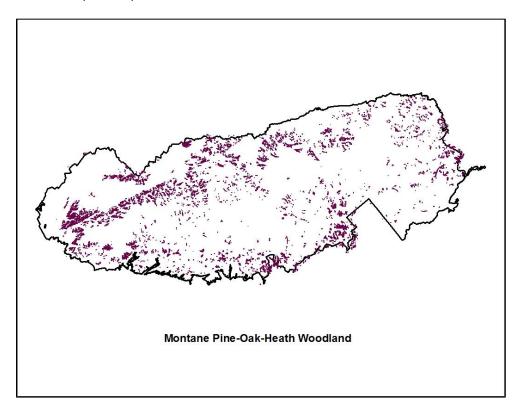
Surface fires occurred on average every 12-17 years, and mixed severity fires occur every 55 years on average. Due to fuel buildup processes, mixed severity fires are more likely to occur in closed s-classes that have missed one or more fire rotations. The relatively high frequency of these mixed severity fires best places this system into the Landfire Fire Regime Group III, though some stands in the system operate more as Fire Regime Group I. Fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Replacement fires (>75% top-kill) are more uncommon, but still occur on an average of every 115 years. Replacement fires are typically associated with several missed fire rotations and extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Montane Pine-Oak-Heath

Dominant Species (Reference Condition): *Pinus pungens, Pinus rigida, Quercus montana, Kalmia latifolia*

Dominant Species (Current Condition): *Pinus pungens, Pinus rigida, Quercus montana, Q. coccinea, Kalmia latifolia, Acer rubrum, Oxydendrum arboreum, Nyssa sylvatica*

LCF Mapping Rules: All mapped Yellow Pine stands above 2300' elevation. For reference conditions mapping, if current oak-pine types intersected with areas mapped as "Yellow Pine" by Miller in 1938, they were included as pine map units.



- 35% has no defined CEGL; veg map codes are PI and PIr
 The most likely CEGL is currently: 7097 Blue Ridge Table Mountain Pine-Pitch Pine Woodland
- 25% is undifferentiated 7119, 7078, 2591, 3560; veg map code PI/OzH
- 12% is 8558; veg map code HxA, NxA, NHxAz
- 12% is undifferentiated 7097 and 7119; veg map code PI-OzH
- 8% is 6271 Chestnut Oak Forest (Xeric Ridge); veg map codes OzH/PI, OzH/PIv, OzH-PIs, OzH
- 7% is 7097 Blue Ridge Table Mountain Pine-Pitch Pine Woodland; veg map codes PIp, PIp/OzH, PIp-OzH

- Landfire BPS 5713520 Southern Appalachian Montane Pine Forest and Woodland
 - Early 12%
 - Mid closed 3%
 - o Mid open 25%
 - Late open 55%
 - Late closed 5%
- GRSM LCF Model Reference Conditions:
 - Early 25%
 - Mid closed 16%
 Mid open 25%
 Late open 19%
 - Late closed 15%
- GRSM LCF Model Current:

0	Early	6%
0	Mid closed	1%
0	Mid open	1%
0	Late open	14%
0	Late closed	78%

Physical Description (Geology, Soils, Topography):

Geology – Metasedimentary Great Smoky and Snowbird Groups

Mountains: Metasedimentary geology - Metasandstone, metasiltstone, metagraywacke, metaconglomerate, phyllite, slate, shale

Soils - Dystrudepts of the Ditney-Unicoi, Soco-Stecoah and Cataska-Sylco series; Hapludults of the Junaluska-Tsali series. These soils are generally nutrient-poor, well-drained, rocky to stony, and strongly acidic.

Topography – Exposed ridgetops and steep middle to upper slopes. Slopes are convex to flat. Slopes have primarily south and west aspects. Elevations mostly 2300' – 4000', with a few stands to 5000'.

Vegetation Description:

Vegetation is pine woodlands with a high percentage of early and mid-successional stand classes. Under reference conditions, most stands are open in the canopy and subcanopy, but have a moderate to high density of stems in the shrub layer. The herb layer is sparse to moderate in cover, depending on stand

conditions. Table-mountain and pitch pine are the characteristic trees, with chestnut oak and scarlet oak frequently present. Under current conditions, red maple, black gum, white pine, and the dry oak spp. may have high densities in all size classes except the largest tree classes. Southern pine beetle has hastened the loss of the yellow pines in many areas, and most stands have at least some large standing dead or fallen pine trees.

Typical understory trees include sourwood, service berry, Fraser magnolia, and black locust. The density of the shrub layer is typically high, with high cover values for *Kalmia latifolia, Gaylussacia baccata, G. ursina, Vaccinium stamineum*, and *V. pallidum*. At elevations around 4000', *Pieris floribunda* can become a dominant shrub. Under reference conditions, shrubs may have been shorter in stature and had more moderate cover, but the shrub *Kalmia latifolia* could become well-established and dense in stands where the fire-return interval exceeded the historical average. High cover and high height (8'-10') of these shrubs is very common in contemporary, unburned stands.

The herb layer is also variable, ranging from sparse-to-moderate coverage by waxy-leaved evergreen subshrubs like *Gaultheria procumbens, Epigaea repens*, and *Galax urceolata* to sparse coverage by grasses and forbs including: *Schizachyrium scoparium, Dichanthelium commutatum, Pteridium aquilinum, Chimaphila maculata, Cleistesiopsis bifaria, and Cypripedium acuale*. The vine species *Smilax rotundifolia* and *Smilax glauca* are also common.

Fire Regime:

Comparison with Landfire:

LCF	Landfire (BPS 5713520)
Surface fire – 22 year MFI	Surface Fire – 5 year
Mixed Fire – 60 year MFI	Mixed Fire – 101 year
Replacement – 97 years MFI	Replacement – 88 year

Description:

Montane Pine-Oak-Heath has a mixed-severity fire regime. The system generally occurs on the most exposed, rugged, and isolated landscapes, which have had a greater average distance from prehistoric and historic human use (thus less prone to be impacted by anthropogenic fire regimes) and smaller fire compartments. The effect of the greater isolation is less frequent fire and corresponding fuel buildup that tends to increase fire severity when fires do occur.

Surface fires occurred on average every 20-25 years, and mixed severity fires occur every 60 years on average. Due to fuel buildup processes, mixed severity fires are more likely to occur in closed s-classes

that have missed one or more fire rotations. The relatively high frequency of these mixed severity fires best places this system into the Landfire Fire Regime Group III, though some stands in the system operate more as Fire Regime Group I, with much more frequent surface fires. Fires can occur virtually any time of year, but most commonly occur during the dormant season, between November and May. Fires in the winter months of December and January are rare. Replacement fires (>75% top-kill) are more uncommon, but still occur on an average of every 97 years, making this system the most likely in GRSM to experience high-intensity stand replacement fires. Replacement fires are typically associated with several missed fire rotations and extreme droughts. High severity fires may also be associated with extreme wind events during any time of year.

Appendix 3. Back Test of Models for Dry Oak and Low Elevation Pine

"Back tests" were conducted on the models of two representative fire-dependent systems – Dry Oak Forest and Low Elevation Pine Forest – to help confirm the validity of the fire-return intervals and other key variables in the models. These tests were designed to roughly mimic the major human-caused disturbances in GRSM over the last century and see if the models would generate results that approximate actual current conditions.

Using ST-Sim, the back tests populated the reference condition s-classes as the Initial Conditions for these two systems as of 1910. It then simulated heavy logging (50% clearcut) over a 20 year period, and recorded the s-class outcomes after those simulations as new Initial Conditions as of 1930. It then simulated 85 years of 98% fire suppression and recorded the sclass outcomes after those simulations at the end of 85 years (i.e., 2015).

The table below shows the Actual Current % for each s-class as compared to the simulated current results (1910-2015 Back Test Model Run Outcomes) for both systems. A "departure score" was calculated to compare current to simulated outcomes. The comparison of results by s-class within the table and low "departure scores" of 12 for each of the two systems demonstrated that their models very closely predicted actual current conditions.

	Dry Oak Forest			Low Eleva	ation Pine
Vegetation Class	Current %	1910-2015 BackTest Model Run Outcomes		Current %	1910-2015 BackTest Model Run Outcomes
Early	2%	5%		3%	5%
Mid-Closed	0%	6%		12%	22%
Mid-Open	0%	0%		4%	1%
Late-Closed	90%	78%		72%	67%
Late-Open	8%	11%		5%	5%
Highly Departed Composition	0%	0%		3%	0%
Total Early/Open	10%	16%		12%	11%
Total Closed	90%	84%		85%	89%
"Departure" from Current		12			12

Appendix 4. Detern		-		
Vegetation Type	From Class	To Class 💌	Age Min 💌	Age Max 💌
RichAcidicCove	1-Early1:ALL	2-Mid1:CLS	0	10
RichAcidicCove	2-Mid1:CLS	3-Late1:CLS	11	80
RichAcidicCove	2-Mid1:OPN	3-Late1:CLS	11	80
RichAcidicCove	3-Late1:CLS	3-Late1:CLS	81	999
RichAcidicCove	3-Late1:OPN	3-Late1:OPN	81	999
DryMesicOak	1-Early1:ALL	2-Mid1:OPN	0	15
DryMesicOak	2-Mid1:CLS	3-Late1:CLS	16	75
DryMesicOak	2-Mid1:OPN	3-Late1:OPN	16	75
DryMesicOak	3-Late1:CLS	3-Late1:CLS	76	999
DryMesicOak	3-Late1:OPN	3-Late1:OPN	76	999
DryOak	1-Early1:ALL	2-Mid1:OPN	0	20
DryOak	2-Mid1:CLS	3-Late1:CLS	21	70
DryOak	2-Mid1:OPN	3-Late1:OPN	21	70
DryOak	3-Late1:CLS	3-Late1:CLS	71	999
DryOak	3-Late1:OPN	3-Late1:OPN	71	999
HighElevRedOak	1-Early1:ALL	2-Mid1:OPN	0	20
HighElevRedOak	2-Mid1:CLS	3-Late1:CLS	21	70
HighElevRedOak	2-Mid1:OPN	3-Late1:OPN	21	70
HighElevRedOak	3-Late1:CLS	3-Late1:CLS	71	999
HighElevRedOak	3-Late1:OPN	3-Late1:OPN	71	999
LowElevPineOakHeath	1-Early1:ALL	2-Mid1:OPN	0	17
LowElevPineOakHeath	2-Mid1:CLS	3-Late1:CLS	18	70
LowElevPineOakHeath	2-Mid1:OPN	3-Late1:OPN	18	70
LowElevPineOakHeath	3-Late1:CLS	3-Late1:CLS	71	999
LowElevPineOakHeath	3-Late1:OPN	3-Late1:OPN	71	999
LowElevationPine	1-Early1:ALL	2-Mid1:OPN	0	15
LowElevationPine	2-Mid1:CLS	3-Late1:CLS	16	70
LowElevationPine	2-Mid1:OPN	3-Late1:OPN	16	70
LowElevationPine	3-Late1:CLS	3-Late1:CLS	71	999
LowElevationPine	3-Late1:OPN	3-Late1:OPN	71	999
MesicOak	1-Early1:ALL	2-Mid1:OPN	0	10
MesicOak	2-Mid1:CLS	3-Late1:CLS	11	80
MesicOak	2-Mid1:OPN	3-Late1:OPN	11	80
MesicOak	3-Late1:CLS	3-Late1:CLS	81	999
MesicOak	3-Late1:OPN	3-Late1:OPN	81	999
MontanePineOakHeath	1-Early1:ALL	2-Mid1:OPN	0	20
MontanePineOakHeath	2-Mid1:CLS	3-Late1:CLS	21	70
MontanePineOakHeath	2-Mid1:OPN	3-Late1:OPN	21	70
MontanePineOakHeath	3-Late1:CLS	3-Late1:CLS	71	999
MontanePineOakHeath	3-Late1:OPN	3-Late1:OPN	71	999
NorthernHardwood	1-Early1:ALL	2-Mid1:CLS	0	15
NorthernHardwood	2-Mid1:CLS			
		3-Late1:CLS	16	75
NorthernHardwood	2-Mid1:OPN	3-Late1:OPN	16	75
NorthernHardwood	3-Late1:CLS	3-Late1:CLS	76	999
NorthernHardwood	Late1:OPN	3-Late1:OPN	76	999

Appendix 4. Deterministic Transitions for ST-Sim ecological models.

Appendix 5. Probabilistic Transitions for ST-Sim ecological models.

						Age	TST
Vegetation Type 🖵	From Class	To Class 🔻	Transition Type 💌	Prob 💌	Propr 🔻	Reset 🝷	Mir 👻
DryMesicOak	1-Early1:ALL	2-Mid1:CLS	AltSuccession	1.0000	1.0000	Yes	18
DryMesicOak	2-Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	25
DryMesicOak	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	25
DryMesicOak	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0025	1.0000	No	
DryMesicOak	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0025	1.0000	No	
DryMesicOak	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0200	1.0000	No	
DryMesicOak	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0120	1.0000	No	
DryMesicOak	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0050	1.0000	No	
DryMesicOak	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0100	1.0000	No	
DryMesicOak	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0050	1.0000	No	
DryMesicOak	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0120	1.0000	Yes	
DryMesicOak	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
DryMesicOak	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0033	1.0000	Yes	
DryMesicOak	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
DryMesicOak	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0030	1.0000	Yes	
DryMesicOak	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0340	1.0000	No	
DryMesicOak	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0340	0.9500	No	
DryMesicOak	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0340	0.0500	No	
DryMesicOak	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0500	1.0000	No	
DryMesicOak	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0310	0.9500	No	
DryMesicOak	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0310	0.0500	No	
DryMesicOak	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0450	1.0000	No	
DryMesicOak	2-Mid1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
DryMesicOak	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
DryMesicOak	2-Mid1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
DryMesicOak	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
DryMesicOak	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
DryMesicOak	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
DryMesicOak	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
DryMesicOak	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	

DryOak	Early1:ALL	2-Mid1:CLS	AltSuccession	1.0000	1.0000	Yes	19
DryOak	2-Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	18
DryOak	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	18
DryOak	2-Mid1:CLS	2-Mid1:CLS	Insect/Disease	0.0033	1.0000	No	
DryOak	2-Mid1:OPN	2-Mid1:OPN	Insect/Disease	0.0033	1.0000	No	
DryOak	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0033	1.0000	No	
DryOak	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0033	1.0000	No	
DryOak	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0450	1.0000	No	
DryOak	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0180	1.0000	No	
DryOak	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0100	1.0000	No	
DryOak	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0130	1.0000	No	
DryOak	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0090	1.0000	No	
DryOak	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0150	1.0000	Yes	
DryOak	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
DryOak	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
DryOak	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0090	1.0000	Yes	
DryOak	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
DryOak	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0667	1.0000	No	
DryOak	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0560	0.9500	No	
DryOak	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0560	0.0500	No	
DryOak	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0830	1.0000	No	
DryOak	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0500	0.9500	No	
DryOak	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0500	0.0500	No	
DryOak	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0770	1.0000	No	
DryOak	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
DryOak	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
DryOak	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
DryOak	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
DryOak	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
DryOak	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	

HighElevRedOak	 Early1:ALL 	2-Mid1:CLS	AltSuccession	1.0000	1.0000	Yes	19
HighElevRedOak	2-Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	20
HighElevRedOak	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	20
HighElevRedOak	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0033	1.0000	No	
HighElevRedOak	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0033	1.0000	No	
HighElevRedOak	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0200	1.0000	No	
HighElevRedOak	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0110	1.0000	No	
HighElevRedOak	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0080	1.0000	No	
HighElevRedOak	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0100	1.0000	No	
HighElevRedOak	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0070	1.0000	No	
HighElevRedOak	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0150	1.0000	Yes	
HighElevRedOak	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
HighElevRedOak	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
HighElevRedOak	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
HighElevRedOak	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0040	1.0000	Yes	
HighElevRedOak	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0400	1.0000	No	
HighElevRedOak	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0270	0.9500	No	
HighElevRedOak	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0270	0.0500	No	
HighElevRedOak	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0400	1.0000	No	
HighElevRedOak	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0250	0.9500	No	
HighElevRedOak	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0250	0.0500	No	
HighElevRedOak	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0360	1.0000	No	
HighElevRedOak	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
HighElevRedOak	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
HighElevRedOak	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
HighElevRedOak	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
HighElevRedOak	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
HighElevRedOak	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	

LowElevationPine	Early1:ALL	2-Mid1:CLS	AltSuccession	1.0000	1.0000	Yes	9
LowElevationPine	2-Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	20
LowElevationPine	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	20
LowElevationPine	2-Mid1:CLS	1-Early1:ALL	Insect/Disease	0.0033	1.0000	Yes	
LowElevationPine	2-Mid1:OPN	1-Early1:ALL	Insect/Disease	0.0033	1.0000	Yes	
LowElevationPine	3-Late1:CLS	1-Early1:ALL	Insect/Disease	0.0033	1.0000	Yes	
LowElevationPine	3-Late1:OPN	1-Early1:ALL	Insect/Disease	0.0033	1.0000	Yes	
LowElevationPine	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0500	1.0000	No	
LowElevationPine	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0200	1.0000	No	
LowElevationPine	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0100	1.0000	No	
LowElevationPine	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0130	1.0000	No	
LowElevationPine	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0080	1.0000	No	
LowElevationPine	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
LowElevationPine	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
LowElevationPine	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
LowElevationPine	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0080	1.0000	Yes	
LowElevationPine	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
LowElevationPine	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.1250	1.0000	No	
LowElevationPine	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.1000	0.9000	No	
LowElevationPine	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.1000	0.1000	No	
LowElevationPine	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.1250	1.0000	No	
LowElevationPine	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0910	0.9000	No	
LowElevationPine	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0910	0.1000	No	
LowElevationPine	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.1110	1.0000	No	
LowElevationPine	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
LowElevationPine	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
LowElevationPine	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
LowElevationPine	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
LowElevationPine	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
LowElevationPine	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	

- Early1·ALL	2 Mid1 CIS	AltSuccossion	1 0000	1 0000	Voc	11
· ·						11
						16
3-Late1:OPN	1-Early1:ALL	Insect/Disease	0.0050	1.0000	Yes	
1-Early1:ALL	1-Early1:ALL	MixedFire	0.0667	1.0000	No	
2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0290	1.0000	No	
2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0133	1.0000	No	
3-Late1:CLS	3-Late1:OPN	MixedFire	0.0200	1.0000	No	
3-Late1:OPN	3-Late1:OPN	MixedFire	0.0100	1.0000	No	
2-Mid1:CLS	2-Mid1:OPN	Optional1	0.0040	1.0000	No	
3-Late1:CLS	3-Late1:OPN	Optional1	0.0040	1.0000	No	
1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0200	1.0000	Yes	
2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0133	1.0000	Yes	
2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0067	1.0000	Yes	
3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0830	1.0000	No	
2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0667	0.9000	No	
2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0667	0.1000	No	
2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0830	1.0000	No	
3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0590	0.9000	No	
3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0590	0.1000	No	
3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0770	1.0000	No	
2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
	2-Mid1:CLS 2-Mid1:OPN 3-Late1:CLS 3-Late1:OPN 2-Mid1:CLS 3-Late1:CLS 1-Early1:ALL 2-Mid1:CLS 2-Mid1:OPN 3-Late1:CLS 2-Mid1:CLS 2-Mid1:CLS 2-Mid1:CLS 3-Late1:CLS 3-Late1:CLS 3-Late1:CLS 2-Mid1:OPN 2-Mid1:CLS 2-Mid1:OPN 3-Late1:CLS 3-Late1:CLS 3-Late1:CLS 3-Late1:CLS 3-Late1:CLS 3-Late1:CLS	2-Mid1:OPN2-Mid1:CLS3-Late1:OPN3-Late1:CLS2-Mid1:CLS1-Early1:ALL2-Mid1:OPN1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CPN1-Early1:ALL3-Late1:OPN1-Early1:ALL2-Mid1:CLS2-Mid1:OPN2-Mid1:OPN2-Mid1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS1-Early1:ALL2-Mid1:CLS1-Early1:ALL2-Mid1:CLS1-Early1:ALL2-Mid1:CLS1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CLS2-Mid1:CLS2-Mid1:CLS2-Mid1:CLS2-Mid1:CLS2-Mid1:OPN3-Late1:CLS3-Late1:CLS3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS2-Mid1:OPN3-Late1:CLS1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CLS1-Early1:ALL3-Late1:CLS3-Late1:OPN3-Late1:CLS1-Early1:ALL3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CLS3-Late1:OPN3-Late1:CDPN3-Late1:OPN3-Late1:CDPN3-Late1:OPN3-Late1:CPN	2-Mid1:OPN2-Mid1:CLSAltSuccession3-Late1:OPN3-Late1:CLSAltSuccession2-Mid1:CLS1-Early1:ALLInsect/Disease2-Mid1:OPN1-Early1:ALLInsect/Disease3-Late1:CLS1-Early1:ALLInsect/Disease3-Late1:OPN1-Early1:ALLInsect/Disease3-Late1:OPN1-Early1:ALLInsect/Disease1-Early1:ALL1-Early1:ALLMixedFire2-Mid1:CLS2-Mid1:OPNMixedFire2-Mid1:OPN2-Mid1:OPNMixedFire3-Late1:CLS3-Late1:OPNMixedFire3-Late1:CLS3-Late1:OPNMixedFire3-Late1:CLS3-Late1:OPNOptional13-Late1:CLS3-Late1:OPNOptional11-Early1:ALL1-Early1:ALLReplacementFire2-Mid1:CLS1-Early1:ALLReplacementFire3-Late1:CLS1-Early1:ALLReplacementFire3-Late1:CLS1-Early1:ALLReplacementFire3-Late1:CLS1-Early1:ALLReplacementFire3-Late1:CLS2-Mid1:CLSSurfaceFire2-Mid1:CLS2-Mid1:OPNSurfaceFire3-Late1:CLS3-Late1:CLSSurfaceFire3-Late1:CLS3-Late1:CLSSurfaceFire3-Late1:CLS3-Late1:OPNSurfaceFire3-Late1:CLS3-Late1:OPNSurfaceFire3-Late1:CLS3-Late1:OPNSurfaceFire3-Late1:CLS3-Late1:OPNSurfaceFire3-Late1:CLS3-Late1:OPNWind/Weather/Stress3-Late1:CLS3-Late1:OPNWind/Weather/Stress	2-Mid1:OPN2-Mid1:CLSAltSuccession1.00003-Late1:OPN3-Late1:CLSAltSuccession1.00002-Mid1:CLS1-Early1:ALLInsect/Disease0.00503-Late1:CLS1-Early1:ALLInsect/Disease0.00503-Late1:CLS1-Early1:ALLInsect/Disease0.00503-Late1:OPN1-Early1:ALLInsect/Disease0.00501-Early1:ALL1-Early1:ALLInsect/Disease0.00501-Early1:ALL1-Early1:ALLMixedFire0.02902-Mid1:CPN2-Mid1:OPNMixedFire0.01033-Late1:CS3-Late1:OPNMixedFire0.01003-Late1:OPN3-Late1:OPNMixedFire0.01003-Late1:CLS3-Late1:OPNOptional10.00403-Late1:CLS3-Late1:OPNOptional10.00403-Late1:CLS3-Late1:OPNOptional10.00403-Late1:CLS1-Early1:ALLReplacementFire0.01002-Mid1:CLS1-Early1:ALLReplacementFire0.00503-Late1:OPN1-Early1:ALLReplacementFire0.006673-Late1:OPN1-Early1:ALLReplacementFire0.006673-Late1:CLS2-Mid1:CLSSurfaceFire0.08302-Mid1:CLS2-Mid1:OPNSurfaceFire0.08303-Late1:CLS3-Late1:OPNSurfaceFire0.05903-Late1:CLS3-Late1:OPNSurfaceFire0.05903-Late1:CLS3-Late1:OPNSurfaceFire0.07702-Mid1:OPN2-Mid1:OPNSurfaceFire0.0770 <td>2-Mid1:OPN 2-Mid1:CLS AltSuccession 1.0000 1.0000 3-Late1:OPN 3-Late1:CLS AltSuccession 1.0000 1.0000 2-Mid1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 3-Late1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 3-Late1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 2-Mid1:OPN 1-Early1:ALL MixedFire 0.0290 1.0000 2-Mid1:OPN 2-Mid1:OPN MixedFire 0.0100 1.0000 3-Late1:CLS 3-Late1:OPN MixedFire 0.0100 1.0000 3-Late1:CPN 3-Late1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS 2-Mid1:OPN Optional1 0.0040 1.0000 3-Late1:OPN 3-Late1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS 2-Mid1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS <</td> <td>2-Mid1:OPN 2-Mid1:CLS AltSuccession 1.0000 No 3-Late1:OPN 3-Late1:CLS AltSuccession 1.0000 No 2-Mid1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 3-Late1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 3-Late1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 2-Mid1:OPN MixedFire 0.0133 1.0000 No 3-Late1:OPN 3-Late1:OPN MixedFire 0.0100 1.0000 No 3-Late1:CLS 3-Late1:OPN MixedFire 0.0100 1.0000 No 1-Early1:ALL 1-Early1:ALL ReplacementFire 0.0133 1.0000 <td< td=""></td<></td>	2-Mid1:OPN 2-Mid1:CLS AltSuccession 1.0000 1.0000 3-Late1:OPN 3-Late1:CLS AltSuccession 1.0000 1.0000 2-Mid1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 3-Late1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 3-Late1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 2-Mid1:OPN 1-Early1:ALL MixedFire 0.0290 1.0000 2-Mid1:OPN 2-Mid1:OPN MixedFire 0.0100 1.0000 3-Late1:CLS 3-Late1:OPN MixedFire 0.0100 1.0000 3-Late1:CPN 3-Late1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS 2-Mid1:OPN Optional1 0.0040 1.0000 3-Late1:OPN 3-Late1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS 2-Mid1:OPN Optional1 0.0040 1.0000 2-Mid1:CLS <	2-Mid1:OPN 2-Mid1:CLS AltSuccession 1.0000 No 3-Late1:OPN 3-Late1:CLS AltSuccession 1.0000 No 2-Mid1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 3-Late1:CLS 1-Early1:ALL Insect/Disease 0.0050 1.0000 Yes 3-Late1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 1-Early1:ALL Insect/Disease 0.0050 1.0000 No 2-Mid1:OPN 2-Mid1:OPN MixedFire 0.0133 1.0000 No 3-Late1:OPN 3-Late1:OPN MixedFire 0.0100 1.0000 No 3-Late1:CLS 3-Late1:OPN MixedFire 0.0100 1.0000 No 1-Early1:ALL 1-Early1:ALL ReplacementFire 0.0133 1.0000 <td< td=""></td<>

MesicOak	Early1:ALL	2-Mid1:CLS	AltSuccession	1.0000	1.0000	Yes	20
MesicOak	2-Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	20
MesicOak	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	20
MesicOak	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0025	1.0000	No	
MesicOak	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0025	1.0000	No	
MesicOak	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0150	1.0000	No	
MesicOak	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0070	1.0000	No	
MesicOak	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0040	1.0000	No	
MesicOak	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0060	1.0000	No	
MesicOak	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0040	1.0000	No	
MesicOak	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0100	1.0000	Yes	
MesicOak	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0050	1.0000	Yes	
MesicOak	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0030	1.0000	Yes	
MesicOak	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0040	1.0000	Yes	
MesicOak	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0030	1.0000	Yes	
MesicOak	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0300	1.0000	No	
MesicOak	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0270	0.9500	No	
MesicOak	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0270	0.0500	No	
MesicOak	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0300	1.0000	No	
MesicOak	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0250	0.9500	No	
MesicOak	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0250	0.0500	No	
MesicOak	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0270	1.0000	No	
MesicOak	2-Mid1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
MesicOak	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
MesicOak	2-Mid1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
MesicOak	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
MesicOak	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
MesicOak	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
MesicOak	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
MesicOak	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	

MontanePineOakHeath 2 MontanePineOakHeath 3 MontanePineOakHeath 2	2-Mid1:OPN 3-Late1:OPN 2-Mid1:CLS	2-Mid1:CLS 2-Mid1:CLS 3-Late1:CLS	AltSuccession AltSuccession AltSuccession	1.0000 1.0000	1.0000 1.0000		14 20
MontanePineOakHeath 3 MontanePineOakHeath 2	3-Late1:OPN 2-Mid1:CLS	3-Late1:CLS			1.0000	INO	201
MontanePineOakHeath 2	2-Mid1:CLS		ΔΙΤΝΙΓΓΑςςΙΩΝ	4 0000	4 0000		-
				1.0000	1.0000		20
		1-Early1:ALL	Insect/Disease	0.0050	1.0000		
		1-Early1:ALL	Insect/Disease	0.0050	1.0000		
		1-Early1:ALL	Insect/Disease	0.0050	1.0000		
		1-Early1:ALL	Insect/Disease	0.0050	1.0000		
	·	1-Early1:ALL	MixedFire	0.0400	1.0000		
		2-Mid1:OPN	MixedFire	0.0200	1.0000		
	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0133	1.0000		
MontanePineOakHeath 3	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0150	1.0000	No	
MontanePineOakHeath 3	B-Late1:OPN	3-Late1:OPN	MixedFire	0.0120	1.0000	No	
MontanePineOakHeath 2	2-Mid1:CLS	2-Mid1:OPN	Optional1	0.0040	1.0000	No	
MontanePineOakHeath 3	3-Late1:CLS	3-Late1:OPN	Optional1	0.0040	1.0000	No	
MontanePineOakHeath 1	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0200	1.0000	Yes	
MontanePineOakHeath 2	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0133	1.0000	Yes	
MontanePineOakHeath 2	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0080	1.0000	Yes	
MontanePineOakHeath 3	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0120	1.0000	Yes	
MontanePineOakHeath 3	B-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0067	1.0000	Yes	
MontanePineOakHeath 1	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0500	1.0000	No	
MontanePineOakHeath 2	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0450	0.9000	No	
MontanePineOakHeath 2	2-Mid1:CLS	2-Mid1:OPN	SurfaceFire	0.0450	0.1000	No	
MontanePineOakHeath 2	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0500	1.0000	No	
MontanePineOakHeath 3	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0400	0.9000	No	
MontanePineOakHeath 3	3-Late1:CLS	3-Late1:OPN	SurfaceFire	0.0400	0.1000	No	
MontanePineOakHeath 3	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0450	1.0000	No	
MontanePineOakHeath 2	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
MontanePineOakHeath 2	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
MontanePineOakHeath 3	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
MontanePineOakHeath 3		, 3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	
MontanePineOakHeath 3	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0025	1.0000	Yes	
MontanePineOakHeath 3		, 3-Late1:OPN	Wind/Weather/Stress	0.0033	1.0000	No	

NorthernHardwood	 Mid1:OPN 	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	25
NorthernHardwood	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	25
NorthernHardwood	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0050	1.0000	No	
NorthernHardwood	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0050	1.0000	No	
NorthernHardwood	1-Early1:ALL	2-Mid1:OPN	MixedFire	0.0020	1.0000	Yes	
NorthernHardwood	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0015	1.0000	No	
NorthernHardwood	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0020	1.0000	No	
NorthernHardwood	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0015	1.0000	No	
NorthernHardwood	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0010	1.0000	No	
NorthernHardwood	2-Mid1:CLS	1-Early1:ALL	Optional1	0.0030	1.0000	Yes	
NorthernHardwood	2-Mid1:OPN	1-Early1:ALL	Optional1	0.0030	1.0000	Yes	
NorthernHardwood	3-Late1:CLS	1-Early1:ALL	Optional1	0.0030	1.0000	Yes	
NorthernHardwood	3-Late1:OPN	1-Early1:ALL	Optional1	0.0030	1.0000	Yes	
NorthernHardwood	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0015	1.0000	Yes	
NorthernHardwood	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0015	1.0000	Yes	
NorthernHardwood	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0015	1.0000	Yes	
NorthernHardwood	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0015	1.0000	Yes	
NorthernHardwood	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0015	1.0000	Yes	
NorthernHardwood	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0030	1.0000	No	
NorthernHardwood	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0030	1.0000	No	
NorthernHardwood	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0030	1.0000	No	
NorthernHardwood	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0030	1.0000	No	
NorthernHardwood	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0030	1.0000	No	
NorthernHardwood	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
NorthernHardwood	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0070	1.0000	No	
NorthernHardwood	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0025	1.0000	No	
NorthernHardwood	3-Late1:OPN	3-Late1:OPN	Wind/Weather/Stress	0.0070	1.0000	No	

RichAcidicCove	Mid1:OPN	2-Mid1:CLS	AltSuccession	1.0000	1.0000	No	20
RichAcidicCove	3-Late1:OPN	3-Late1:CLS	AltSuccession	1.0000	1.0000	No	20
RichAcidicCove	2-Mid1:CLS	2-Mid1:OPN	Insect/Disease	0.0040	1.0000	No	
RichAcidicCove	2-Mid1:OPN	2-Mid1:OPN	Insect/Disease	0.0040	1.0000	No	
RichAcidicCove	3-Late1:CLS	3-Late1:OPN	Insect/Disease	0.0040	1.0000	No	
RichAcidicCove	3-Late1:OPN	3-Late1:OPN	Insect/Disease	0.0040	1.0000	No	
RichAcidicCove	1-Early1:ALL	1-Early1:ALL	MixedFire	0.0020	1.0000	No	
RichAcidicCove	2-Mid1:CLS	2-Mid1:OPN	MixedFire	0.0020	1.0000	No	
RichAcidicCove	2-Mid1:OPN	2-Mid1:OPN	MixedFire	0.0020	1.0000	No	
RichAcidicCove	3-Late1:CLS	3-Late1:OPN	MixedFire	0.0020	1.0000	No	
RichAcidicCove	3-Late1:OPN	3-Late1:OPN	MixedFire	0.0020	1.0000	No	
RichAcidicCove	2-Mid1:CLS	1-Early1:ALL	Optional1	0.0020	1.0000	Yes	
RichAcidicCove	2-Mid1:OPN	1-Early1:ALL	Optional1	0.0020	1.0000	Yes	
RichAcidicCove	3-Late1:CLS	1-Early1:ALL	Optional1	0.0020	1.0000	Yes	
RichAcidicCove	3-Late1:OPN	1-Early1:ALL	Optional1	0.0020	1.0000	Yes	
RichAcidicCove	1-Early1:ALL	1-Early1:ALL	ReplacementFire	0.0010	1.0000	Yes	
RichAcidicCove	2-Mid1:CLS	1-Early1:ALL	ReplacementFire	0.0010	1.0000	Yes	
RichAcidicCove	2-Mid1:OPN	1-Early1:ALL	ReplacementFire	0.0010	1.0000	Yes	
RichAcidicCove	3-Late1:CLS	1-Early1:ALL	ReplacementFire	0.0010	1.0000	Yes	
RichAcidicCove	3-Late1:OPN	1-Early1:ALL	ReplacementFire	0.0010	1.0000	Yes	
RichAcidicCove	1-Early1:ALL	1-Early1:ALL	SurfaceFire	0.0100	1.0000	No	
RichAcidicCove	2-Mid1:CLS	2-Mid1:CLS	SurfaceFire	0.0100	1.0000	No	
RichAcidicCove	2-Mid1:OPN	2-Mid1:OPN	SurfaceFire	0.0100	1.0000	No	
RichAcidicCove	3-Late1:CLS	3-Late1:CLS	SurfaceFire	0.0100	1.0000	No	
RichAcidicCove	3-Late1:OPN	3-Late1:OPN	SurfaceFire	0.0100	1.0000	No	
RichAcidicCove	2-Mid1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
RichAcidicCove	2-Mid1:CLS	2-Mid1:OPN	Wind/Weather/Stress	0.0030	1.0000	No	
RichAcidicCove	2-Mid1:OPN	2-Mid1:OPN	Wind/Weather/Stress	0.0030	1.0000	No	
RichAcidicCove	3-Late1:CLS	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	
RichAcidicCove	3-Late1:CLS	3-Late1:OPN	Wind/Weather/Stress	0.0030	1.0000	No	
RichAcidicCove	3-Late1:OPN	1-Early1:ALL	Wind/Weather/Stress	0.0020	1.0000	Yes	

Appendix 6. Fire in Reference Condition Models and Park Fire History Summary -- Annual average total acres burned by decade.

Modeled Fire in ST-Sim - Ref	erence Condi	tions (NI	RV)	
Ecological System	Estimated Acres	% ot Total Acres	AllFire Probability	Est. Acres/Yr Burned
Dry Oak	78,800	15%	0.094	7,400
Dry-Mesic Oak	59,600	12%	0.053	3,200
Mesic Oak	60,400	12%	0.036	2,200
High Elev Red Oak	23,400	5%	0.049	1,100
Low Elevation Pine	17,100	3%	0.130	2,200
Low Elev Pine-Oak Heath	8,800	2%	0.116	1,000
Montane Pine-Oak Heath	18,700	4%	0.080	1,500
Cove	128,300	25%	0.006	800
No. Hardwoods	66,800	13%	0.002	100
Spruce-Fir	40,800	8%	0.001	40
Alluvial (use Cove FRI)	7,800	2%	0.006	50
Ave/Weighted Ave	510,500	100%	0.038	19,600
5 Focal Oak & Pine Systems	183,000	36%	0.084	15,300

Fire History in Park: Annual Average Acres	by Decade 1920-2000
Ave. 1920s	1,100
Ave. 1930s	300
Ave. 1940s	600
Ave. 1950s	200
Ave. 1960s	100
Ave. 1970s	400
Ave. 1980s	1,000
Ave. 1990s	400
1920-2000 Annual Average	513
Ave. % of Reference Condition Fire	2.6%

Fire History in Park: Annual Average Acres 2000 - 2012									
Prescribed Fire	1,075	5.5%							
All Other Fire	1,460	7.4%							
2000-2012 Annual Average		2,535							
Ave. % of Reference Condition Fire 12.9%									

Appendix 7. Excel model runs worksheet – summary all systems and scenarios.

Great Smoky Mountains Nat	ional I	Park									
Departure from Natural Range	of Vari	ability									
Ecological System	% of Acres	Acres	Current Ecological Departure	No Action Ecological Departure 20 Yrs	No Action Ecological Departure 40 Yrs	Max Mgmt Ecological Departure 20 Yrs	Current Mgmt (1500 Ac/Yr) Ecological Departure 20 Yrs	Preferred Mgmt (5000 Ac/Yr) Ecological Departure 20 Yrs	Preferred Restore & Maintain (5000 Ac/Yr) Ecological Departure 40 Yrs	Current Mgmt Restore & Maintain (1500 Ac/Yr) 40 Yrs	Max Mgmt Ecological Departure 40 Yrs
Dry Oak Forest	16%	80,300	66	56	51	28	54	50	42	48	20
Dry-Mesic Oak Forest	13%	66,000	57	48	45	32	47	45	38	43	21
Mesic Oak Forest	12%	60,500	32	30	34	26					
High Elevation Red Oak Forest	4%	22,300	59	44	40	24					
Low Elevation Pine Forest	3%	17,800	66	63	64	28	60	52	49	58	26
Low Elevation Pine-Oak Heath	2%	8,800	70	57	51	34	52	43	29	43	21
Montane Pine-Oak Heath	4%	18,800	64	51	45	32	50	46	36	42	17
Cove Forest	24%	123,800	30	22	16						
Northern Hardwood Forest	13%	67,800	25	14	12						
Spruce-Fir Forest	8%	40,900									
Montane Alluvial	2%	7,900									
Total Acres		514,900									
						RxFire	RxFire	RxFire	RxFire	RxFire	RxFire
		Total				Acres /	Acres /	Acres /	Acres /	Acres /	Acres /
		Acres				Year	Year	Year	Year	Year	Year
Dry Oak		80,300				9,000	450	1,500	1,500	450	9,000
Dry-Mesic Oak		66,000				3,750	225	750	750	225	3,750
Mesic Oak		60,500				3,000	-	-	-	-	3,000
High Elevation Red Oak		22,300				1,800	-	-	-	-	1,800
Low Elevation Pine		17,800				2,400	180	600	600	180	2,400
Low Elevation Pine-Oak Heath		8,800				1,500	150	500	500	150	1,500
Montane Pine-Oak Heath		18,800				2,700	120	400	400	120	2,700
All Other Systems		240,400				-	375	1,250	1,250	375	-
Total Acres Rx Fire						24,150	1,500	5,000	5,000	1,500	24,150
Ave. Annual Cost All RxFire	\$ 50	per acre				\$1,208,000	\$ 75,000	\$ 250,000	\$ 250,000	\$ 75,000	\$1,208,000

Dry Oak Forest						-				
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs	No Action 40 Yrs	Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide - 20 Yrs	Preferred Mgmt 5K Parkwide - 20 Yrs	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 20 Yrs
Early	17%	2%	6%	6%	17%	6%	8%	9%	6%	25%
Mid-Closed	9%	0%	2%	7%	1%	2%	2%	7%	7%	7%
Mid-Open	21%	0%	0%	0%	1%	0%	0%	2%	1%	4%
Late-Closed	24%	90%	80%	75%	46%	78%	74%	66%	72%	31%
Late-Open	29%	8%	12%	12%	35%	13%	16%	16%	14%	34%
Highly Departed Composition	0%	0%	0%	0%					0%	0%
Totals	100%	100%	100%	100%	100%	99%	100%	100%	100%	101%
Total Early/Open										
Total Closed	33%	90%	82%	82%	47%	80%	76%	73%	79%	38%
Ecological Departure		66	56	51	28	54	50	42	48	20
Open Canopy Departure		57	49	49	14	47	43	40	46	5
Total Management Cost					\$ 9,000,000	\$ 450,000	\$ 1,500,000	\$ 3,000,000	\$ 900,000	*****
ROI					2.6	3.6	3.2	2.4	7.1	1.7
Treatments					Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide	Proposed Mgmt 5K Parkwide	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
RxFire-Restore (Realized Acr	es)				60,000	3,000	10,000	10,000	3,000	60,000
Acres/Yr Burned					9,000	450	1,500	1,500	450	9,000
Cost/Acre					\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
# Years					20	20	20	20	20	20
RxFire-Restore (Realized Acr	es)							6,000	1,800	36,000
2nd 20 years								900	270	5,400
								\$ 50	\$ 50	\$ 50
Rx-Maintenance								20	20	20
2nd 20 years								600	180	3,600
Zhu zu years								\$ 50	\$ 50	\$ 50
								20	20	20

Appendix 8. Excel model runs worksheet – Dry Oak Forest

Appendix 9. Exc	el model runs worksho	eet – Dry-Mesic Oak Forest.
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Dry-Mesic Oak Forest										
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs	No Action 40 Yrs	Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide - 20 Yrs	Preferred Mgmt 5K Parkwide - 20 Yrs	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
Early	9%	1%	3%	3%	9%	4%	5%	5%	4%	11%
Mid-Closed	9%	7%	5%	5%	4%	5%	4%	5%	5%	4%
Mid-Open	18%	1%	2%	3%	2%	2%	2%	4%	3%	8%
Late-Closed	32%	85%	76%	73%	60%	75%	73%	66%	71%	47%
Late-Open	31%	2%	10%	12%	20%	11%	12%	16%	13%	26%
Highly Departed Composition	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Totals	99%	100%	100%	100%	99%	101%	100%	100%	100%	100%
Total Early/Open										
Total Closed	41%	92%	81%	78%	64%	80%	77%	71%	76%	51%
Ecological Departure		57	48	45	32	47	45	38	43	21
Open Canopy Departure		51	40	37	23	39	36	30	35	10
Total Management Cost					\$3,750,000	\$ 225,000	\$ 750,000	\$ 1,500,000	\$ 450,000	\$ 7,500,000
ROI					2.8	2.9	2.6	3.1	7.3	2.5
Treatments					Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide	Proposed Mgmt 5K Parkwide	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
RxFire-Restore (Realized Acres	s)				25,000	1,500	5,000	5,000	1,500	25,000
Acres/Yr Burned					3,750	225	750	750	225	3,750
Cost/Acre					\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
# Years					20	20	20	20	20	20
RxFire-Restore (Realized Acres	s)							3,000	900	15,000
2nd 20 years								450	135	2,250
								\$ 50	\$ 50	\$ 50
								20	20	20
Rx-Maintenance										
2nd 20 years								300	90	1,500
								\$ 50	\$ 50	\$ 50
								20	20	20

Appendix 10. Excel model runs worksheet – Low Elevation Pine Forest.

Low Elevation Pine Forest										
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs	No Action 40 Yrs	Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide - 20 Yrs	Preferred Mgmt 5K Parkwide - 20 Yrs	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
Early	13%	3%	5%	5%	17%	6%	9%	9%	6%	20%
Mid-Closed	10%	12%	16%	20%	12%	16%	15%	19%	19%	20%
Mid-Open	30%	4%	2%	2%	7%	2%	3%	4%	3%	11%
Late-Closed	12%	72%	66%	63%	31%	63%	56%	49%	58%	18%
Late-Open	35%	5%	8%	7%	31%	10%	14%	15%	10%	28%
Highly Departed Composition	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Totals	100%	100%	100%	100%	101%	100%	100%	99%	99%	100%
Total Early/Open										
Total Closed	22%	85%	82%	83%	43%	79%	71%	68%	77%	38%
Ecological Departure		66	63	64	28	60	52	49	58	26
Open Canopy Departure		63	60	61	21	57	49	46	55	16
Total Management Cost					\$2,400,000	\$ 180,000	\$ 600,000	\$ 1,200,000	\$ 360,000	\$ 4,800,000
ROI					2.7	3.0	3.3	2.2	3.0	1.4
Treatments					Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide	Proposed Mgmt 5K Parkwide	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
RxFire-Restore (Realized Acre	s)				16,000	1,200	4,000	4,000	1,200	16,000
Acres/Yr Burned					2,400	180	600	600	180	2,400
Cost/Acre					\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
# Years					20	20	20	20	20	20
RxFire-Restore (Realized Acre	s)							2,400	720	9,600
2nd 20 years								360	108	1,440
								\$ 50	\$ 50	\$ 50
					ļ			20	20	20
Rx-Maintenance								1,600	480	6,400
2nd 20 years								240	72	960
								\$ 50	\$ 50	\$ 50
								20	20	20

Appendix 11. Excel model runs worksheet – Low Elevation Pine-Oak Heath.

Low Elevation Pine-Oak Heat	:h									
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs	No Action 40 Yrs	Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide - 20 Yrs	Preferred Mgmt 5K Parkwide - 20 Yrs	Restore- Maintain 40 Yrs	Current Level 40 Years	Max Mgmt 40 Yrs
Early	21%	2%	9%	7%	25%	10%	13%	15%	11%	27%
Mid-Closed	13%	0%	7%	18%	7%	7%	7%	17%	18%	16%
Mid-Open	30%	0%	1%	3%	1%	1%	1%	7%	4%	13%
Late-Closed	15%	84%	71%	60%	24%	66%	54%	39%	52%	11%
Late-Open	21%	13%	11%	10%	41%	15%	24%	21%	13%	32%
Highly Departed Composition		1%	1%	1%	1%	1%	1%	1%	1%	1%
Totals	100%	100%	100%	99%	99%	100%	100%	100%	99%	100%
Total Early/Open										
Total Closed	28%	84%	78%	78%	31%	73%	61%	56%	70%	27%
Ecological Departure		70	57	51	34	52	43	29	43	21
Open Canopy Departure		56	50	50	3	45	33	28	42	-1
Total Management Cost					\$1,500,000	\$ 150,000	\$ 499,950	\$ 999,950	\$ 300,000	\$ 3,000,000
ROI					1.5	2.9	3.0	1.9	5.0	1.2
Treatments					Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide	Proposed Mgmt 5K Parkwide	Restore- Maintain 40 Yrs	Current Level 40 Years	Max Mgmt 40 Yrs
RxFire-Restore (Realized Acre	s)				10,000	1,000	3,333	3,333	1,000	10,000
Acres/Yr Burned					1,500	150	500	500	150	1,500
Cost/Acre					\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
# Years					20	20	20	20	20	20
RxFire-Restore (Realized Acre	s)							2,000	600	6,000
2nd 20 years								300	90	900
								\$ 50	\$ 50	\$ 50
								20	20	20
Rx-Maintenance										
2nd 20 years								200	60	600
								\$ 50	\$ 50	\$ 50
								20	20	20

Appendix 12. Excel model runs worksheet – Montane Pine-Oak Heath.

Montane Pine-Oak Heath										
Vegetation Class	NRV Mean	Current %	No Action - 20 Yrs	No Action 40 Yrs	Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide - 20 Yrs	Preferred Mgmt 5K Parkwide - 20 Yrs	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
Early	25%	6%	10%	10%	24%	12%	13%	14%	12%	29%
Mid-Closed	16%	1%	9%	19%	6%	9%	8%	18%	20%	14%
Mid-Open	25%	1%	1%	3%	3%	1%	1%	4%	4%	12%
Late-Closed	15%	78%	65%	56%	26%	64%	60%	48%	52%	13%
Late-Open	19%	14%	13%	11%	39%	14%	17%	14%	12%	31%
Highly Departed Composition	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Totals	100%	100%	99%	100%	99%	101%	100%	99%	101%	100%
Total Early/Open										
Total Closed	31%	79%	74%	75%	32%	73%	68%	66%	72%	27%
Ecological Departure		64	51	45	32	50	46	36	42	17
Open Canopy Departure		48	43	44	1	42	37	35	41	-4
Total Management Cost					\$2,700,000	\$ 120,000	\$ 400,050	\$ 800,050	\$ 240,000	\$ 5,400,000
ROI					1.5	1.6	2.3	2.1	8.6	1.3
Treatments					Max Mgmt 20 Yrs	Current Mgmt 1.5K Parkwide	Proposed Mgmt 5K Parkwide	Restore- Maintain 40 Yrs	Current Level 40 Yrs	Max Mgmt 40 Yrs
RxFire-Restore (Realized Acre	s)				18,000	800	2,667	2,667	800	18,000
Acres/Yr Burned	-				2,700	120	400	400	120	2,700
Cost/Acre					\$ 50	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
# Years					20	20	20	20	20	20
RxFire-Restore (Realized Acre	s)							1,600	480	10,800
2nd 20 years								240	72	1,620
								\$ 50	\$ 50	\$ 50
								20	20	20
Rx-Maintenance										
2nd 20 years								160	48	1,080
								\$ 50	\$ 50	\$ 50
								20	20	20

Attachment 09

Base Disturbance spreadsheet

Base Disturbance spreadsheet

period	PatchTotal	WF/noEE	Add EE	clusters	storms	insects	wf + ee
	l 1752		0	762	600	771	381
	2 1654	. 991	0	1982	450	213	991
:	3 1960	489	0	978	800	671	489
4	4 2372	1659	3912	3318	600	113	5571
!	5 3923	2868	420	5737	450	605	3288
(5 1294	381	0	762	800	113	381
-	7 2190	991	0	1982	600	599	991
8	3 1052	489	0	978	450	113	489
9	9 3132	1659	3912	3318	800	673	5571
10) 3581	2868	420	5737	600	113	3288
11	L 1480	381	0	762	450	649	381
12	2 1904	991	0	1982	800	113	991
13	3 1762	489	0	978	600	673	489
14	4 2222	1659	3912	3318	450	113	5571
15	5 4317	2868	420	5737	800	649	3288
10	5 1094	381	0	762	600	113	381
1	7 2090	991	0	1982	450	649	991
18	3 1402	489	0	978	800	113	489
19	2908	1659	3912	3318	600	649	5571
20) 3431	2868	420	5737	450	113	3288
Average	2276	1278	866	2555	608	391	2144

Attachment 10

Spectrum Alt E Tier 2 Outputs

			2	2		-	<i>c</i>	-	•	0	10		10	10		4.5	10	17	10	10	20
output Young Batch	mgmt_act M2 Dstb2	1	2 1482	3 3625	4 5028	5 6059	6 9727	7 10519	8 9797	9 6411	10 11536	11 11377	12 12028	13 10076	14 7373	15 10621		17 11727	18 10148	19 6972	20 10025
Young Patch Young Patch	Natural Disturbance	1483	2143	1958	3938	5699	1094	1356	756	2257	1417	441	880	651	1118	2487	376	965	677	1729	2905
Young Mgmt	Burning for Young Forest creation	981	1450	1613	1613	1680	1680	1727	1727	1727	1727	1727	1727	1727	1727	1727	1727	1727	1727	1727	1727
Young Mgmt	Clearcut with high retention	5683	7271	7426	9938	9848	9096	6922	8101	11078	9949	9782	8410	11011	11681	6224	5202	8844	12663	11355	7218
Young Mgmt	Clearcut with regular retention	26693	40516	51347	35671	24228	11422	21366	24025	30843	34706	44677	48342	37380	29014	19256	23104	24340	22923	31323	39301
Young Mgmt	Group Selection	1183	1395	1638	1930	2267	2671	3139	2671	3139	2671	3139	3317	3402	3317	3402	3317	3402	3317	2219	1922
Young Mgmt	Loftis Shelterwood	2510	1498		4024	4024	13411	12395	17747	15328	12435	12970	6092	9992	4253	13579	11731	11731	11002	12144	18041
Young Mgmt	Minimum Level	1419	352																		
Young Mgmt	Shelterwood 2-step with Loftis cut	1361	9494	16568	27607	37607	41795	32558	19209	14116	9590	4616	5221	13877	31826	33661	34132	26794	27118	22493	9290
Young Mgmt Young Mgmt	shelterwood with conversion 2 period Shelterwood with conversion 5 period	2131	3778	4251	2231	569	1089	1521 474	1521 861	996 1356	564 882	564 2682	3306	3867	1680	1035	861	1089 1356	1521 882	1521 503	432 1111
Young Mgmt	Thin and Burn	1222	178	4231	2251	505		4/4	801	1330	002	2002	5500	5607	1080	1055	801	1330	002	303	1111
Volume	Clearcut with high retention	12915	8997	9389	21092	9564	8131	13685	13290	18150	8130	10999	10875	16793	7638	9322	6719	17704	17268	7681	10383
Volume	Clearcut with regular retention	79529	42147	47685	15684	12249	15388	53491	21614	40586	49174	42781	44198	20562	20728	31183	37087	26059	19618	48331	38286
Volume	Group Selection	4594	5405	5356	6025	7411	8717	10257	8087	9518	8087	9518	10592	10537	10043	10314	10043	10314	10043	6724	5820
Volume	Loftis Shelterwood	1401		3352	6988	1642	24561	4132	28296	15194	10813	21161	2616	16292	547	20562	3843	17445	14789	5393	22566
Volume	Sanitation Thinning	923	934	595	1451	2677	2189	813	1157	1893	1533	482	1062	1530	1181	301					
Volume	Shelterwood 2-step with Loftis cut		23696	18224	37321	45460	29595	11543	15132	14788	2809		12009	22454	44774	28667	25647	7316	33890	17191	
Volume	shelterwood with conversion 2 period	26.40	2007	4055	1271	504	1705	1337	700	886		2005	2000		050	1271	504	1705	677	26	623
Volume	Shelterwood with conversion 5 period	3640 1875	3007 1814	1055 1172	63	689 2107	3491 1814	3655 1089	706 83	881 1974	2010	3895 1089	2996 83	1784 99	952 196	846	6268 83	1570 99	196	15	2879
Volume ThinAcre	Thin and Burn Sanitation Thinning	2501	2500	1676	2501	5001	4176	1089	83 2501	1974 5001	4176	1089	83 2501	99 5001	4176	1676	83	99	196		
ThinAcre	Shelterwood 2-step with Loftis cut	2501	2300	200	2301	54	4170	1070	2301	3001	4170	1070	2301	3001	4170	1070					
ThinAcre	Thin and Burn	7500	7503	5025	296	8722	7503	4695	330	7974	8547	4695	330	474	1044		330	474	1044		
RegenAcre	Clearcut with high retention	3903	2822	2888	6304	2697	2362	3904	3878	5335	2776	3747	4074	5231	2376	2925	1944	5331	5388	2712	3917
RegenAcre	Clearcut with regular retention	24911	14818	16345	4508	3375	3666	14325	6034	10484	18188	16005	16913	6425	5676	7282	10146	6912	5865	18546	14890
RegenAcre	Loftis Shelterwood						4024		9521	2874	5352	7106		5897	195	3924	134	9521	2210		8792
RegenAcre	Shelterwood 2-step with Loftis cut		9440	7128	15258	19101	12175	4532	5888	6074	1013		5221	8656	17949	12464	11149	3181	12788	6524	
RegenAcre	shelterwood with conversion 2 period						1089	432		564								1089	432		
RegenAcre	Shelterwood with conversion 5 period Loftis Shelterwood	4024		9521	6898	560 5352	2019 16627	1664 2874	8 11249	7301	3924	6031	474 9716	387 6134	495 134	18313	3306 5562	561 5897	8831	7242	474 6968
OthrSheltAcr OthrSheltAcr	shelterwood with conversion 2 period	4024		9521	1089	432	10027	2874 564	11249	/301	3924	0031	9710	0154	154	10515	432	2097	0031	22	533
OthrHarvAcre	Group Selection	3590	4223	4969	5844	6877	8087	9518	8087	9518	8087	9518	10043	10314	10043	10314	10043	10314	10043	6724	5820
OldSerlOpen	Burn1		7418		126513			232282				237854			238833						238833
OldSerlOpen	M2 Dstb2		84	380	971	2088	4212	5108	7161	8250	10698	11312	9839	8708	8733	8850	9004	9144	7845	6054	6500
OldSerlOpen	M2 Min2		151	417	501	501	501	507	643	643	731	580	314	241	386	386	597	643	669	709	743
OldSerlOpen	Thin and Burn		7500	13398	15836	16075	17771	19787	20028	20175	20177	20208	20357	21399	21546	21546	21546	21546	21546	21546	21546
OldSerlClose	Burn1	69051	87675	30912	43641	67727	74568	58337	33442	33645	34358	62152	63343	63343	63343	63343	63343	63343	63343	63343	63343
OldSerIClose	Burning for Young Forest creation	8903	12542	15406	18794	24801	26807	28416	26421	26546	27197	29781	29786	29786	29786	29786	29786	29786	29786	29786	29786
OldSerlClose OldSerlClose	Clearcut with high retention Clearcut with regular retention	590 854	1119 2201	559																	
OluSellClose	clearcut with regular retention	0.04																			
OldSerlClose	Loftis Shelterwood	1219	1803	6508	7200	8328	1458	852	394	388	471	102	34						296		
OldSerlClose OldSerlClose	Loftis Shelterwood M2 Dstb2	1219	1803	6508	7200	8328	1458	852	394	388	471	102	34	14	35	49	72	126	296 135	159	169
OldSerlClose OldSerlClose OldSerlClose		1219 40164	1803 57445				1458 234299							14 335309			72 336150	126 336150 :	135	159 336150	169 336150
OldSerIClose	M2 Dstb2				110128		234299	297116	321185		328942								135		
OldSerIClose OldSerIClose	M2 Dstb2 Minimum Level	40164	57445	75169	110128	162760	234299	297116	321185	325647	328942	331652	333686	335309	335767	336150	336150	336150	135 336150	336150	336150
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut	40164	57445	75169	110128	162760 24178	234299 22631	297116 22141	321185 22217	325647 21519	328942 20916 177	331652 20636 2593	333686 19703 5309	335309 18712 6677	335767 17453 6677	336150 15374 6677	336150 16369 6677	336150 15359 6677	135 336150 14682 6677	336150 12953 6677	336150 10048 6677
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection	40164	57445 15765 878	75169 22251 183	110128 25751	162760 24178 3590	234299 22631 7813	297116 22141 9192	321185 22217 10813	325647	328942 20916 177	331652 20636	333686 19703	335309 18712	335767 17453	336150 15374	336150 16369	336150 15359	135 336150 14682	336150 12953	336150 10048
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1	40164	57445 15765 878 3596	75169 22251 183 6059	110128 25751 2479	162760 24178 3590 1998	234299 22631	297116 22141 9192 10	321185 22217 10813 8	325647 21519 12721	328942 20916 177 14964	331652 20636 2593 17605	333686 19703 5309 17605	335309 18712 6677 17605	335767 17453 6677 17605	336150 15374 6677 17605	336150 16369 6677 19561	336150 3 15359 6677 20357	135 336150 14682 6677 20357	336150 12953 6677 20357	336150 10048 6677 20357
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2	40164	57445 15765 878 3596 439	75169 22251 183 6059 1016	110128 25751 2479 510	162760 24178 3590 1998 340	234299 22631 7813	297116 22141 9192 10 70	321185 22217 10813 8 673	325647 21519 12721 723	328942 20916 177 14964 858	331652 20636 2593 17605 2650	333686 19703 5309 17605 2372	335309 18712 6677 17605 1147	335767 17453 6677 17605 1275	336150 15374 6677 17605 1695	336150 16369 6677 19561 3398	336150 : 15359 6677 20357 2447	135 336150 14682 6677 20357 1342	336150 12953 6677 20357 1299	336150 10048 6677 20357 1729
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1	40164	57445 15765 878 3596	75169 22251 183 6059	110128 25751 2479	162760 24178 3590 1998	234299 22631 7813	297116 22141 9192 10	321185 22217 10813 8	325647 21519 12721	328942 20916 177 14964	331652 20636 2593 17605	333686 19703 5309 17605	335309 18712 6677 17605	335767 17453 6677 17605	336150 15374 6677 17605	336150 16369 6677 19561	336150 3 15359 6677 20357	135 336150 14682 6677 20357	336150 12953 6677 20357	336150 10048 6677 20357
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2	40164 11027	57445 15765 878 3596 439	75169 22251 183 6059 1016 17	110128 25751 2479 510 21	162760 24178 3590 1998 340 21	234299 22631 7813 941	297116 22141 9192 10 70 10	321185 22217 10813 8 673	325647 21519 12721 723	328942 20916 177 14964 858	331652 20636 2593 17605 2650	333686 19703 5309 17605 2372	335309 18712 6677 17605 1147	335767 17453 6677 17605 1275	336150 15374 6677 17605 1695	336150 16369 6677 19561 3398	336150 : 15359 6677 20357 2447	135 336150 14682 6677 20357 1342	336150 12953 6677 20357 1299	336150 10048 6677 20357 1729
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn	40164 11027	57445 15765 878 3596 439 17	75169 22251 183 6059 1016 17 239	110128 25751 2479 510 21 535	162760 24178 3590 1998 340 21 1518	234299 22631 7813 941 1222	297116 22141 9192 10 70 10 178	321185 22217 10813 8 673	325647 21519 12721 723	328942 20916 177 14964 858	331652 20636 2593 17605 2650	333686 19703 5309 17605 2372	335309 18712 6677 17605 1147	335767 17453 6677 17605 1275	336150 15374 6677 17605 1695	336150 16369 6677 19561 3398	336150 : 15359 6677 20357 2447	135 336150 14682 6677 20357 1342	336150 12953 6677 20357 1299	336150 10048 6677 20357 1729
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burning for Young Forest creation Clearcut with high retention	40164 11027 37205 3914 22920	57445 15765 878 3596 439 17 12661 2959 18601	75169 22251 183 6059 1016 17 239 6530 1751 19079	110128 25751 2479 510 21 535 5321 898 18493	162760 24178 3590 1998 340 21 1518 4500 650 18787	234299 22631 7813 941 1222 3045 442 18630	297116 22141 9192 10 70 10 178 1191 5 21599	321185 22217 10813 8 673 155 21008	325647 21519 12721 723 145 20369	328942 20916 177 14964 858 217 21498	331652 20636 2593 17605 2650	333686 19703 5309 17605 2372 209 23037	335309 18712 6677 17605 1147 103 20436	335767 17453 6677 17605 1275 162 19766	336150 15374 6677 17605 1695 154 25223	336150 16369 6677 19561 3398 305 26245	336150 : 15359 6677 20357 2447 223 22603	135 336150 14682 6677 20357 1342 104 18784	336150 12953 6677 20357 1299 112 19772	336150 10048 6677 20357 1729 172 23909
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1ng for Young Forest creation Clearcut with high retention Clearcut with regular retention	40164 11027 37205 3914 22920 35151	57445 15765 878 3596 439 17 12661 2959 18601 34865	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724	110128 25751 2479 510 21 535 5321 898 18493 55089	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578	234299 22631 7813 941 1222 3045 442 18630 77123	297116 22141 9192 10 70 10 178 1191 5 21599 69739	321185 22217 10813 8 673 155 21008 63834	325647 21519 12721 723 145 20369 61497	328942 20916 1777 14964 858 217 21498 57664	331652 20636 2593 17605 2650 399 21665 47133	333686 19703 5309 17605 2372 209 23037 43468	335309 18712 6677 17605 1147 103 20436 54990	335767 17453 6677 17605 1275 162 19766 63356	336150 15374 6677 17605 1695 154 25223 73114	336150 16369 6677 19561 3398 305 26245 69066	336150 : 15359 6677 20357 2447 223 22603 68020	135 336150 14682 6677 20357 1342 104 18784 69417	336150 12953 6677 20357 1299 112 19772 61047	336150 10048 6677 20357 1729 172 23909 52509
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burn1 Clearcut with high retention Clearcut with regular retention Loftis Shelterwood	40164 11027 37205 3914 22920	57445 15765 878 3596 439 17 12661 2959 18601	75169 22251 183 6059 1016 17 239 6530 1751 19079	110128 25751 2479 510 21 535 5321 898 18493	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211	234299 22631 7813 941 1222 3045 442 18630 77123 8959	297116 22141 9192 10 70 10 178 1191 5 21599 69739 6019	321185 22217 10813 8 673 155 21008 63834 5284	325647 21519 12721 723 145 20369 61497 13549	328942 20916 177 14964 858 217 21498 57664 16442	331652 20636 2593 17605 2650 399 21665 47133 21804	333686 19703 5309 17605 2372 209 23037 43468 28036	335309 18712 6677 17605 1147 103 20436 54990 25011	335767 17453 6677 17605 1275 162 19766 63356 30750	336150 15374 6677 17605 1695 154 25223 73114 20078	336150 16369 6677 19561 3398 305 26245 69066 21828	336150 15359 6677 20357 2447 223 22603 68020 15791	135 336150 14682 6677 20357 1342 104 18784 69417 19727	336150 12953 6677 20357 1299 112 19772 61047 21088	336150 10048 6677 20357 1729 172 23909 52509 15910
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2	40164 11027 37205 3914 22920 35151 18066	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273	110128 25751 2479 510 21 535 5321 898 18493 55089 16002	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507	297116 22141 9192 10 70 10 178 1191 5 21599 69739 6019 3725	321185 22217 10813 8 673 155 21008 63834 5284 5051	325647 21519 12721 723 145 20369 61497 13549 8123	328942 20916 177 14964 858 217 21498 57664 16442 4523	331652 20636 2593 17605 2650 399 21665 47133	333686 19703 5309 17605 2372 209 23037 43468	335309 18712 6677 17605 1147 103 20436 54990	335767 17453 6677 17605 1275 162 19766 63356	336150 15374 6677 17605 1695 154 25223 73114	336150 16369 6677 19561 3398 305 26245 69066	336150 : 15359 6677 20357 2447 223 22603 68020	135 336150 14682 6677 20357 1342 104 18784 69417	336150 12953 6677 20357 1299 112 19772 61047	336150 10048 6677 20357 1729 172 23909 52509
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level	40164 11027 37205 3914 22920 35151 18066 151370	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763	110128 25751 2479 510 21 535 5321 898 18493 55089 16002 13195	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482 9665	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507 7044	297116 22141 9192 10 70 10 178 1191 5 21599 69739 6019 3725 4498	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433	325647 21519 12721 723 145 20369 61497 13549 8123 596	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383	331652 20636 2593 17605 2650 399 21665 47133 21804 3613	333686 19703 5309 17605 2372 209 23037 43468 28036	335309 18712 6677 17605 1147 103 20436 54990 25011	335767 17453 6677 17605 1275 162 19766 63356 30750	336150 15374 6677 17605 1695 154 25223 73114 20078	336150 16369 6677 19561 3398 305 26245 69066 21828	336150 15359 6677 20357 2447 223 22603 68020 15791	135 336150 14682 6677 20357 1342 104 18784 69417 19727	336150 12953 6677 20357 1299 112 19772 61047 21088	336150 10048 6677 20357 1729 172 23909 52509 15910
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance	40164 11027 37205 3914 22920 35151 18066	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273	110128 25751 2479 510 21 535 5321 898 18493 55089 16002	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507	297116 22141 9192 10 70 10 178 1191 5 21599 69739 6019 3725	321185 22217 10813 8 673 155 21008 63834 5284 5051	325647 21519 12721 723 145 20369 61497 13549 8123	328942 20916 177 14964 858 217 21498 57664 16442 4523	331652 20636 2593 17605 2650 399 21665 47133 21804	333686 19703 5309 17605 2372 209 23037 43468 28036	335309 18712 6677 17605 1147 103 20436 54990 25011	335767 17453 6677 17605 1275 162 19766 63356 30750	336150 15374 6677 17605 1695 154 25223 73114 20078	336150 16369 6677 19561 3398 305 26245 69066 21828	336150 15359 6677 20357 2447 223 22603 68020 15791	135 336150 14682 6677 20357 1342 104 18784 69417 19727	336150 12953 6677 20357 1299 112 19772 61047 21088	336150 10048 6677 20357 1729 172 23909 52509 15910
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning	40164 11027 37205 3914 22920 35151 18066 151370 12512	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788	110128 25751 2479 510 21 535 5321 898 18493 55089 16002 13195 10187	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482 9665 5476	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507 7044 909	297116 22141 9192 10 70 10 178 1191 5 21599 69739 6019 3725 4498 632	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979	325647 21519 12721 723 145 20369 61497 13549 8123 596	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383	331652 20636 2593 17605 2650 399 21665 47133 21804 3613	333686 19703 5309 17605 2372 209 23037 43468 28036	335309 18712 6677 17605 1147 103 20436 54990 25011	335767 17453 6677 17605 1275 162 19766 63356 30750	336150 15374 6677 17605 1695 154 25223 73114 20078	336150 16369 6677 19561 3398 305 26245 69066 21828	336150 15359 6677 20357 2447 223 22603 68020 15791	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193	336150 12953 6677 20357 1299 112 19772 61047 21088	336150 10048 6677 20357 1729 172 23909 52509 15910
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677	110128 25751 2479 510 21 535 5321 898 18493 55089 16002 13195 10187 6677	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482 9665 5476 6677	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507 7044 909 6500	297116 22141 9192 10 70 10 178 1191 5 21599 6079 3725 4498 632 4084	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979	328942 20916 177 14964 858 217 21498 57664 16442 4523 383 1979	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424	333686 19703 5309 17605 2372 209 23037 43468 28036 2837	335309 18712 6677 17605 1147 103 20436 54990 25011 4619	335767 17453 6677 17605 1275 162 19766 63356 30750 7339	336150 15374 6677 17605 1695 154 25223 73114 20078 3794	336150 16369 6677 19561 3398 305 26245 69066 21828 3023	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193	336150 12953 6677 20357 1299 112 19772 61047 21088 7543	336150 10048 6677 20357 1729 172 23909 52509 15910 4466
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943	110128 25751 2479 510 21 535 5321 898 18493 55089 16002 13195 10187 6677 21075 147 2992	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 13211 1482 9665 5476 6677 26446	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507 7044 909 6500	297116 22141 9192 10 70 10 178 1191 5 21599 6079 3725 4498 632 4084	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200	328942 20916 177 14964 858 217 21498 57664 16442 4523 383 1979 71019	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 555808	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932	336150 15374 6677 17605 1695 154 25223 73114 20078 3794	336150 16369 6677 19561 3398 305 26245 69066 21828 3023	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193	336150 12953 6677 20357 1299 112 19772 61047 21088 7543	336150 10048 6677 20357 1729 172 23909 52509 15910 4466
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Shelterwood with conversion 2 period Thin and Burn	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 34763 15788 6677 20943	110128 25751 2479 510 21 5521 898 18493 55089 16002 13195 10187 6677 21075 147 2992 1222	162760 24178 3590 1998 340 21 1518 4500 6507 18787 67578 13211 1482 9665 5476 6677 26446 119 4654	234299 22631 7813 941 1222 3045 442 18630 77123 3507 7044 909 6500 30028 4749	297116 22141 9192 10 70 10 70 178 1191 5 21599 60739 60739 60739 60739 60739 60739 64739 64739 64739 4484 41299 4362	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368 57367 4347	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996	336150 15374 6677 17605 1695 154 25223 73114 20078 3794 34772 564	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564	336150 3 15359 6677 20357 2447 223 22603 68020 15791 2679 44413	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985	336150 12953 6677 20357 1299 112 19772 61047 21088 7543	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burn1 Clearcut with high retention Clearcut with regular retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638	110128 25751 2479 510 21 535 5321 898 18493 55089 16002 13195 10187 6677 21075 147 2992 21222 73148	162760 24178 3590 11998 3400 21 1518 4500 6570 13211 1482 9665 5476 6677 26446 119 4654 33688	234299 22631 7813 941 1222 3045 442 1820 77014 8959 3507 7044 909 9500 30028 4749 11245	297116 22141 9192 10 70 10 178 1191 55 21599 60739 60739 60739 60739 60739 60739 60739 4084 41299 4362 5970	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1399 1368 57367 4347 6350	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142	328942 20916 1777 14964 858 217 21498 57664 16442 4523 383 1979 71019 1521 2146 3708	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543	336150 15374 6677 17605 1695 154 25223 73114 20078 3794 34772 564 4188	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 044165 204	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546	110128 25751 2479 510 21 5355 5321 898 818493 55089 110187 21075 10187 21075 147 2992 21025 73148 1387	162760 24178 3590 1998 340 21 1518 4500 650 18787 13211 1482 9665 5476 6677 26446 119 4654 33688 2142	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 3507 7044 900 30028 4749 11245 4101	297116 22141 9192 10 70 0 10 178 1191 5 21599 6019 3725 4498 6059 6059 6059 6059 4492 64054 41299 4362 5570 3883	321185 22217 10813 8 673 155 21008 603834 5051 2433 1979 1368 57367 4347 6350 2750	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 2590	335309 18712 6677 17605 1147 103 20436 554990 25011 4619 55808 2085 1356 4112	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84	110128 25751 2479 510 21 55321 898 18493 55089 16002 13195 10087 21075 21075 21075 21075 21075 21075 2172 23148 1387 23	162760 24178 3590 1998 340 21 1518 1518 4500 650 18787 67578 2965 5476 6677 26446 119 4654 33688 2142 23	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 6500 30028 4749 11245 4101 163	297116 22141 9192 10 70 178 1191 5 21599 69739 3725 4498 632 4084 41299 4362 5970 3883 223	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 6350 2750 87	325647 21519 12721 723 145 20369 61497 13549 8123 596 1379 66200 1089 3307 5142 1895 98	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543	336150 15374 6677 17605 1695 154 25223 73114 20078 3794 34772 564 4188	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed Mi	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood vith conversion 2 period Shelterwood with conversion 5 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 8677 8677	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 2044 110 7503	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391	110128 25751 2479 510 21 55321 898 18493 55089 16002 13195 10187 6677 21075 147 2992 1222 73148 1387 23353	162760 24178 3590 1998 340 211 151 151 151 1655 5476 6677 26466 119 4654 33688 2142 23 3953	234299 22631 7813 941 1222 3045 442 18630 77123 8959 3507 7044 909 6500 30028 4749 11245 4101 163 2553	297116 22141 9192 10 70 10 8779 69739 63739 63725 4498 632 4084 41299 4362 5970 3883 223 1581	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368 57367 4347 63500 27500 87 1518	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 1371	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 2590	335309 18712 6677 17605 1147 103 20436 554990 25011 4619 55808 2085 1356 4112	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 2044 110 7503	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84	110128 25751 2479 510 21 55321 898 18493 55089 16002 13195 10087 21075 21075 21075 21075 21075 21075 2172 23148 1387 23	162760 24178 3590 1998 340 21 1518 1518 4500 650 18787 67578 2965 5476 6677 26446 119 4654 33688 2142 23	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 6500 30028 4749 11245 4101 163	297116 22141 9192 10 70 178 1191 5 21599 69739 3725 4498 632 4084 41299 4362 5970 3883 223	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 6350 2750 87	325647 21519 12721 723 145 20369 61497 13549 8123 596 1379 66200 1089 3307 5142 1895 98	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 7500 195866	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 34763 15788 91638 972 1518 91638 91638 646 91638	110128 25751 2479 510 21 5521 898 18493 55089 16002 13195 10187 6677 21075 21075 73148 1387 73148 1387 2353 51074	162760 24178 3590 1998 340 21 1518 4500 6507 18787 67578 9665 5476 6677 26446 6677 26446 4654 119 4654 33688 2142 23 3353 27809	234299 22631 7813 941 1222 3045 442 18630 77123 3507 7044 909 6500 30028 4749 11245 4101 1123 2553 6775	297116 22141 9192 10 70 108 1191 5 21599 60799 60799 60799 60799 60799 60799 64789 64789 64789 4484 41299 4362 5970 3883 253 1581 4386	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 5142 1895 98 81371 2178	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 1555 1338 1191	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed MidAgeCloseClose MidAgeCloseClose MidAgeCloseCloseCl	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Clearcut with regular retention Clearcut with regular retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Bur	40164 11027 37205 3914 22920 335151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391 73326 12629	110128 25751 2479 510 21 535 5321 898 18493 18493 155589 16002 13195 10187 6677 21075 147 21075 147 21025 142 73148 1387 233 3953 355174 10094	162760 24178 3590 1998 340 21 1518 4500 657 13211 1482 9665 5476 6677 26446 119 4654 33688 2142 233 327809 4335	234299 22631 7813 941 1222 3045 442 18630 3507 7044 9550 3507 30028 4749 11245 4101 163 2553	297116 22141 9192 10 70 10 178 1191 5 21599 60739 60739 60739 60739 60739 60739 60739 60739 60739 4498 41299 4362 5970 3883 223 1581 4386 1355	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381 790	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 5142 1895 98 81371 2178	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 1555 1338 1191	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood with conversion 2 period Shelterwood with conversion 5 period Shelterwood with conversion 5 period Shelterwood with conversion 5 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with pegular retention Loftis Shelterwood	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14225 4100	75169 22251 183 6059 1016 17 7239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391 73326 12629 3998	110128 25751 2479 510 21 535 5321 898 818493 55089 10087 21075 10187 21075 147 2292 21222 73148 1387 23 39533 51074 2094	162760 24178 3590 1998 340 21 1518 4500 650 18787 657 767 6677 26446 119 4654 33688 2142 23 3953 27809 4335 27809	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 3507 7044 909 30028 4749 11245 4101 163 2553 6775 2537 3585	297116 22141 9192 10 70 0 178 1191 5 21599 6019 3725 4498 632 4084 41299 4362 5970 3883 223 1581 4386 2135 2867	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381 790 2236	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 1371 2178 665 300 5738	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 560 127	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 2085 1356 8 8 2590 2085 1356 8 8	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 773114 20078 3794 34772 564 4188 4197 554	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481	135 336150 14682 6677 1342 104 18784 69417 19727 4193 48985 4341 4715 467	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Clearcut with regular retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burn1 Burn1 Gearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2	40164 11027 37205 3914 22920 33151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 9722 1518 91638 546 84 6391 73326 12629 3998 3982 10222	110128 25751 24799 510 21 535 5321 8988 18493 55089 16002 13195 10187 21075 147 2992 73148 1387 73148 1387 73148 1387 233 51074 10094 2946 1491 7777	162760 24178 3590 11988 340 21 1518 4500 6570 13211 1482 9665 5476 6677 26446 119 4654 33688 2142 23 3953 27809 4355 2691 564 9440	234299 22631 7813 941 1222 3045 442 18630 3507 7044 959 3507 7044 409 909 6500 30028 4749 11245 4101 163 2553 6775 2537 3585 3501 11175	297116 22141 9192 10 70 10 178 1191 5 21599 60739 60739 60739 60739 60739 60739 60739 60739 60739 4498 441299 4362 5970 3883 223 581 4386 1355 2867 1215 15737	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1399 1368 57367 4347 6350 2750 87 751 518 2381 790 2236 4060 11578	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 5142 1895 5142 1895 5142 1371 2178 665 300 5738 772	328942 20916 1777 14964 858 217 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 1465 14	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 372 1189	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 37314 20078 3794 34772 564 4188 4197 554	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715 467	336150 12953 6677 20357 1299 112 19772 61047 7543 56625 4720 4350 377 309	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 M3 Dstb2 M3 Dstb2 M3 Dstb2 M3 Dstb2 M4 Dstb2 M4 Dstb2 M4 Dstb2 M4 Dstb2 M5 Dstb2	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 38180 656 1972 867 1972 867 195866 16541 2246 29532 13208 142322	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808 185167	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 6677 20943 338 972 1518 91638 546 84 6391 73326 12629 3998 3982 10222 225619	110128 25751 2479 510 21 535 5321 898 18493 16002 13195 16002 13195 147 21022 73148 1387 23 3953 3953 51074 10094 2946 1491 7777 221222	162760 24178 3590 1998 340 21 1518 4500 6507 13211 1482 9665 5476 6677 26446 119 4654 33688 2142 23 3953 2435 2691 564 435 27809 4335 2691 564	234299 22631 7813 941 1222 3045 442 18630 3507 7044 909 3507 7044 909 30028 4749 11245 4101 163 2553 4101 163 2553 3550 111175	297116 22141 9192 10 70 10 178 1191 5 21599 6019 3725 4098 4362 4084 41299 4362 5970 3883 223 1581 5377 1215 15737 34497	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381 790 2236 4060 11578	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 1371 2178 5065 300 5738 772 9833	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 448 6757	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5500 127 167 4430	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 5600 841 128 2396	335309 18712 6677 17605 1147 103 20436 554990 25011 4619 55808 2085 1356 4112 544 147	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 73114 25223 3794 34772 564 4188 4197 554	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481	135 336150 14682 6677 1342 104 18784 69417 19727 4193 48985 4341 4715 467	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 Burn1 Burn1 Burn1 Burn1 Burn1 Burn1 Gro Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with high retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance	40164 11027 37205 3914 22920 33151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391 73326 12629 3998 3982 10222	110128 25751 24799 510 21 535 5321 8988 18493 55089 16002 13195 10187 21075 147 2992 73148 1387 73148 1387 73148 1387 233 51074 10094 2946 1491 7777	162760 24178 3590 11988 340 21 1518 4500 6570 13211 1482 9665 5476 6677 26446 119 4654 33688 2142 23 3953 27809 4355 2691 564 9440	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 3507 7044 909 30028 4749 11245 4101 163 2553 30028 11245 2537 3585 3501 11175	297116 22141 9192 10 70 0 178 1191 5 21599 69739 60739 60739 60739 60739 60739 64749 4386 4382 4386 4382 4384 223 1581 4386 2867 1215 52867 1215 7 15777 34497 6484	321185 22217 10813 8 673 155 21008 63834 5284 57367 4347 6350 2750 87 1518 2381 1368 57367 1518 2381 1369 2236 4060 11578 12514 4812	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 1371 2178 665 300 5738 772 9833 2797	328942 20916 1777 14964 858 2177 21498 557664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 448 6757 909	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167 167 4430 632	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 560 841 82396 1379	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 773114 20078 3794 34772 564 4188 4197 554	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481	135 336150 14682 6677 1342 104 18784 69417 19727 4193 48985 4341 4715 467	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with perlar retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208 142322 21350	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391 73326 12629 3998 3982 10222 225619 9932	110128 25751 2479 5100 21 535 5321 898 18493 55089 16002 13195 10187 21075 10187 21075 10187 2177 233 3953 51074 1089 1387 233 3953 51074 1094 1094 1094 1094 1094 1094 1094 109	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 9665 5476 6677 26446 119 4654 33688 2142 23 3953 3953 27809 4335 2691 564 9440	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 6500 30028 4749 11245 4101 163 2553 6775 2537 4101 1175 94758 7260 177	297116 22141 9192 10 70 178 1191 5 21599 69739 3725 4498 632 4084 41299 4362 5970 3883 223 1581 4386 1365 15737 1215 15737	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381 7900 2236 4060 11578 12514 4812 5309	325647 21519 12721 723 145 20369 61497 13549 8123 596 13549 8123 596 13579 66200 1089 3307 5142 1895 98 1371 2178 665 300 5738 772 9833 2797 6677	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 14	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167 4430 632 4084	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 560 841 128 2396 841 128 2396	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147 4412 544 147	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 373114 20078 3794 34772 564 4188 4197 554 1346 110 1424	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444 97	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481 80	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715 467 40 3978 126	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771 113	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409 309 560 1052 126
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burn1 Burn1 Burn1 Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with high retention Clearcut with pegular retention Cl	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208 142322 21350 41068	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 4100 7503 146661 14285 4100 14694 13808 185167 16672 47802	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 6391 73326 12629 39982 10222 225619 99322 42915	110128 25751 2479 510 21 5525 5321 898 18493 55089 16002 13195 10187 21075 10187 21075 1207 21075 127 1222 1222 13187 233 51074 10094 2946 1491 7777 212422 7221 31927	162760 24178 3590 1998 340 211 151 1521 1482 9665 5476 6677 26446 119 4654 33688 2142 23 3953 27809 4335 27809 4335 2691 163604 6102	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 6500 30028 4749 11245 4101 163 2553 6775 2537 3501 11175 94758 7260 177 7876	297116 22141 9192 10 70 10 70 178 1191 5 21599 60739 60739 60739 4084 41299 4362 4084 41299 4362 5970 3883 223 1581 4386 1365 2867 1215 15737 34497 6484 2593 6752	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 63500 27500 87 1518 2381 7900 20266 4060 11578 12514 4812 2369 4033	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 1371 2178 665 300 5738 772 9833 2797	328942 20916 1777 14964 858 2177 21498 557664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 448 6757 909	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167 167 4430 632	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 560 841 128 2396 841 128 2396	335309 18712 6677 17605 1147 103 20436 554990 25011 4619 55808 2085 1356 4112 544 147	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426 161 383 1979 15851	336150 15374 6677 17605 1695 154 25223 73114 20078 3794 34772 564 4188 4197 554 1346 110 1424 12176	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444 97 6431	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481 80 9402	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715 467 407 3978 126 300 3978 126	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771 113	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409 309 560 1052 126
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with high retention Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with perlar retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning	40164 11027 37205 3914 22920 35151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208 142322 21350	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 84 6391 73326 12629 3998 3982 10222 225619 9932	110128 25751 2479 5100 21 535 5321 898 18493 55089 16002 13195 10187 21075 10187 21075 10187 2177 233 3953 51074 1089 1387 233 3953 51074 1094 1094 1094 1094 1094 1094 1094 109	162760 24178 3590 1998 340 21 1518 4500 650 18787 67578 9665 5476 6677 26446 119 4654 33688 2142 23 3953 3953 27809 4335 2691 564 9440	234299 22631 7813 941 1222 3045 442 18630 77123 8859 3507 7044 909 6500 30028 4749 11245 4101 163 2553 6775 2537 4101 1175 94758 7260 177	297116 22141 9192 10 70 178 1191 5 21599 69739 3725 4498 632 4084 41299 4362 5970 3883 223 1581 4386 1365 15737 1215 15737 34497 6484 2593	321185 22217 10813 8 673 155 21008 63834 5051 2433 1979 1368 57367 4347 6350 2750 87 1518 2381 7900 2236 4060 11578 12514 4812 5309	325647 21519 12721 723 145 20369 61497 13549 8123 596 13549 8123 596 13579 66200 1089 3307 5142 1895 98 1371 2178 665 300 5738 772 9833 2797 6677	328942 20916 1777 14964 858 2177 21498 557664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 448 6757 909	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167 4430 632 4084	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 560 841 128 2396 841 128 2396	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147 4412 544 147	335767 17453 66777 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426	336150 15374 6677 17605 1695 154 25223 373114 20078 3794 34772 564 4188 4197 554 1346 110 1424	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444 97	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481 80	135 336150 14682 6677 1342 104 18784 69417 19727 4193 48985 4341 4715 467 40 3978 126	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771 113	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409 309 560 1052 126
OldSerlClose OldSerlClose OldSerlClose OldSerlClose MixedAge MidAgeOpen MidAgeOpen MidAgeClosed LateSerlOpen LateSerlOpen LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Group Selection Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burning for Young Forest creation Clearcut with high retention Clearcut with regular retention Clearcut with regular retention Clearcut with regular retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period Shelterwood with conversion 5 period Thin and Burn Burn1 M2 Dstb2 M2 Min2 Thin and Burn Burn1 Burn1 Burn1 Burn1 Dirting for Young Forest creation Clearcut with high retention Clearcut with high retention Clearcut with regular retention Loftis Shelterwood M2 Dstb2 Minimum Level Natural Disturbance Sanitation Thinning Shelterwood 2-step with Loftis cut Shelterwood with conversion 2 period	40164 11027 37205 3914 22920 335151 18066 151370 12512 6677 38180 656 1972 867 7500 195866 16541 2246 29532 13208 142322 21350 41068 1429	57445 15765 878 3596 439 17 12661 2959 18601 34865 17894 92533 16139 6677 22435 564 884 1670 44165 204 110 7503 146661 14285 4100 14694 13808 185167 16672 47802 1521	75169 22251 183 6059 1016 17 239 6530 1751 19079 36724 18273 34763 15788 6677 20943 338 972 1518 91638 546 6391 73326 12629 39982 10222 225619 99322 42915	110128 25751 2479 510 21 5525 5321 898 18493 55089 16002 13195 10187 21075 10187 21075 1207 21075 127 1222 1222 13187 233 51074 10094 2946 1491 7777 212422 7221 31927	162760 24178 3590 1998 340 211 151 16555 5476 6677 26446 119 4654 33688 2142 23 3953 27809 4335 2691 163604 6102	234299 22631 7813 941 1222 3045 442 18630 3507 77123 8959 3507 7044 909 9550 30028 4749 11245 4101 163 2553 6775 2537 3585 3501 11175 94758 7260 177	297116 22141 9192 10 700 10 178 1191 5 21599 60739 60739 60739 60739 60739 60739 4498 4322 4084 41299 4362 5970 3883 223 1581 4386 1365 2867 1215 15737 34497 6484 2593 34497 6484 2593	321185 22217 10813 8 673 155 21008 63834 5284 5051 2433 1979 2365 25367 4347 6350 2750 87 71518 2381 790 2236 4060 11578 12514 4812 2309 4033 564	325647 21519 12721 723 145 20369 61497 13549 8123 596 1979 66200 1089 3307 5142 1895 98 81371 2178 665 300 5738 772 9833 2797 6677 293	328942 20916 1777 14964 858 2177 21498 57664 16442 4523 383 1979 71019 1521 2146 3708 948 155 1369 1465 14 5655 14 5655 14	331652 20636 2593 17605 2650 399 21665 47133 21804 3613 1424 70772 1521 861 979 1739 155 1338 1191 5 5 560 127 167 4430 632 4084 5221	333686 19703 5309 17605 2372 209 23037 43468 28036 2837 72140 2085 1356 8 8 2590 372 1189 560 841 128 2396 1979 1368 3248	335309 18712 6677 17605 1147 103 20436 54990 25011 4619 55808 2085 1356 4112 544 147 4412 544 147	335767 17453 6677 17605 1275 162 19766 63356 30750 7339 32932 996 3543 3842 426 161 383 1979 15851	336150 15374 6677 17605 1695 154 25223 73114 20078 3794 34772 564 4188 4197 554 1346 110 1424 12176	336150 16369 6677 19561 3398 305 26245 69066 21828 3023 40046 564 4362 3854 371 200 1444 97 6431	336150 : 15359 6677 20357 2447 223 22603 68020 15791 2679 44413 3867 3160 309 10 7481 80 9402	135 336150 14682 6677 20357 1342 104 18784 69417 19727 4193 48985 4341 4715 467 4341 4715 467 300 3978 126	336150 12953 6677 20357 1299 112 19772 61047 21088 7543 56625 4720 4350 377 309 1771 113	336150 10048 6677 20357 1729 172 23909 52509 15910 4466 69655 1089 1917 4756 409 309 560 1052 126

Gaps	Clearcut with high retention	114	102	94	83	86	90	106	100	89	90	89	90	80	89	97	115	104	87	79	81
Gaps	Clearcut with regular retention	376	283	174	306	387	481	429	417	390	340	262	193	285	365	440	421	421	432	357	285
Gaps	Group Selection	114	98	74	66	57	46	32	16	16	16	16	16	4							
Gaps	Loftis Shelterwood	209	212	221	198	198	132	138	105	125	142	139	185	162	198	132	141	141	148	145	109
Gaps	Minimum Level	1810	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813
Gaps	Sanitation Thinning	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Gaps	Shelterwood 2-step with Loftis cut	511	455	413	312	243	210	285	382	422	443	477	478	428	312	262	241	337	349	387	407
Gaps	shelterwood with conversion 2 period	11	11	11	11	11	3	2	2	8	9	9	11	11	11	11	11	3	2	2	10
Gaps	Shelterwood with conversion 5 period	14	5	2	15	24	27	26	25	22	23	10	8	5	19	23	25	22	23	24	20
Gaps	Thin and Burn	100	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
Disturbance	M2 Dstb2						199	1873	745	2626	6912	1495	2391	1639	3636	5838	1217	2433	1229	3520	4643
Disturbance	Natural Disturbance	2499	3629	2927	5676	9646	1849	2289	1277	3817	2399	741	1488	1096	1898	4213	637	1638	1146	2706	4520
Burning	Burn1	382842	402838	405311	410042	379120	400350	400350	400350	379873	379298	379298	379298	379298	379298	379298	379298	379298	379298	379298	379298
Burning	Burning for Young Forest creation	39648	39648	39648	39648	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138	42138
Burning Burning	Burning for Young Forest creation Thin and Burn	39648 7500	39648 7503	39648 5025	39648 296	42138 8722	42138 7503	42138 4695	42138 330	42138 7974	42138 8547	42138 4695	42138 330	42138 474	42138 1044	42138	42138 330	42138 474	42138 1044	42138	42138
0	0 0						42138 7503 2362					42138 4695 3747				42138 2925				42138 2712	42138 3917
Burning	Thin and Burn	7500	7503	5025	296	8722		4695	330	7974	8547		330	474	1044		330	474	1044		
Burning AllHarvAcre	Thin and Burn Clearcut with high retention	7500 3903	7503 2822	5025 2888	296 6304	8722 2697	2362	4695 3904	330 3878	7974 5335	8547 2776	3747	330 4074	474 5231	1044 2376	2925	330 1944	474 5331	1044 5388	2712	3917
Burning AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention	7500 3903 24911	7503 2822 14818	5025 2888 16345	296 6304 4508	8722 2697 3375	2362 3666	4695 3904 14325	330 3878 6034	7974 5335 10484	8547 2776 18188	3747 16005	330 4074 16913	474 5231 6425	1044 2376 5676	2925 7282	330 1944 10146	474 5331 6912	1044 5388 5865	2712 18546	3917 14890
Burning AllHarvAcre AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention Group Selection	7500 3903 24911 3590	7503 2822 14818	5025 2888 16345 4969	296 6304 4508 5844	8722 2697 3375 6877	2362 3666 8087	4695 3904 14325 9518	330 3878 6034 8087	7974 5335 10484 9518	8547 2776 18188 8087	3747 16005 9518	330 4074 16913 10043	474 5231 6425 10314	1044 2376 5676 10043	2925 7282 10314	330 1944 10146 10043	474 5331 6912 10314	1044 5388 5865 10043	2712 18546 6724	3917 14890 5820
Burning AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention Group Selection Loftis Shelterwood	7500 3903 24911 3590 4024	7503 2822 14818 4223	5025 2888 16345 4969 9521	296 6304 4508 5844 6898	8722 2697 3375 6877 5352	2362 3666 8087 20651	4695 3904 14325 9518 2874	330 3878 6034 8087 20770	7974 5335 10484 9518 10175	8547 2776 18188 8087 9276	3747 16005 9518 13137	330 4074 16913 10043 9716	474 5231 6425 10314 12031	1044 2376 5676 10043 329	2925 7282 10314 22237	330 1944 10146 10043	474 5331 6912 10314	1044 5388 5865 10043	2712 18546 6724	3917 14890 5820
Burning AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention Group Selection Loftis Shelterwood Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period	7500 3903 24911 3590 4024	7503 2822 14818 4223 2500	5025 2888 16345 4969 9521 1676	296 6304 4508 5844 6898 2501	8722 2697 3375 6877 5352 5001	2362 3666 8087 20651 4176	4695 3904 14325 9518 2874 1676	330 3878 6034 8087 20770 2501	7974 5335 10484 9518 10175 5001	8547 2776 18188 8087 9276 4176	3747 16005 9518 13137	330 4074 16913 10043 9716 2501	474 5231 6425 10314 12031 5001	1044 2376 5676 10043 329 4176	2925 7282 10314 22237 1676	330 1944 10146 10043 5696	474 5331 6912 10314 15418	1044 5388 5865 10043 11041	2712 18546 6724 7242	3917 14890 5820
Burning AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention Group Selection Loftis Shelterwood Sanitation Thinning Shelterwood 2-step with Loftis cut	7500 3903 24911 3590 4024	7503 2822 14818 4223 2500	5025 2888 16345 4969 9521 1676	296 6304 4508 5844 6898 2501 15267	8722 2697 3375 6877 5352 5001 19155	2362 3666 8087 20651 4176 12175	4695 3904 14325 9518 2874 1676 4532	330 3878 6034 8087 20770 2501	7974 5335 10484 9518 10175 5001 6074	8547 2776 18188 8087 9276 4176	3747 16005 9518 13137	330 4074 16913 10043 9716 2501	474 5231 6425 10314 12031 5001	1044 2376 5676 10043 329 4176	2925 7282 10314 22237 1676 12464	330 1944 10146 10043 5696 11149	474 5331 6912 10314 15418 3181	1044 5388 5865 10043 11041 12788	2712 18546 6724 7242 6524	3917 14890 5820 15760
Burning AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre	Thin and Burn Clearcut with high retention Clearcut with regular retention Group Selection Loftis Shelterwood Sanitation Thinning Shelterwood 2-step with Loftis cut shelterwood with conversion 2 period	7500 3903 24911 3590 4024 2501	7503 2822 14818 4223 2500 9440	5025 2888 16345 4969 9521 1676 7328	296 6304 4508 5844 6898 2501 15267	8722 2697 3375 6877 5352 5001 19155 432	2362 3666 8087 20651 4176 12175 1089	4695 3904 14325 9518 2874 1676 4532 996	330 3878 6034 8087 20770 2501 5888	7974 5335 10484 9518 10175 5001 6074 564	8547 2776 18188 8087 9276 4176	3747 16005 9518 13137 1676	330 4074 16913 10043 9716 2501 5221	474 5231 6425 10314 12031 5001 8656	1044 2376 5676 10043 329 4176 17949	2925 7282 10314 22237 1676 12464 1089	330 1944 10146 10043 5696 11149 432	474 5331 6912 10314 15418 3181 1089	1044 5388 5865 10043 11041 12788	2712 18546 6724 7242 6524 22	3917 14890 5820 15760 533

output AllHarvAcre	ForType 01WP	GA BK	Total Of amount 1865	1 57	2	3	4	5 196	6 : 362	7 216	8 8	9 : 122	10	11	12 :	13 : 196	14 : 362	15 : 197	16 8	17 : 141	18	19	20
AllHarvAcre	01WP	BM	3453		149		36	112	238	359	125	459	149		36	112	238	359	125	459	149		36
AllHarvAcre	01WP	EE	15053	1571	207		293	336	595	1497	1318	2246	207	91	223	336	665	1395	1318	2325	207		223
AllHarvAcre	01WP	FL	5077	188	21		10		509	780	713	396	21		10		509	780	713	396	21		10
AllHarvAcre	01WP	GB	2166		28		84	~~ /	140	411	188	155	28	~ .	84		140	411	188	155	28		84
AllHarvAcre	01WP	HD	10567 6393				145	331	443	1094	686 1210	1769		24	145 51	331	443 211	1084	686 1252	1779 563			145 51
AllHarvAcre AllHarvAcre	01WP 01WP	HI NG	723				73	451	222 89	506 217	1219 52	529 7			51	451	89	402 217	1252 52	203			51
AllHarvAcre	01WP	NM	6323				39	175	845	1232	224	, 559			39	175	837	1222	232	471			39
AllHarvAcre	01WP	NS	144									48								48			
AllHarvAcre	01WP	PL	954				4	11	207	151	69	33			4	11	207	151	69	33			4
AllHarvAcre	01WP	UM	5650	131	77			128	194	1608	502	220	77			128	194	1587	502	225	77		
Burning	01WP	BK	1337			9	9	29	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
Burning	01WP	BM	10657			38	74	330	681	681	681	681	681	681	681	681	681	681	681	681	681	681	681
Burning Burning	01WP 01WP	EE FL	29558 9015			7 8	231 59	1345 218	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582	1865 582
Burning	01WP 01WP	GB	2591			8 1	10	120	562 164	582 164	582 164	582 164	582 164	562 164	164	582 164	582 164	582 164	562 164	164	582 164	582 164	582 164
Burning	01WP	HD	43595			35	39	1536	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799	2799
Burning	01WP	ні	10343			74	85	494	646	646	646	646	646	646	646	646	646	646	646	646	646	646	646
Burning	01WP	NG	718				3	40	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Burning	01WP	NM	8727			67	99	176	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559
Burning	01WP	NS	440				8	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Burning	01WP	PL	2788 11350			9 39	9 94	40 432	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719	182 719
Burning Disturbance	01WP 01WP	UM BK	193		132	59	94 10	452 5	/19	/19	/19	10	/19	/19	/19	1	2	/19	/19	/19	/19	/19	10
Disturbance	01WP	BM	395		152	47	17	80	42	5		49			58	-	2	20	8	3			66
Disturbance	01WP	EE	1247	52	2	35	46	452	5	4	3			12			232			40	94	15	255
Disturbance	01WP	FL	106			28			27	23			2		22		2						2
Disturbance	01WP	Forest	4276									465	770	105	285	199	376	627	95	234	122	366	632
Disturbance	01WP	HD	2115		108	53	454	157	24	158	90	20	50	25		6	8	425	66	100		246	88
Disturbance	01WP	HI	109					75	2	5		6	20		3								
Disturbance Disturbance	01WP 01WP	NG NM	4 700		14			201	2 76	10	32	83	214	17	2 20								
Disturbance	01WP	PL	304		118		39	12	70	117	52	4	5	17	20								2
Disturbance	01WP	UM	347	20	5	49	60	75		64	72		-							2			
Gaps	01WP	ВК	56	4	4	4	4	3	1	0	1	3	4	4	4	3	1	0	1	3	4	4	4
Gaps	01WP	BM	67	4	4	4	5	5	4	2	1	1	3	4	5	5	4	2	1	1	3	4	5
Gaps	01WP	EE	383		22	22	27	26	23	17	13	7	13	19	27	26	23	17	13	7	13	19	27
Gaps	01WP	FL	140		10	10	10	10	8	4	1	2	6	9	10	10	8	4	1	2	6	9	10
Gaps	01WP	GB HD	42		3 12	3	3	3 10	3	1	0	0 5	2	3 12	3	3 10	3	1	0	0 5	2	3	3
Gaps Gaps	01WP 01WP	HI	270 179		13 12	14 12	20 13	18 10	16 9	12 7	11 4	5 4	10 6	13 12	20 13	18 10	16 9	12 7	11 4	5 4	10 6	13 12	20 13
Gaps	01WP	NG	14		1	1	13	10	1	, 0	0	0	1	1	13	10	1	, 0	0	0	1	1	1
Gaps	01WP	NM	193	13	13	13	14	13	9	3	3	5	11	12	14	13	9	3	3	5	11	12	14
Gaps	01WP	NS	C				0	0	0	0	0				0	0	0	0	0				0
Gaps	01WP	PL	28		2	2	2	2	1	0	0	1	2	2	2	2	1	0	0	1	2	2	2
Gaps	01WP	UM	154		11	11	11	11	10	2	0	1	9	11	11	11	10	2	0	1	9	11	11
LateSerlClos LateSerlClos	01WP	BK	657 3530		58 435	60 518	55 495	127 409	124 351	99 396	90 290	16 146	2	20	0	0	0	٨					
LateSerIClos	01WP 01WP	BM EE	10727		435 1644	1231	495 1288	409 908	1559	396 1647	290 531	146	76 85	30 48	8 55	8 55	8 54	4 46				23	23
LateSerIClos	01WP	FL	3095		162	110	70	191	575	767	523	334	177	40 54	55	55	54	40				25	25
LateSerlClos	01WP	Forest	302									98	42	4	63	12	11	13	11	9	14	12	13
LateSerlClos	01WP	GB	869	3	36	41	118	221	147	124	91	15	23	34	8	8							
LateSerlClos	01WP	HD	13313		2986	2392	1804	743	730	687	342	176	134	93	73	73	31	31					
LateSerlClos	01WP	HI	2944		98	225	255	493	518	514	279	176	121	99								70	70
LateSerlClos LateSerlClos	01WP	NG	159		2 255	2 302	12 377	12 781	42	42 969	15 837	8 270	5 139	5 27	5	5						7 98	7 98
LateSerIClos	01WP 01WP	NM NS	4995 108		200	302 27	27	27	705 27	909	837	270	139	27	5	5						98	98
LateSerIClos	01WP	PL	1284		2	158	298	290	297	127	61	26	10	15									
LateSerlClos	01WP	UM	2757	178	185	242	298	229	129	409	303	236	225	213	21	21	19	17				16	16
LateSerlOpen	01WP	ВК	35								20	12	3										
LateSerlOpen	01WP	BM	150								50	50	50										
LateSerlOpen	01WP	EE	912								416	364	132										
LateSerlOpen LateSerlOpen	01WP 01WP	FL Forost	147 6587			37	225	303	717	608	67 339	55 49	25 90	176	245	511	463	507	429	330	539	486	533
LateSerlOpen	01WP 01WP	Forest GB	210			57	223	202	/1/	008	339 73	49 73	90 64	110	243	511	403	507	429	230	722	400	222
LateSerlOpen	01WP	HD	538								241	186	111										
LateSerlOpen			550								343												
	01WP	HI	447									52	52										
LateSerlOpen	01WP	NG	447 108								37	37	34										
LateSerlOpen	01WP 01WP	NG NM	447 108 27								37 17	37 5	34 5										
LateSerlOpen LateSerlOpen	01WP 01WP 01WP	NG NM PL	447 108 27 45								37 17 15	37 5 15	34 5 15										
LateSerlOpen LateSerlOpen LateSerlOpen	01WP 01WP 01WP 01WP	NG NM PL UM	447 108 27 45 908		961	012	058	667	274	83	37 17 15 306	37 5 15 301	34 5 15 301	780	904	708	346	1/10	227	558	755	763	904
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed	01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK	447 108 27 45 908 12732	1080	961 1596	912 1439	958 1632	667 1566	274 1197	83 703	37 17 15 306 259	37 5 15 301 558	34 5 15 301 774	782 874	904 1293	708 1330	346 1092	149 769	337 756	558 535	755 745	763 870	904 1293
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM	447 108 27 45 908	1080 1705		912 1439 5863	958 1632 6803	1566	274 1197 4496	83 703 3152	37 17 15 306	37 5 15 301	34 5 15 301	782 874 4085	904 1293 6062	708 1330 5933	346 1092 5359	149 769 4187	337 756 3205	558 535 1545	755 745 2733	763 870 4028	904 1293 6130
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM	447 108 27 45 908 12732 21357	1080 1705 6107	1596 5809	1439	1632	007	1197	703	37 17 15 306 259 666	37 5 15 301 558 543	34 5 15 301 774 753	874	1293	1330	1092	769	756	535	745	870	1293
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest	447 108 27 45 908 12732 21357 89001	1080 1705 6107 2682	1596 5809 2669	1439 5863 2698	1632 6803 2870	1566 6215 2738 98	1197 4496 1808 322	703 3152 828 440	37 17 306 259 666 2846 277 752	37 5 15 301 558 543 1577 540 1002	34 5 301 774 753 2866 1299 522	874 4085 2012 418	1293 6062 2398 266	1330 5933 2419 461	1092 5359 1910 785	769 4187 1140 357	756 3205 427 283	535 1545 540 225	745 2733 1299 419	870 4028 2012 785	1293 6130 2398 363
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB	447 108 27 45 908 12732 21357 89001 34964 7498 14066	1080 1705 6107 2682 1080	1596 5809 2669 1019	1439 5863 2698 1067	1632 6803 2870 948	1566 6215 2738 98 870	1197 4496 1808 322 771	703 3152 828 440 462	37 17 306 259 666 2846 277 752 207	37 5 301 558 543 1577 540 1002 260	34 5 301 774 753 2866 1299 522 635	874 4085 2012 418 823	1293 6062 2398 266 894	1330 5933 2419 461 922	1092 5359 1910 785 782	769 4187 1140 357 455	756 3205 427 283 267	535 1545 540 225 252	745 2733 1299 419 635	870 4028 2012 785 823	1293 6130 2398 363 894
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089	1080 1705 6107 2682 1080 4079	1596 5809 2669 1019 3849	1439 5863 2698 1067 3832	1632 6803 2870 948 4882	1566 6215 2738 98 870 4373	1197 4496 1808 322 771 3673	703 3152 828 440 462 2560	37 17 15 306 259 666 2846 277 752 207 2196	37 5 301 558 543 1577 540 1002 260 1016	34 5 301 774 753 2866 1299 522 635 2068	874 4085 2012 418 823 2730	1293 6062 2398 266 894 4323	1330 5933 2419 461 922 3992	1092 5359 1910 785 782 3573	769 4187 1140 357 455 2634	756 3205 427 283 267 2279	535 1545 540 225 252 943	745 2733 1299 419 635 2027	870 4028 2012 785 823 2713	1293 6130 2398 363 894 4347
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358	1080 1705 6107 2682 1080 4079 3300	1596 5809 2669 1019 3849 3231	1439 5863 2698 1067 3832 3120	1632 6803 2870 948 4882 3407	1566 6215 2738 98 870 4373 2670	1197 4496 1808 322 771 3673 2323	703 3152 828 440 462 2560 1867	37 17 306 259 666 2846 277 752 207	37 5 301 558 543 1577 540 1002 260 1016 746	34 5 301 774 753 2866 1299 522 635 2068 1252	874 4085 2012 418 823 2730 2471	1293 6062 2398 266 894 4323 2949	1330 5933 2419 461 922 3992 2498	1092 5359 1910 785 782 3573 2287	769 4187 1140 357 455 2634 1936	756 3205 427 283 267 2279 1135	535 1545 540 225 252 943 783	745 2733 1299 419 635 2027 1185	870 4028 2012 785 823 2713 2367	1293 6130 2398 363 894 4347 2879
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337	1080 1705 6107 2682 1080 4079 3300 414	1596 5809 2669 1019 3849 3231 412	1439 5863 2698 1067 3832 3120 412	1632 6803 2870 948 4882 3407 402	1566 6215 2738 98 870 4373 2670 402	1197 4496 1808 322 771 3673 2323 281	703 3152 828 440 462 2560 1867 64	37 17 15 306 259 666 2846 277 752 207 2196 952	37 5 301 558 543 1577 540 1002 260 1016 746 89	34 5 301 774 753 2866 1299 522 635 2068 1252 306	874 4085 2012 418 823 2730 2471 358	1293 6062 2398 266 894 4323 2949 365	1330 5933 2419 461 922 3992 2498 365	1092 5359 1910 785 782 3573 2287 276	769 4187 1140 357 455 2634 1936 59	756 3205 427 283 267 2279 1135 7	535 1545 540 225 252 943 783 96	745 2733 1299 419 635 2027 1185 313	870 4028 2012 785 823 2713 2367 358	1293 6130 2398 363 894 4347 2879 358
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358	1080 1705 6107 2682 1080 4079 3300 414 3869	1596 5809 2669 1019 3849 3231 412	1439 5863 2698 1067 3832 3120	1632 6803 2870 948 4882 3407	1566 6215 2738 98 870 4373 2670	1197 4496 1808 322 771 3673 2323	703 3152 828 440 462 2560 1867	37 17 15 306 259 666 2846 277 752 207 2196	37 5 301 558 543 1577 540 1002 260 1016 746	34 5 301 774 753 2866 1299 522 635 2068 1252	874 4085 2012 418 823 2730 2471	1293 6062 2398 266 894 4323 2949	1330 5933 2419 461 922 3992 2498	1092 5359 1910 785 782 3573 2287	769 4187 1140 357 455 2634 1936	756 3205 427 283 267 2279 1135 7	535 1545 540 225 252 943 783	745 2733 1299 419 635 2027 1185	870 4028 2012 785 823 2713 2367	1293 6130 2398 363 894 4347 2879
LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG NM	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337	1080 1705 6107 2682 1080 4079 3300 414 3869 27	1596 5809 2669 1019 3849 3231 412 3720	1439 5863 2698 1067 3832 3120 412	1632 6803 2870 948 4882 3407 402 3790	1566 6215 2738 98 870 4373 2670 402 3051	1197 4496 1808 322 771 3673 2323 281 2085	703 3152 828 440 462 2560 1867 64 585	37 17 15 306 259 666 2846 277 752 207 2196 952 536	37 5 301 558 543 1577 540 1002 260 1016 746 89	34 5 301 774 753 2866 1299 522 635 2068 1252 306	874 4085 2012 418 823 2730 2471 358	1293 6062 2398 266 894 4323 2949 365 3035	1330 5933 2419 461 922 3992 2498 365 2860	1092 5359 1910 785 782 3573 2287 276 2023	769 4187 1140 357 455 2634 1936 59 840	756 3205 427 283 267 2279 1135 7 783	535 1545 540 225 252 943 783 96	745 2733 1299 419 635 2027 1185 313	870 4028 2012 785 823 2713 2367 358	1293 6130 2398 363 894 4347 2879 358 2937
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FOrest GB HD HI NG NM NS	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961	1596 5809 2669 1019 3849 3231 412 3720 27 889	1439 5863 2698 1067 3832 3120 412 3754	1632 6803 2870 948 4882 3407 402 3790 48	1566 6215 2738 98 870 4373 2670 402 3051 48	1197 4496 1808 322 771 3673 2323 281 2085 48	703 3152 828 440 462 2560 1867 64 585 48	37 17 306 259 666 2846 277 752 207 2196 952 536 48	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291	874 4085 2012 418 823 2730 2471 358 2515	1293 6062 2398 266 894 4323 2949 365 3035 48	1330 5933 2419 461 922 3992 2498 365 2860 48	1092 5359 1910 785 782 3573 2287 276 2023 48	769 4187 1140 357 455 2634 1936 59 840 48	756 3205 427 283 267 2279 1135 7 783 48	535 1545 540 225 252 943 783 96 1149	745 2733 1299 419 635 2027 1185 313 2371	870 4028 2012 785 823 2713 2367 358 2505	1293 6130 2398 363 894 4347 2879 358 2937 48
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM Forest	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582 7800 41599 2611	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961 3354	1596 5809 2669 1019 3849 3231 412 3720 27 889	1439 5863 2698 1067 3832 3120 412 3754 686	1632 6803 2870 948 4882 3407 402 3790 48 519 3214 54	1566 6215 2738 98 870 4373 2670 402 3051 402 3051 48 493 3102 18	1197 4496 1808 322 771 3673 2323 281 2085 48 272 2912	703 3152 828 440 462 2560 1867 64 585 48 82 982	37 17 15 306 259 666 2846 277 752 207 2196 952 536 48 15 387	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064 222 420	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291 373 1949 96	874 4085 2012 418 823 2730 2471 358 2515 442 2449 318	1293 6062 2398 266 894 4323 2949 365 3035 48 471 2652 291	1330 5933 2419 461 922 3992 2498 365 2860 48 460 2601 100	1092 5359 1910 785 782 3573 2287 276 2023 48 253 2407 138	769 4187 1140 357 455 2634 1936 59 840 48 106 820 197	756 3205 427 283 267 2279 1135 7 783 48 48 446 401	535 1545 540 225 252 943 783 96 1149 222 415 289	745 2733 1299 419 635 2027 1185 313 2371 373 1925 132	870 4028 2012 785 823 2713 2367 358 2505 442 2411 143	1293 6130 2398 363 894 4347 2879 358 2937 48 471 2636 195
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM Forest BK	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582 7800 41599 2611 1330	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961 3354	1596 5809 2669 1019 3849 3231 412 3720 27 889 3284 66	1439 5863 2698 1067 3832 3120 412 3754 686 3233 173	1632 6803 2870 948 4882 3407 402 3790 48 519 3214 54 10	1566 6215 2738 98 870 4373 2670 402 3051 402 3051 48 493 3102 18 26	1197 4496 1808 322 771 3673 2323 281 2085 48 272 2912 58	703 3152 828 440 462 2560 1867 64 585 48 82 982 58	37 17 15 306 259 666 2846 277 752 207 2196 952 536 48 15 387 59	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064 222 420 68	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291 373 1949 96 78	874 4085 2012 418 823 2730 2471 358 2515 442 2449 318 100	1293 6062 2398 266 894 4323 2949 365 3035 48 471 2652 291 100	1330 5933 2419 461 922 3992 2498 365 2860 48 460 2601 100 99	1092 5359 1910 785 782 3573 2287 276 2023 48 253 2407 138 98	769 4187 1140 357 455 2634 1936 59 840 48 106 820 197 97	756 3205 427 283 267 2279 1135 7 783 48 48 446 401 97	535 1545 540 225 252 943 783 96 1149 222 415 289 97	745 2733 1299 419 635 2027 1185 313 2371 373 1925 132 97	870 4028 2012 785 823 2713 2367 358 2505 442 2411 143 97	1293 6130 2398 363 894 4347 2879 358 2937 48 471 2636 195 91
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM Forest BK BM	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582 7800 41599 2611 1330 10850	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961 3354 3354	1596 5809 2669 1019 3849 3231 412 3720 27 889 3284 66 41	1439 5863 2698 1067 3832 3120 412 3754 686 3233 173 107	1632 6803 2870 948 4882 3407 402 3790 48 519 3214 54 10 183	1566 6215 2738 98 870 4373 2670 402 3051 48 493 3102 18 26 320	1197 4496 1808 322 771 3673 2323 281 2085 48 272 2912 58 452	703 3152 828 440 462 2560 1867 64 585 48 82 982 58 58 562	37 17 15 306 259 666 2846 277 752 207 2196 952 536 48 15 387 59 438	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064 222 420 68 455	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291 373 1949 96 78 505	874 4085 2012 418 823 2730 2471 358 2515 442 2449 318 100 811	1293 6062 2398 266 894 4323 2949 365 3035 48 471 2652 291 100 803	1330 5933 2419 461 922 3992 2498 365 2860 48 460 2601 100 99 780	1092 5359 1910 785 782 3573 2287 276 2023 48 253 2407 138 98 780	769 4187 1140 357 455 2634 1936 59 840 48 106 820 197 97 772	756 3205 427 283 267 2279 1135 7 2279 1135 7 83 48 48 446 401 97 771	535 1545 540 225 252 943 783 96 1149 222 415 289 97 769	745 2733 1299 419 635 2027 1185 313 2371 373 1925 132 97 769	870 4028 2012 785 823 2713 2367 358 2505 442 2411 143 97 769	1293 6130 2398 363 894 4347 2879 358 2937 48 471 2636 195 91 730
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE Fl Forest GB HD HI NG NM NS PL UM Forest BK BM EE	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582 7800 41599 2611 1330 10850 35075	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961 3354 33 354	1596 5809 2669 1019 3849 3231 412 3720 27 889 3284 66 41 258	1439 5863 2698 1067 3832 3120 412 3754 686 3233 173 107 746	1632 6803 2870 948 4882 3407 402 3790 48 519 3214 54 10 183 970	1566 6215 2738 98 870 4373 2670 402 3051 48 493 3102 18 26 320 1543	1197 4496 1808 322 771 3673 2323 281 2085 48 272 2912 58 452 1832	703 3152 828 440 462 2560 1867 64 585 48 82 982 58 562 1888	37 17 15 306 259 666 2846 277 752 207 2196 952 536 48 15 387 59 438 1256	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064 222 420 68 455 1290	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291 373 1949 96 78 505 1320	874 4085 2012 418 823 2730 2471 358 2515 442 2449 318 100 811 2472	1293 6062 2398 266 894 4323 2949 365 3035 48 471 2652 291 100 803 2506	1330 5933 2419 461 922 3992 2498 365 2860 48 460 2601 100 99 780 2506	1092 5359 1910 785 782 3573 2287 276 2023 48 253 2407 138 98 780 2370	769 4187 1140 357 455 2634 1936 59 840 48 106 820 197 97 772 2365	756 3205 427 283 267 2279 1135 7 783 48 48 48 446 401 97 771 2411	535 1545 540 225 252 943 783 96 1149 222 415 289 97 769 2387	745 2733 1299 419 635 2027 1185 313 2371 373 1925 132 97 769 2332	870 4028 2012 785 823 2713 2367 358 2505 442 2411 143 97 769 2323	1293 6130 2398 363 894 4347 2879 358 2937 48 471 2636 195 91 730 2173
LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	NG NM PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM Forest BK BM	447 108 27 45 908 12732 21357 89001 34964 7498 14066 62089 43358 5337 45763 582 7800 41599 2611 1330 10850	1080 1705 6107 2682 1080 4079 3300 414 3869 27 961 3354 33 127 46	1596 5809 2669 1019 3849 3231 412 3720 27 889 3284 66 41	1439 5863 2698 1067 3832 3120 412 3754 686 3233 173 107	1632 6803 2870 948 4882 3407 402 3790 48 519 3214 54 10 183	1566 6215 2738 98 870 4373 2670 402 3051 48 493 3102 18 26 320	1197 4496 1808 322 771 3673 2323 281 2085 48 272 2912 58 452	703 3152 828 440 462 2560 1867 64 585 48 82 982 58 58 562	37 17 15 306 259 666 2846 277 752 207 2196 952 536 48 15 387 59 438	37 5 301 558 543 1577 540 1002 260 1016 746 89 1064 222 420 68 455	34 5 301 774 753 2866 1299 522 635 2068 1252 306 2291 373 1949 96 78 505	874 4085 2012 418 823 2730 2471 358 2515 442 2449 318 100 811	1293 6062 2398 266 894 4323 2949 365 3035 48 471 2652 291 100 803	1330 5933 2419 461 922 3992 2498 365 2860 48 460 2601 100 99 780	1092 5359 1910 785 782 3573 2287 276 2023 48 253 2407 138 98 780	769 4187 1140 357 455 2634 1936 59 840 48 106 820 197 97 772	756 3205 427 283 267 2279 1135 7 2279 1135 7 83 48 48 446 401 97 771	535 1545 540 225 252 943 783 96 1149 222 415 289 97 769	745 2733 1299 419 635 2027 1185 313 2371 373 1925 132 97 769	870 4028 2012 785 823 2713 2367 358 2505 442 2411 143 97 769	1293 6130 2398 363 894 4347 2879 358 2937 48 471 2636 195 91 730

OldSerlClose																							
	01WP	GB	1859					3	36	41	31	39	39	138	164	164	172	172	172	172	172	172	172
OldSerlClose	01WP	HD	57222	555	792	1586	2139	3116	3309	3413	2184	2171	2225	3728	3769	3765	3800	3548	3540	3481	3481	3336	3284
OldSerlClose OldSerlClose	01WP 01WP	HI NG	6969 458				22	26	96 1	120 0	91 2	89 2	130 5	553 42	650 46	649 45	649 45	649 45	649 45	649 45	649 45	649 45	649 45
OldSerlClose	01WP 01WP	NM	7528			1	85	127	198	205	237	2 500	5 477	42 570	40 573	45 565	45 570	45 570	45 570	45 570	43 570	45 570	45 570
OldSerlClose	01WP	NS	321			-	05	127	150	203	8	8	8	27	27	27	27	27	27	27	27	27	27
OldSerlClose	01WP	PL	2442						2	146	143	143	154	178	189	186	186	186	186	186	186	186	185
OldSerlClose	01WP	UM	8755	59	59	59	91	160	225	231	168	171	184	536	745	745	747	749	766	765	765	765	765
OldSerlOpen	01WP	ВК	25									8	17										
OldSerlOpen	01WP	BM	618								206	206	206										
OldSerlOpen	01WP	EE	2430								698	750	982										
OldSerlOpen	01WP	FL	330								92	104	134										
OldSerlOpen	01WP	Forest	14646			8	19	188	215	395	819	1148	1051	1168	1190	1274	1367	1350	1316	1061	664	683	730
OldSerlOpen	01WP	GB	120								37	37	46										
OldSerlOpen	01WP	HD	3953								1256	1311	1386										
OldSerlOpen	01WP	HI	780								66	357	357										
OldSerlOpen	01WP	NG	3								60	70	3										
OldSerlOpen	01WP	NM	204								60	72	72										
OldSerlOpen OldSerlOpen	01WP 01WP	NS PL	57 48								19 16	19 16	19 16										
OldSerlOpen	01WP 01WP	UM	40								32	16 37	37										
RegenAcre	01WP	BK	1865	57				196	362	216	8	122	57			196	362	197	8	141			
RegenAcre	01WP	BM	3453	312	149		36	112	238	359	125	459	149		36	112	238	359	125	459	149		36
RegenAcre	01WP	EE	15053	1571	207		293	336	595	1497	1318	2246	207	91	223	336	665	1395	1318	2325	207		223
RegenAcre	01WP	FL	5077	188	21		10	000	509	780	713	396	21	51	10	000	509	780	713	396	21		10
RegenAcre	01WP	GB	2166	42	28		84		140	411	188	155	28		84		140	411	188	155	28		84
RegenAcre	01WP	HD	10567	1462			145	331	443	1094	686	1769		24	145	331	443	1084	686	1779			145
RegenAcre	01WP	ні	6393	412			73	451	222	506	1219	529			51	451	211	402	1252	563			51
RegenAcre	01WP	NG	723						89	217	52	7					89	217	52				
RegenAcre	01WP	NM	6323	234			39	175	845	1232	224	559			39	175	837	1222	232	471			39
RegenAcre	01WP	NS	144	48								48								48			
RegenAcre	01WP	PL	954				4	11	207	151	69	33			4	11	207	151	69	33			4
RegenAcre	01WP	UM	5650	131	77			128	194	1608	502	220	77			128	194	1587	502	225	77		
Volume	01WP	ВК	7843	242				825	1520	892	31	504				842	1550	830	31	576			
Volume	01WP	BM	14566	1318	633		142	462	997	1503	521	1939	636		145	468	1017	1532	530	1942	636		145
Volume	01WP	EE	62989	6588	870		1212	1410	2497	6226	5349	9447	888	353	954	1437	2816	5924	5397	9779	888		954
Volume	01WP	FL	21302	802	88		44		2138	3260	2942	1637	90		44		2180	3319	2984	1640	90		44
Volume	01WP	GB	9072	177	118		351			1705	790	642	119		358			1732	806	642	119		358
Volume	01WP	HD	44794	6217			611	1390	1857	4585	2859	7521		94	623	1417	1893	4630	2910	7564			623
Volume	01WP	HI	27047	1761			298	1900	925	2107	5120	2240			218	1930	893	1722	5348	2367			218
Volume Volume	01WP 01WP	NG NM	3039 26682	1003			166	735	373 3541	904 5164	217 936	26 2306			169	749	379 3576	918 5224	222 984	1960			169
Volume	01WP 01WP	NS	612	204			100	/55	5541	5104	950	2308			109	749	5570	5224	904	204			109
Volume	01WP	PL	4006	204			17	44	867	633	285	131			17	45	884	645	290	131			17
Volume	01WP	UM	23928	558	329		1,	526	807	6761	2110	928	330		17	532	821	6795	2152	949	330		17
Young Mgmt	01WP	ВК	5607	63	63	57		196	558	774	586	346	130	122		196	558	755	567	346	149	141	
Young Mgmt	01WP	BM	10349	361	474	461	185	148	386	709	722	943	733	608	185	148	386	709	722	943	733	608	185
Young Mgmt	01WP	EE	45198	1956	1878	1778	500	629	1224	2428	3410	5061	3771	2544	521	650	1224	2396	3378	5038	3850	2532	430
Young Mgmt	01WP	FL	15298	246	238	209	31	10	519	1289	2002	1889	1130	417	31	10	519	1289	2002	1889	1130	417	31
Young Mgmt	01WP	GB	6436	95	123	70	112	84	224	551	739	754	371	183	112	84	224	551	739	754	271	183	112
Young Mgmt	01WP										, , , ,				112	04	224	221	155	754	371	102	
Young Mgmt	01WP	HD	31865	1689	1689	1462	145	476	919	1868	2223	3549	2455	1793	169	500	224 919	1858	2213	3549		1779	145
	UIVVP	HD HI	31865 19109	1689 428	1689 428	1462 412	145 73	476 524					2455 1748	1793 529									145 51
Young Mgmt	01WP								919	1868	2223	3549			169	500	919	1858	2213	3549	2465	1779	
Young Mgmt Young Mgmt		HI	19109	428 322					919 746	1868 1179	2223 1947	3549 2254	1748	529 7 559	169	500	919 713	1858 1064	2213 1865	3549 2217	2465 1815	1779 563 471	
Young Mgmt Young Mgmt	01WP	HI NG NM NS	19109 2169 19067 432	428	428	412	73	524 214	919 746 89 1059	1868 1179 306 2252	2223 1947 358 2301	3549 2254 276 2015 48	1748 59 783 48	529 7 559 48	169 51	500 502 214	919 713 89 1051	1858 1064 306 2234	2213 1865 358 2291	3549 2217 269 1925 48	2465 1815 52 703 48	1779 563 471 48	51
Young Mgmt Young Mgmt Young Mgmt	01WP 01WP 01WP 01WP	HI NG NM NS PL	19109 2169 19067 432 2854	428 322 48	428 322 48	412 234 48	73 39 4	524 214 15	919 746 89 1059 222	1868 1179 306 2252 369	2223 1947 358 2301 427	3549 2254 276 2015 48 253	1748 59 783 48 102	529 7 559 48 33	169 51 39 4	500 502 214 15	919 713 89 1051 222	1858 1064 306 2234 369	2213 1865 358 2291 427	3549 2217 269 1925 48 253	2465 1815 52 703 48 102	1779 563 471 48 33	51 39 4
Young Mgmt Young Mgmt Young Mgmt Young Mgmt	01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM	19109 2169 19067 432 2854 17001	428 322 48 163	428 322 48 227	412 234	73 39 4 77	524 214 15 128	919 746 89 1059 222	1868 1179 306 2252	2223 1947 358 2301	3549 2254 276 2015 48 253 2330	1748 59 783 48	529 7 559 48	169 51 39	500 502 214 15 128	919 713 89 1051 222 322	1858 1064 306 2234	2213 1865 358 2291	3549 2217 269 1925 48	2465 1815 52 703 48	1779 563 471 48	51 39 4 77
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch	01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK	19109 2169 19067 432 2854 17001 115	428 322 48	428 322 48	412 234 48 208	73 39 4 77 6	524 214 15 128 3	919 746 89 1059 222 322	1868 1179 306 2252 369 1930	2223 1947 358 2301 427	3549 2254 276 2015 48 253 2330 6	1748 59 783 48 102	529 7 559 48 33	169 51 39 4 77	500 502 214 15	919 713 89 1051 222	1858 1064 306 2234 369 1909	2213 1865 358 2291 427 2283	3549 2217 269 1925 48 253 2314	2465 1815 52 703 48 102	1779 563 471 48 33	51 39 4 77 6
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM	19109 2169 19067 432 2854 17001 115 237	428 322 48 163 14	428 322 48 227 78	412 234 48 208 29	73 39 4 77 6 12	524 214 15 128 3 47	919 746 89 1059 222 322 25	1868 1179 306 2252 369 1930 3	2223 1947 358 2301 427 2304	3549 2254 276 2015 48 253 2330	1748 59 783 48 102	529 7 559 48 33 297	169 51 39 4	500 502 214 15 128	919 713 89 1051 222 322 1	1858 1064 306 2234 369	2213 1865 358 2291 427	3549 2217 269 1925 48 253 2314 2	2465 1815 52 703 48 102 804	1779 563 471 48 33 302	51 39 4 77 6 39
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE	19109 2169 19067 432 2854 17001 115 237 757	428 322 48 163	428 322 48 227	412 234 48 208 29 24	73 39 4 77 6	524 214 15 128 3	919 746 89 1059 222 322 25 3	1868 1179 306 2252 369 1930 3 2	2223 1947 358 2301 427	3549 2254 276 2015 48 253 2330 6	1748 59 783 48 102 799	529 7 559 48 33	169 51 39 4 77 34	500 502 214 15 128	919 713 89 1051 222 322 1 137	1858 1064 306 2234 369 1909	2213 1865 358 2291 427 2283	3549 2217 269 1925 48 253 2314	2465 1815 52 703 48 102	1779 563 471 48 33	51 39 4 77 6 39 150
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL	19109 2169 19067 432 2854 17001 115 237 757 63	428 322 48 163 14	428 322 48 227 78 1	412 234 48 208 29 24 17	73 39 4 77 6 12 46	524 214 15 128 3 47 266	919 746 89 1059 222 322 25 3 16	1868 1179 306 2252 369 1930 3 2 14	2223 1947 358 2301 427 2304 2	3549 2254 276 2015 48 253 2330 6 29	1748 59 783 48 102 799	529 7 559 48 33 297 7	169 51 39 4 77 34 13	500 502 214 15 128 1	919 713 89 1051 222 322 1 137 137	1858 1064 306 2234 369 1909 12	2213 1865 358 2291 427 2283 5	3549 2217 269 1925 48 253 2314 2314 2 24	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9	51 39 4 77 6 39 150 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL FL Forest	19109 2169 19067 432 2854 17001 115 237 757 63 16946	428 322 48 163 14 31	428 322 48 227 78 1 98	412 234 48 208 29 24 17 322	73 39 4 77 6 12 46 440	524 214 15 128 3 47 266 654	919 746 89 1059 222 322 25 3 16 1052	1868 1179 306 2252 369 1930 3 2 14 1039	2223 1947 358 2301 427 2304 2 2 955	3549 2254 276 2015 48 253 2330 6 29 724	1748 59 783 48 102 799 1 1176	529 7 559 48 33 297 7 1182	169 51 39 4 77 34	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235	2465 1815 52 703 48 102 804	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264	428 322 48 163 14	428 322 48 227 78 1	412 234 48 208 29 24 17	73 39 4 77 6 12 46	524 214 15 128 3 47 266 654 93	919 746 89 1059 222 322 25 3 16	1868 1179 306 2252 369 1930 3 2 14 1039 93	2223 1947 358 2301 427 2304 2	3549 2254 276 2015 48 253 2330 6 29	1748 59 783 48 102 799 1 1176 30	529 7 559 48 33 297 7	169 51 39 4 77 34 13 1266	500 502 214 15 128 1	919 713 89 1051 222 322 1 137 137	1858 1064 306 2234 369 1909 12	2213 1865 358 2291 427 2283 5	3549 2217 269 1925 48 253 2314 2314 2 24	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9	51 39 4 77 6 39 150 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL FL Forest	19109 2169 19067 432 2854 17001 115 237 757 63 16946	428 322 48 163 14 31	428 322 48 227 78 1 98	412 234 48 208 29 24 17 322	73 39 4 77 6 12 46 440	524 214 15 128 3 47 266 654	919 746 89 1059 222 322 25 3 16 1052	1868 1179 306 2252 369 1930 3 2 14 1039	2223 1947 358 2301 427 2304 2 2 955	3549 2254 276 2015 48 253 2330 6 29 724 12	1748 59 783 48 102 799 1 1176	529 7 559 48 33 297 7 1182	169 51 39 4 77 34 13	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65	428 322 48 163 14 31	428 322 48 227 78 1 98	412 234 48 208 29 24 17 322	73 39 4 77 6 12 46 440	524 214 15 128 3 47 266 654 93	919 746 89 1059 222 322 25 3 16 1052 14	1868 1179 306 2252 369 1930 3 2 14 1039 93	2223 1947 358 2301 427 2304 2 2 955	3549 2254 276 2015 48 253 2330 6 29 724 12	1748 59 783 48 102 799 1 1176 30	529 7 559 48 33 297 7 1182	169 51 39 4 77 34 13 1266 2	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2	428 322 48 163 14 31 22	428 322 48 227 78 1 98 64	 412 234 48 208 29 24 17 322 	73 39 4 77 6 12 46 440	524 214 15 128 3 47 266 654 93 44	919 746 89 1059 222 322 25 3 16 1052 14	1868 1179 306 2252 369 1930 3 2 14 1039 93 3	2223 1947 358 2301 427 2304 2 955 53	3549 2254 276 2015 48 253 2330 6 29 724 12 4	1748 59 783 48 102 799 1 1176 30 12	529 7 559 48 33 297 7 1182 15	169 51 39 4 77 34 13 1266 2 1	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413	428 322 48 163 14 31 22	428 322 48 227 78 1 98 64 8	 412 234 48 208 29 24 17 322 	73 39 4 77 6 12 46 440 281	524 214 15 128 3 47 266 654 93 44 118	919 746 89 1059 222 322 25 3 16 1052 14	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3	2223 1947 358 2301 427 2304 2 955 53	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49	1748 59 783 48 102 799 1 1176 30 12 126	529 7 559 48 33 297 7 1182 15	169 51 39 4 77 34 13 1266 2 1 12	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095 52
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179	428 322 48 163 14 31 22 20	428 322 48 227 78 1 98 64 8 70	412 234 48 208 29 24 17 322 32	73 39 4 77 6 12 46 440 281	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3 6 6 69	2223 1947 358 2301 427 2304 2 955 53 19	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49	1748 59 783 48 102 799 1 1176 30 12 126	529 7 559 48 33 297 7 1182 15	169 51 39 4 77 34 13 1266 2 1 12	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235 59	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667	51 39 4 77 6 39 150 1 1095 52
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214	428 322 48 163 14 31 22 20 12	428 322 48 227 78 1 98 64 8 70 3	412 234 48 208 29 24 17 322 32	73 39 4 77 6 12 46 440 281 23 43	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3 6 6 69	2223 1947 358 2301 427 2304 2 955 53 19 43	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126	529 7 559 48 33 297 7 1182 15	169 51 39 4 77 34 13 1266 2 1 12	500 502 214 15 128 1 1073	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 224 1235 59	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667 145	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35	428 322 48 163 14 31 22 20 12 37	428 322 48 227 78 1 98 64 8 70 3	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 231 23 43 5	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3 6 6 69	2223 1947 358 2301 427 2304 2 955 53 19 43	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 12	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 2 24 1235 59	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667 145	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27	428 322 48 163 14 31 22 20 12 37	428 322 48 227 78 1 98 64 8 70 3	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 231 23 43 5	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 369 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1235 59	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27	428 322 48 163 14 31 22 20 12 37 19	428 322 48 227 78 1 98 64 8 70 3	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 231 23 43 5	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3 6 6 69	2223 1947 358 2301 427 2304 2 955 53 19 43	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 137 673	1858 1064 306 2234 369 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176	3549 2217 269 1925 48 253 2314 224 1235 59 1 190 120	2465 1815 52 703 48 102 804 55	1779 563 471 48 33 302 9 667 145 56 119	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FI Forest HD HI NG NM PL UM BK BM EE FL Forest GB	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88	428 322 48 163 14 31 22 20 12 37 19 39	428 322 48 227 78 1 98 64 8 70 3	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 23 43 5 12	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43 3	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 369 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120	428 322 48 163 14 31 22 20 12 37 19	428 322 48 227 78 1 98 64 8 70 3 3 3	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 231 23 43 5	524 214 15 128 3 47 266 654 93 44 118 7	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 369 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 190 120	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25	428 322 48 163 14 31 22 20 12 37 19 39 55	428 322 48 227 78 1 98 64 8 70 3 3 3 8 25	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 23 43 5 12	524 214 15 128 3 47 266 654 93 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43 3	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119	51 39 4 77 6 39 150 1 1095 52 1
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 24 413 179 214 485 289 35 27 1238 88 120 25 323	428 322 48 163 14 31 22 20 12 37 19 39	428 322 48 227 78 1 98 64 8 70 3 3 3 8 8 25 33	412 234 48 208 29 24 17 322 32 30 227	73 39 4 77 6 12 46 440 281 23 43 5 12	524 214 15 128 3 47 266 654 93 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43 3	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4 21 21 191	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 1909 12 1092 251 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17	51 39 4 77 6 39 150 1 1095 52 1 35
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 24 413 179 214 485 289 35 27 1238 88 120 25 323 212	428 322 48 163 14 31 22 20 12 37 19 39 55 23	428 322 48 227 78 1 98 64 8 70 3 3 3 8 25	 412 234 48 208 29 24 17 322 32 30 	73 39 4 77 6 12 46 440 281 23 43 5 12	524 214 15 128 3 47 266 654 93 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43 3	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2 249	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 1909 12 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119	51 39 4 77 6 39 150 1 1095 52 1 35
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109	428 322 48 227 78 1 98 64 8 70 3 3 3 8 25 33 14	 412 234 48 208 29 24 17 322 32 30 227 	 73 39 4 77 6 12 46 440 281 23 43 5 12 34 	524 214 15 128 3 47 266 654 93 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 204	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4 56	500 502 214 15 128 1 1073 4 21 21 191	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 369 1909 12 1092 251 1092 251	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 20 24 24 22 120 24 2	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 17	51 39 4 77 6 39 150 1 1095 52 1 35 6 7
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6	428 322 48 227 78 1 98 64 8 70 3 3 3 8 8 25 33	412 234 48 208 29 24 17 322 32 30 227	73 39 4 77 6 12 46 440 281 23 43 5 12	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 29	3549 2254 276 2015 48 253 2330 6 29 724 12 4 49 2 249	1748 59 783 48 102 799 1 1176 30 12 126 3 12	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4	500 502 214 15 128 1 1073 4 21 21 191	919 713 89 1051 222 322 1 137 1 673 5	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 95 19 6	2213 1865 358 2291 427 2283 5 1176 39	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24	2465 1815 52 703 48 102 804 55 1027 56	1779 563 471 48 33 302 9 667 145 56 119 17	51 39 4 77 6 39 150 1 1095 52 1 35
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109	428 322 48 227 78 1 98 64 8 70 3 3 3 8 25 33 14 6	 412 234 48 208 29 24 17 322 32 30 227 24 24 6 	73 39 4 77 6 12 46 440 281 23 43 5 12 34	524 214 15 128 3 47 266 654 93 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 204	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4 56	500 502 214 15 128 1 1073 4 21 191 191 34 6	919 713 89 1051 222 322 1 137 1 673 5 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251	2213 1865 358 2291 427 2283 5 1176 39 51	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24 2 2 120 24 2	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 17 47 6	51 39 4 77 6 39 150 1 1095 52 1 35 52 1 35 6 7 6
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0	412 234 48 208 29 24 17 322 32 30 227 24 24 6 0	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 204 18	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4 56	500 502 214 15 128 1 1073 4 21 21 191 34 6 0	919 713 89 1051 222 322 1 137 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 6 0	2213 1865 358 2291 427 2283 5 1176 39 51	3549 2217 269 1925 48 253 2314 224 1235 59 1 1 90 120 24 2 2 4 2 6 0	2465 1815 52 703 48 102 804 55 1027 56	1779 563 471 48 33 302 9 667 145 56 119 17 17 47 6 0	51 39 4 77 6 39 150 1 1095 52 1 35 52 1 35
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM GB	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 8 25 33 14 6 0 0	412 234 48 208 29 24 17 322 32 30 227 30 227 24 6 0 0	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 3 6 69 38 204 204 18 60 0	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 191 34 6 0 0	919 713 89 1051 222 322 1 137 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 130 0 95 19 6 0 0	2213 1865 358 2291 427 2283 5 1176 39 51	3549 2217 269 1925 48 2314 2 24 1235 59 1 1 90 120 24 2 2 4 2 2 4 0 0	2465 1815 52 703 48 102 804 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 47 47 6 0 0	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Saps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM SB HD	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0 0 0	412 234 48 208 29 24 17 322 32 30 227 30 227 24 6 0 0 0	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 204 18 6 0 0	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0	919 713 89 1051 222 322 1 137 1 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 6 0 0 0	2213 1865 358 2291 427 2283 5 1176 39 51 51	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 1 90 120 24 2 2 4 2 2 4 0 0 0	2465 1815 52 703 48 102 804 55 1027 56	1779 563 471 48 33 302 9 667 145 56 119 17 47 47 6 0 0 0	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM SB HD NM NS PL UM BK BM SC HD NM	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 0	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0 0 0 0 0 0 0	412 234 48 208 29 24 17 322 32 30 227 30 227 24 6 0 0 0 0 0	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 204 18 6 0 0 0 0 0	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 0	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38	529 7 559 48 33 297 7 1182 15 10 10 225	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 0 0	919 713 89 1051 222 322 1 137 1 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 130 0 95 19 6 0 0 0 0 0	2213 1865 358 2291 427 2283 5 1176 39 51	3549 2217 269 1925 48 253 2314 1235 59 1 120 24 2 2 4 2 2 4 2 2 4 2 0 0 0 0 0 0 0	2465 1815 52 703 48 102 804 55 1027 56	1779 563 471 48 33 302 9 667 145 56 119 17 47 47 6 0 0 0 0	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 0
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM S BM S HD NM NS PL NM NS PL NM NS	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 3	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0 0 0 0 0 3 3	412 234 48 208 29 24 17 322 32 30 227 24 6 0 0 0 0 3	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 18 204 18 6 0 0 0 0 0 3 3	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 3	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38 6 0 0 0 0 0 3	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0 0 0 0 3	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 0 3	919 713 89 1051 222 322 1 137 1 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 130 0 95 19 6 0 0 0 0 3	2213 1865 358 2291 427 2283 5 1176 39 51 51	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 1 90 120 24 2 2 4 2 2 4 2 0 0 0 3	2465 1815 52 703 48 102 804 55 1027 56	1779 563 471 48 33 302 9 667 145 56 119 17 47 47 6 0 0 0 3	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 3
Young Mgmt Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM SPL UM NS PL UM SK PL UM SC PL	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 0 3 2	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 8 25 33 14 6 0 0 0 0 0 0 0 2649	 412 234 48 208 29 24 17 322 32 30 227 30 227 24 6 0 0 0 3 2 	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34 6 0 0 0 0 3 2	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 6 69 38 204 18 204 18 6 0 0 0 0 0 3 2	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 0 3 2	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38 6 0 0 0 0 3 2	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0 0 0 0 0 3 2	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 0 0 3 2	919 713 89 1051 222 322 1 137 1 673 5 48 48 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 6 0 0 0 0 0 3 2	2213 1865 358 2291 427 2283 5 1176 39 51 51	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 20 24 2 90 120 24 2 2 4 2 2 4 0 0 0 0 0 0 0 0 3 2	2465 1815 52 703 48 102 804 55 1027 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 47 6 0 0 0 0 0 3 2	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 0 3 2
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM GB HD NM NS PL UM BK BM GB HD NM NS PL UM BK BM BM BK BM SPL SPL SPL SPL SPL SPL SPL SPL SPL SPL	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 0 3 2 0	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0 0 0 0 0 3 2 0	412 234 48 208 29 24 17 322 32 30 227 24 6 0 0 0 0 0 3 2 0	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34 6 0 0 0 0 3 2 0 1474 415	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44 118 68 6 0 0 0 0 0 0 0 3 2 0 74 140	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 18 204 18 6 0 0 0 0 3 2 0	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 0 3 2	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38 6 0 0 0 0 3 2	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0 0 0 0 0 3 2	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 0 0 3 2	919 713 89 1051 222 322 1 137 1 673 5 48 48 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 6 0 0 0 0 0 3 2	2213 1865 358 2291 427 2283 5 1176 39 51 51	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 20 24 2 90 120 24 2 2 4 2 2 4 0 0 0 0 0 0 0 0 3 2	2465 1815 52 703 48 102 804 55 1027 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 47 6 0 0 0 0 0 3 2	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 0 3 2
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM GB HD NM NS PL UM BK BM GB HD NM SPL UM BK BM EE FL FO SO SO SO SO SO SO SO SO SO SO SO SO SO	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 3104	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 8 25 33 14 6 0 0 0 0 0 0 0 2649	412 234 48 208 29 24 17 322 32 30 227 30 227 24 6 0 0 0 0 3 2 0 1531	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34 6 0 0 0 0 3 2 0 1474	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44 118 68 6 0 0 0 0 3 2 0 74	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27 6 0 0 0 0 3 2 0	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 6 69 38 204 18 204 18 6 0 0 0 0 0 3 2	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 0 3 2	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38 6 0 0 0 0 3 2 0	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0 0 0 3 2 0	169 51 39 4 77 34 13 1266 2 1 12 4 56 56 6 0 0 0 0 3 2 0	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 3 2 0	919 713 89 1051 222 322 1 137 1 673 5 48 48	1858 1064 306 2234 369 1909 12 1092 251 130 0 95 19 6 0 0 0 0 3 2 0	2213 1865 358 2291 427 2283 5 1176 39 51 51 6 0 0 0 0 3 2 0	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 1 90 120 24 2 2 4 2 2 6 0 0 0 0 3 2 0	2465 1815 52 703 48 102 804 55 1027 56 56	1779 563 471 48 33 302 9 667 145 56 119 17 56 119 17 47 6 0 0 0 0 3 2 0	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 3 2 0
Young Mgmt Young Mgmt Young Mgmt Young Patch Young Patch Oisturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	01WP 01WP 01WP 01WP 01WP 01WP 01WP 01WP	HI NG NM NS PL UM BK BM EE FL Forest HD HI NG NM PL UM BK BM EE FL Forest GB HD NM NS PL UM BK BM GB HD NM NS PL UM BK BM GB HD NM NS PL UM BK BM BM BK BM SPL SPL SPL SPL SPL SPL SPL SPL SPL SPL	19109 2169 19067 432 2854 17001 115 237 757 63 16946 1264 65 2 413 179 214 485 289 35 27 1238 88 120 25 323 212 136 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	428 322 48 163 14 31 22 20 12 37 19 39 55 23 109 6 0 0 0 0 3104	428 322 48 227 78 1 98 64 8 70 3 3 3 3 8 25 33 14 6 0 0 0 0 3 2 0 2649 680	412 234 48 208 29 24 17 322 32 30 227 24 6 0 0 0 3 2 27 24 6 0 0 0 1531 620	73 39 4 77 6 12 46 440 281 23 43 5 12 34 34 34 6 0 0 0 0 3 2 0 1474 415	524 214 15 128 3 47 266 654 93 44 118 7 44 118 7 44 118 68 6 0 0 0 0 0 0 0 3 2 0 74 140	919 746 89 1059 222 322 25 3 16 1052 14 1 45 7 22 27 7 22 27	1868 1179 306 2252 369 1930 3 2 14 1039 93 3 6 69 38 204 18 204 18 6 0 0 0 0 3 2 0	2223 1947 358 2301 427 2304 2 955 53 19 43 3 3 29 29 17 6 0 0 0 0 3 2	3549 2254 276 2015 48 253 2330 6 29 724 12 4 9 2 249 249 249	1748 59 783 48 102 799 1 1176 30 12 126 3 13 38 13 38 6 0 0 0 0 3 2	529 7 559 48 33 297 7 1182 15 10 10 225 6 0 0 0 0 0 0 0 3 2	169 51 39 4 77 34 13 1266 2 1 12 4 56 56	500 502 214 15 128 1 1073 4 21 191 34 6 0 0 0 0 0 3 2	919 713 89 1051 222 322 1 137 1 673 5 48 48 48	1858 1064 306 2234 369 1909 12 1092 251 1092 251 130 0 95 19 6 0 0 0 0 0 3 2	2213 1865 358 2291 427 2283 5 1176 39 51 51	3549 2217 269 1925 48 253 2314 2 24 1235 59 1 20 24 2 90 120 24 2 2 4 2 2 4 0 0 0 0 0 0 0 0 3 2	2465 1815 52 703 48 102 804 55 1027 55 1027	1779 563 471 48 33 302 9 667 145 56 119 17 47 6 0 0 0 0 0 3 2	51 39 4 77 6 39 150 1 1095 52 1 35 6 7 6 0 0 0 0 0 3 2

LateSerlClos LateSerlClos	02SF 02SF	HD NM	1086 1207	251 296	251 307	286 307	264 274	33 12	1 11														
LateSerIClos	025F	NS	13419	2987	3892	3555	1142	936	906	1													
LateSerlClos	02SF	PL	7631	2501	2610	2111	190	150	35	34													
LateSerIClos	02SF	UM	660	219	219	212	140	454	104	50	2	2	2	2	2	142	125	420	120	120	125	120	140
LateSerlOpen MidAgeClosed	02SF 02SF	Forest BK	2033 56	56		30	140	154	184	58		62	82	82	158	142	135	128	128	136	135	139	140
MidAgeClosed	025F	BM	524	266	258																		
MidAgeClosed	02SF	EE	105	35	35	35																	
MidAgeClosed	02SF	Forest	3318					167	216	244	192	307	316	244	214	226	150	192	142	195	143	194	176
MidAgeClosed	02SF	HD NM	92 11	57 11	35																		
MidAgeClosed MidAgeClosed	02SF 02SF	NS	1179	1014	89	76																	
MidAgeClosed	02SF	PL	231	157	40	34																	
MidAgeClosed	02SF	UM	8				2	2	2	2													
MidAgeOpen	02SF	Forest	568		30	19					82	20		15	29		64	31	71	33	69	35	70
OldSerlClose OldSerlClose	02SF 02SF	BK BM	136077 11502	4219 12	4713 12	5830 196	5884 303	7282 573	7352 680	7349 713	7347 713	7200 713	7200 713	7200 707	7200 703	7200 690	7200 682	7200 682	7200 682	7147 682	7147 682	7114 682	7093 682
OldSerlClose	023F	EE	31	12	12	190	303	575	080	/15	13	13	713 5	0	0	030	082	082	082	082	082	082	082
OldSerlClose	02SF	FL	146	27	27	27	27	27	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OldSerlClose	02SF	Forest	34													2	2	4	4	5	5	6	6
OldSerlClose	02SF	GB	4674	24	78	99	133	276	276	276	276	276	276	276	276	276	276	276	276	262	262	252	252
OldSerlClose OldSerlClose	02SF 02SF	HD NM	4355 4957	29 25	29 10	29 0	31 33	248 295	280 296	281 307	264 307	263 307	263 307	263 307	263 307								
OldSerlClose	025F	NS	63785	105	96	433	2922	3037	3006	3900	3894	3894	3894	3894	3894	3894	3894	3838	3838	3838	3838	3838	3838
OldSerlClose	02SF	PL	43669	24	24	509	2454	2454	2542	2543	2577	2577	2577	2577	2577	2557	2543	2532	2532	2532	2532	2505	2501
OldSerlClose	02SF	UM	16932	709	665	672	884	884	884	884	874	872	872	872	872	874	874	874	874	874	874	874	870
OldSerlOpen Young Mgmt	02SF 02SF	Forest UM	4473 4	2	83	98	108	115	173	322	387	283	220	225	229	296	338	370	235	209	222	274	286
Young Patch	023F 02SF	BK	287	2 22	2 2		3		4		2	147								53		33	21
Young Patch	02SF	BM	171	11	_	134	7				_			6		13							
Young Patch	02SF	EE	21						13				8										
Young Patch	02SF	FL	16						16	~ · · ·	~~ ~												
Young Patch Young Patch	02SF 02SF	Forest GB	5592 52	23	167 5	216	364	227	307	311	291	191	330	340	350	314	346	284 0	349	274 14	346	272 10	313
Young Patch	025F	HD	70	32	5		20				17							0		14		10	
Young Patch	02SF	NM	15		15																		
Young Patch	02SF	NS	192	14	20			91		11								56					
Young Patch	02SF	PL	124	C A	8	14		40			10	2				20		11				27	4
Young Patch AllHarvAcre	02SF 03SLP	UM FL	80 1102	64 142		338					10	2 142			338					142			4
AllHarvAcre	03SLP	HI	1873	449		165					98	419	30		165				98	419		30	
AllHarvAcre	03SLP	NG	27	9								9								9			
AllHarvAcre	03SLP	NM	114			57									57								
Burning	03SLP 03SLP	BM EE	1780 13140	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657	89 657
Burning Burning	03SLP	FL	23600	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180	1180		1180
Burning	03SLP	HD	1280	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Burning	03SLP	н	254840	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742	12742 :	12742
Burning	03SLP	NG	2780	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
Burning	03SLP 03SLP	NM PL	2200 5240	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262	110 262
Burning Burning	03SLP	UM	10820	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541	202 541
Disturbance	03SLP	BM	17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	2	0.1	0.1	0.1	0.1	0.1	15	0.1	0.1
Disturbance	03SLP	EE	483	42	27	5	87				106		9		7			66		65	17		52
Disturbance	03SLP	FL	461			10			5	19		254		5			72					42	54
Disturbance Disturbance	03SLP 03SLP	Forest GB	3344 1							168		43	605	129 1	213	186	370	508	91	163	110	270	488
Disturbance	03SLP	HI	2611	122	249	172	369	823	15	109	16	52	75	20	52			79	2	91		176	189
Disturbance	03SLP	NG	32																19			13	
Disturbance	03SLP	NM	131							19			96		1		15						
Disturbance	03SLP	PL	2		2				01		10	450						470				4	
Disturbance Gaps	03SLP 03SLP	UM FL	441 39	2	5 2		1	1	91 3	3	19 3	152 2	2	2	1	1	1	173 3	3	2	2	1 2	3
Gaps	03SLP	HI	36	1	1	0	2	2	3	3	3	1	1	1	2	2	2	3	3	1	1	1	3
Gaps	03SLP	NG	0				0	0	0	0	0				0	0	0	0	0				0
Gaps	03SLP	NM	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
LateSerlClos LateSerlClos	03SLP 03SLP	BM EE	114 958	50 47	41 25	15 104	104	2 146	2 123	2 175	2 112	70	52										
LateSerIClos	03SLP	FL	3907	676	654	180	129	82	352	435	427	200	96	338									338
LateSerIClos	03SLP	Forest	447									97	99	43	6	95	56	9	8	5	10	9	10
LateSerIClos	03SLP	GB	4					1	1	1	1												
LateSerIClos	03SLP	HD	96	24.62	606	500	32	32	32	160	200	200	24.6	222							20		4.65
LateSerlClos LateSerlClos	03SLP 03SLP	HI NG	7578 258	2163 51	686 22	506 57	720 38	776 38	856	468 13	390 13	380 13	216 13	222							30		165
LateSerIClos	03SLP	NM	778	70	69	12	19	19	131	120	112	112	15	57									57
LateSerIClos	03SLP	PL	12			3	4	4	1	0	0												
LateSerIClos	03SLP	UM	1673	324	175	175	62	204	302	205	162	63	1										
LateSerlOpen	03SLP	EE	45		0.4	04	15	15	15 50	БC													
LateSerlOpen LateSerlOpen	03SLP 03SLP	FL Forest	377 6538		94	94	21 104	56 248	56 765	56 783	758	575	67	111	258	378	324	402	327	252	410	372	404
LateSerlOpen	03SLP	HI	9941		644	132		3055	3055	, 00	, 50		57		200	570	524	102	521	-92	.10	572	10-1
LateSerlOpen	03SLP	NM	2		1	1																	
LateSerlOpen	03SLP	PL	348		-	37	116	116	79														
LateSerlOpen MidAgeClosed	03SLP	UM	98 8	n	38 2	21 2	13 2	13	13														
MidAgeClosed MidAgeClosed	03SLP 03SLP	BM EE	8 1197	2 210	2 329	2 263	2 210	133	52														
MidAgeClosed	03SLP	FL	6966	288	365	455	593	511	576	480	480	338	338		142	142	142	480	480	338	338	338	142
MidAgeClosed	03SLP	Forest	6238					97	265	276	479	840	530	454	396	406	613	302	207	183	318	602	270
MidAgeClosed	03SLP	GB	4	1	1	1	1																
NAId A a a Classic																							
MidAgeClosed MidAgeClosed	03SLP 03SLP 03SLP	HD HI	4 96 19303	32 4295	32 2458	32	2074	1323	928	769	614	165	165	98	517	547	547	712	614	195	165	263	517

Oldser(lose 03S1P NG 103	9 7 57 1 109 152 5 35 35 6 406 354 8 436 382 1 13 14 0 0 0 2 32 32 1 1536 1347 5 52 52 3 13 13 2 181 181 5 15 15 7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162 30 30 30
MindergedeeOBMPPiPiPi28Pi2Pi	5 35 35 6 406 354 8 436 382 1 13 14 0 0 0 2 32 32 1 1536 1347 5 52 52 3 13 13 2 181 181 5 15 15 7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162
Minder-Qore OSLP F. 100 4.10	5 35 35 6 406 354 8 436 382 1 13 14 0 0 0 2 32 32 1 1536 1347 5 52 52 3 13 13 2 181 181 5 15 15 7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162
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Mickage/ore OSSP P. 195 115 79 7 70	6 406 354 8 436 382 1 13 14 0 0 0 2 32 32 1 1536 1347 5 52 52 3 13 13 2 181 181 5 15 15 7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162
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Oldser/Close 0351P Furest 63 .<	1 13 14 0 0 0 2 32 32 1 1536 1347 5 52 52 3 13 13 3 13 13 2 181 181 5 15 15 7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162
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Oldserlopen OBSP FE 628 72 72 73 <th73< th=""> 73 73</th73<>	7 37 37 2 212 212 7 552 585 5 5175 5175 6 26 26 1 41 41 7 117 117 2 162 162
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OldserlOpen OSLP NG 494 26 <th26< th=""> 26 26</th26<>	6 26 26 1 41 41 7 117 117 2 162 162
Oldser/Open O3SUP NM 777 40 40 41	1 41 41 7 117 117 2 162 162
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Respondere Volume035LPNM1141	
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Volume03SLPNG8729	
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Young Patch $03SLP$ HI 1632 72 147 101 218 486 9 65 10 31 44 12 31 47 1 54 Young Patch $03SLP$ NM 24 24 1	7 496 806
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AllHarvAcre 04PP HD 402 40 53 40 63 10 40 53 40	1 6 3
	3 10
AllHarvAcre 04PP HI 1045 135 115 132 86 18 44 3 44 132 71 135	5 15
AllHarvAcre 04PP NG 83 6 5 2 13 17 5 4 5 2 6 AllHarvAcre 04PP NM 1270 214 96 214 20 96 86 214 10 300	5 13 0 10
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Burning 04PP BK 8776 257 257 459 459 459 459 459 459 459 459 459 459	9 459 459
Burning 04PP BM 2616 116 116 117 156 127 127 128 156 127 128 Durning 04PP BM 2616 116 116 117 156 127 127 128 156 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 156 127 127 128 126 127 127 128 126 127 127 128 126 127 127 <td< td=""><td>6 127 127</td></td<>	6 127 127
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Burning 04PP HD 6652 115 115 115 115 387 387 387 387 387 387 387 387 387 387	7 387 387
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Burning 04PP NG 780 34 34 38 43 38 38 42 43 38 42 43 38 42 43 38 43 43 412 412 412 412	3 38 38 2 412 412
Burning 04PP PL 5552 272 272 272 272 279 279 279 279 279 27	9 279 279
Burning 04PP UM 16218 747 778 809 825 812 812 843 825 812 843 825 812 843 825 812 843 825 812 843 825 812 843 825 812 843 825 812 843	5 812 812
Disturbance 04PP BK 980 56 62 171 37 60 87 263 31 Disturbance 04PP BM 780 25 3 1 59 306 135 22 1 4 58 112 34	3 9 201 20
Disturbance 04PP EE 4902 251 217 143 641 590 151 97 149 697 73 117 126 3 256 370 312	
Disturbance 04PP FL 399 57 45 44 203 13 11 5 9 2 7 2	4 376 279
Disturbance 04PP Forest 6887 358 14 202 1569 140 404 178 637 978 205 347	4 376 279 1
Disturbance 04PP GB 41 21 12 2 6 Disturbance 04PP HD 46 5 7 5 4 25	
Disturbance 04PP HD 46 575 4 25 Disturbance 04PP HI 383 3 121 20 156 31 15 3 3	1
Disturbance 04PP NG 245 87 8 45 16 80 3 6	1
Disturbance 04PP NM 504 145 185 3 57 13 20 Disturbance 04PP NS 50 27 22 22	1 4 571 1040 31
Disturbance 04PP NS 59 27 32 Disturbance 04PP PL 99 4 22 47 12 4	1 4 571 1040
Disturbance 04PP UM 777 63 164 29 42 89 46 8 72 7 60 54 31 2	1 4 571 1040 31 81
Gaps 04PP BK 17 1 1 1 1 1 0 0 1	1 4 571 1040 31

Gaps	04PP	BM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaps	04PP	EE	111	5	7	7	7	7	4	3	3	5	6	6	7	7	7	7	7	4	3	3	6
Gaps	04PP	FL	33	1	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	1	1	1	2
Gaps	04PP	GB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaps	04PP	HD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaps	04PP	HI	14	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1
Gaps	04PP	NG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaps	04PP	NM	46	2	2	3	3	3	1	1	1	3	3	3	3	3	3	3	3	1	1	1	3
Gaps	04PP	UM	14	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1
LateSerIClos	04PP	ВК	3503	748	478	436	209	209	199	199	199						10	10	10	199	199	199	199
LateSerIClos	04PP	BM	3428	916	758	615	364	134	79	43	42						67	103	103	78	42	42	42
LateSerIClos	04PP	EE	23495	7501	4800	3148	1789	733	410	264	274			47	480	480	866	963	530	418	264	264	264
LateSerIClos	04PP	FL .	3526	1144	889	453	217	201	52			24.0	~ ~	0		10	138	190	190	52	22	20	22
LateSerIClos	04PP	Forest	479	110	104	4.1	24	27	0	2	2	219	94	8	11	19	16	18	17	13	22	20	22
LateSerlClos LateSerlClos	04PP 04PP	GB HD	411 1263	116 255	104 198	41 149	24 149	27 110	9 63	3 10	3 10						18 40	24 93	24 93	9 63	3 10	3 10	3 10
LateSerIClos	04PP 04PP	HI	2813	255 585	591	402	242	208	86	10	10						40 132	203	203	86	10	10	15
LateSerIClos	04PP	NG	639	257	206	402	37	208	13	13	13						2	203	203	13	13	13	13
LateSerIClos	04PP	NM	3146	839	671	433	227	224	20	10	10						214	224	224	20	10	10	10
LateSerIClos	04PP	NS	0	000	0	0	0	0	20	10	10							'		20	10	10	10
LateSerIClos	04PP	PL	343	240	103	-	÷	-															
LateSerIClos	04PP	UM	2987	1073	610	383	225	154	68	8	8						82	142	142	68	8	8	8
LateSerlOpen	04PP	ВК	56		28	28																	
LateSerlOpen	04PP	BM	180						1	30	30	30	30	30	29								
LateSerlOpen	04PP	EE	6616		1600	1488	1212		48	386	386	386	386	386	338								
LateSerlOpen	04PP	FL	1512		248	248	242			129	129	129	129	129	129								
LateSerlOpen	04PP	Forest	7443		149	157	100	78	31	14	6		143	318	444	770	683	758	703	544	879	799	867
LateSerlOpen	04PP	HI	297		5	5	5		3	47	47	47	47	47	44								
LateSerlOpen	04PP	NG	54						4	9	9	9	9	9	5								
LateSerlOpen	04PP	NM	649		129		4				86	86	86	86	86	86							
LateSerlOpen	04PP	PL	130		65	65				-		-											
LateSerlOpen	04PP	UM	987 1524		241	241	241		31	44	44	44	44	44	13	200	100	400	400				40
MidAgeClosed	04PP	BK	1524	243	226	74	F.0	40				10 67	10 102	10 102	209	209	199 78	199	199				10 67
MidAgeClosed MidAgeClosed	04PP 04PP	BM EE	1051	48	75 681	74 1094	50 429	12 81	10	57	100	67 866	103	103 963	145 804	145 804	78 418	42 274	42 274				67 286
MidAgeClosed	04PP 04PP	FL	9077 1521	446	681 129	1094 129	429 129	81	10	57	480	866 138	1010 190	963 190	804 190	804 190	418 52	274	274				386 138
MidAgeClosed	04PP 04PP	FL Forest	11038	46	129	129	129	219	577	582	746	138	190 695	474	355	715	52 1245	614	447	399	677	1280	138 576
MidAgeClosed	04PP	GB	165	3	3	3	3	219	577	362	740	1437	24	24	27	27	1245 9	3	3	399	077	1200	18
MidAgeClosed	04PP	HD	633	48	10	10	10					40	93	93	103	103	63	10	10				40
MidAgeClosed	04PP	HI	1448	30	62	62	59	13				132	203	203	218	218	86	15	15				132
MidAgeClosed	04PP	NG	169	17	22	22	18	13				2	2	2	15	15	13	13	13				2
MidAgeClosed	04PP	NM	1606	10	10	96	96	10				214	224	224	234	234	20	10	10				214
MidAgeClosed	04PP	NS	11	11																			
MidAgeClosed	04PP	UM	1009	58	53	53	13					82	142	142	150	150	68	8	8				82
MidAgeOpen	04PP	BM	60				1	30	29														
MidAgeOpen	04PP	EE	772				48	386	338														
MidAgeOpen	04PP	FL	258					129	129														
MidAgeOpen	04PP	- ·																					326
		Forest	4070			1					143	149	87	540	470	218	233	326	646	473	221	237	520
MidAgeOpen	04PP	н	94			1	3	47	44		143	149	87	540	470	218	233	326	646	473	221	237	520
MidAgeOpen MidAgeOpen	04PP 04PP	HI NG	94 18			1	3 4	9	5	0.6	143	149	87	540	470	218	233	326	646	473	221	237	520
MidAgeOpen MidAgeOpen MidAgeOpen	04PP 04PP 04PP	HI NG NM	94 18 258			1	4	9 86	5 86	86	143	149	87	540	470	218	233	326	646	473	221	237	520
MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen	04PP 04PP 04PP 04PP	HI NG NM UM	94 18 258 88	420	CE 4		4 31	9 86 44	5 86 13														
MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose	04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK	94 18 258 88 13264	428	654	862	4 31 963	9 86 44 862	5 86 13 794	772	757	757	757	722	722	671	671	516	498	498	496	491	373
MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen OldSerIClose OldSerIClose	04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM	94 18 258 88 13264 5339	10	158	862 300	4 31 963 539	9 86 44 862 573	5 86 13 794 444	772 364	757 311	757 298	757 288	722 286	722 252	671 252	671 252	516 186	498 186	498 166	496 166	491 154	373 154
MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE	94 18 258 88 13264 5339 63037	10 408	158 1340	862 300 2878	4 31 963 539 4241	9 86 44 862 573 4876	5 86 13 794 444 4318	772 364 4202	757 311 4076	757 298 3605	757 288 3283	722 286 3185	722 252 3111	671 252 3109	671 252 2958	516 186 2787	498 186 3220	498 166 3036	496 166 3004	491 154 2782	373 154 2618
MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL	94 18 258 88 13264 5339 63037 4671	10	158	862 300	4 31 963 539	9 86 44 862 573	5 86 13 794 444	772 364	757 311	757 298	757 288	722 286	722 252	671 252 3109 209	671 252 2958 205	516 186 2787 205	498 186 3220 205	498 166 3036 204	496 166 3004 204	491 154 2782 204	373 154 2618 203
MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE	94 18 258 88 13264 5339 63037	10 408	158 1340	862 300 2878	4 31 963 539 4241	9 86 44 862 573 4876	5 86 13 794 444 4318	772 364 4202	757 311 4076	757 298 3605	757 288 3283	722 286 3185	722 252 3111	671 252 3109	671 252 2958	516 186 2787	498 186 3220	498 166 3036	496 166 3004	491 154 2782	373 154 2618
MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL FL	94 18 258 88 13264 5339 63037 4671 124	10 408 5	158 1340 12	862 300 2878 398	4 31 963 539 4241 590	9 86 44 862 573 4876 468	5 86 13 794 444 4318 240	772 364 4202 235	757 311 4076 229	757 298 3605 221	757 288 3283 214	722 286 3185 210	722 252 3111 210	671 252 3109 209 2	671 252 2958 205 6	516 186 2787 205 8	498 186 3220 205 11	498 166 3036 204 21	496 166 3004 204 22	491 154 2782 204 26	373 154 2618 203 28
MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL Forest GB	94 18 258 88 13264 5339 63037 4671 124 940	10 408 5 8	158 1340 12 8	862 300 2878 398 62	4 31 963 539 4241 590 72	9 86 44 862 573 4876 468 67	5 86 13 794 444 4318 240 51	772 364 4202 235 51	757 311 4076 229 51	757 298 3605 221 51	757 288 3283 214 51	722 286 3185 210 50	722 252 3111 210 50	671 252 3109 209 2 46	671 252 2958 205 6 46	516 186 2787 205 8 46	498 186 3220 205 11 46	498 166 3036 204 21 46	496 166 3004 204 22 46	491 154 2782 204 26 46	373 154 2618 203 28 46
MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL FL Forest GB HD	94 18 258 88 13264 5339 63037 4671 124 940 1901	10 408 5 8 38	158 1340 12 8 133	862 300 2878 398 62 182	4 31 963 539 4241 590 72 182	9 86 44 573 4876 468 67 228	5 86 13 794 444 4318 240 51 94	772 364 4202 235 51 88	757 311 4076 229 51 86	757 298 3605 221 51 86	757 288 3283 214 51 84	722 286 3185 210 50 82	722 252 3111 210 50 82	671 252 3109 209 2 46 67	671 252 2958 205 6 46 67	516 186 2787 205 8 46 67	498 186 3220 205 11 46 67	498 166 3036 204 21 46 67	496 166 3004 204 22 46 67	491 154 2782 204 26 46 67	373 154 2618 203 28 46 67
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MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlOpen	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL Forest GB HD HI NG NM BK BM EE FL Forest GB HD HI NG NM PL UM BK BM EE FL FI Forest GB HD HI NG NM PL UM BK BM EE FL FI FO S HD HI NG NM BK BM EE FL FI FO S BM EE FL FI FO S BM EE FL FI FO S BM EE FL FI S S BM EE FL FI S S S S S S S S S S S S S S S S S S	94 18 258 88 13264 5339 63037 4671 124 940 1901 1816 1086 3783 488 2102 7609 2193 316 33976 7484 18809 240 2025 519 106 33976 7484 18809 240 2025 519 106 33976 7484 18809 240 2025 519 106 3349 1165 4749 418 281 1588 380 54 206 436 300 54 206	10 408 5 8 38 34 9 94 32	158 1340 12 8 133 34 9 114 32 70 313 43 12	862 300 2878 398 62 182 152 134 352 32 171 457 155 12 234	4 31 963 539 4241 590 72 182 251 134 468 32 171 572 129 450 18 439 439 148 65 15 10 67 386 138 138 138 138 138 138 138 138	9 86 44 862 573 4876 468 67 228 186 142 303 32 171 573 129 1662 260 674 5 152 65 256 36 144 52 6 53 71	5 86 13 794 444 4318 240 51 94 123 122 229 32 154 496 129 5 1902 410 1423 16 135 9 2 152 69 273	772 364 4202 235 51 88 104 112 227 32 145 478 129 5 1902 410 1536 16 135 9 2 152 69 273 199 42 264 3 10 15 13 10 15 13 10 8	757 311 4076 229 51 86 83 106 192 32 117 473 129 5 1902 410 1675 16 135 9 2 152 69	757 298 3605 221 51 86 77 59 169 32 98 427 129 5 1902 410 1797 16 135 9 2 152 69 273	757 288 3283 214 51 84 77 27 169 32 98 399 129 5 1902 410 2148 16 135 9 2 152 69	722 286 3185 210 50 82 75 27 161 32 98 395 129 5 1902 410 2182 16 135 9 2 152 69	722 252 3111 210 50 82 74 27 161 32 98 394 129 6 1950 410 1104 16 135 12 6 152 69	671 252 3109 2 46 67 74 27 149 13 98 359 129 35 2288 539 461 16 135 56 11 152 69	671 252 2958 205 6 46 67 74 25 149 13 91 327 129 35 2288 539 325 16 135 56 11 238 69	516 186 2787 205 8 46 67 74 21 149 13 89 309 129 35 2288 539 352 16 135 56 11 238 69 317 10 67 386 138 138 138 138 138 138 138	498 186 3220 205 11 46 67 72 21 149 13 89 308 129 35 2288 539 458 16 135 56 11 238 69 317 36 144 52 6 53 71 10	498 166 3036 204 21 46 67 72 21 149 13 89 308 129 35 2288 539 864 16 135 56 11 238 69 317	496 166 3004 22 46 67 72 21 149 13 89 308 129 35 2288 539 914 16 135 56 11 238 69 317	491 154 2782 204 26 46 67 54 21 149 13 83 275 129 35 2288 539 1076 16 135 56 11 238 69 317 12	373 154 2618 203 28 46 67 54 21 101 13 83 243 129 35 2288 539 1147 16 135 56 11 238 69 317 199 21 264 3 10 15 13
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MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlOpen	04PP 04PP 04PP 04PP 04PP 04PP 04PP 04PP	HI NG NM UM BK BM EE FL Forest GB HD HI NG NM BK BM EE FL FOrest GB HD HI NG NM PL UM BK BM EE FL FOR FL FOR FL GB HD HI NG NM EE FL FOR ST GB HD HI NG NM EE FL FOR ST GB HD HI NG NM EE FL FOR ST GB HD HI NG NM EE FL FOR ST ST ST ST ST ST ST ST ST ST ST ST ST	94 18 258 88 13264 5339 63037 4671 124 940 1901 1816 1086 3783 488 2102 7609 2193 316 33976 7484 18809 240 2025 519 106 33976 7484 18809 240 2025 519 106 33976 7484 18809 240 2025 519 106 3349 1165 4749 418 281 1588 380 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 436 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 54 206 300 207 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 306 300 2025 519 200 2025 519 306 300 2025 519 200 2025 519 200 2025 519 200 2025 519 200 2025 519 200 2025 519 200 2025 519 200 2025 519 200 2025 200 200	10 408 5 8 38 34 9 94 32	158 1340 12 8 133 34 9 114 32 70 313 43 12	862 300 2878 398 62 182 152 134 352 32 171 457 155 12 234	4 31 963 539 4241 590 72 182 251 134 468 32 171 572 129 450 18 439 439 148 65 15 10 67 386 138 138 138 138 138 138 138 138	9 86 44 862 573 4876 468 67 228 186 142 303 32 171 573 129 1662 260 674 5 152 65 256 36 144 52 6 53 71	5 86 13 794 444 4318 240 51 94 123 122 229 32 154 496 129 5 1902 410 1423 16 135 9 2 152 69 273	772 364 4202 235 51 88 104 112 227 32 145 478 129 5 1902 410 1536 16 135 9 2 152 69 273 199 273 199 42 264 3 10 15 13 10 15 13 10 8 36 144	757 311 4076 229 51 86 83 106 192 32 117 473 129 5 1902 410 1675 16 135 9 2 152 69	757 298 3605 221 51 86 77 59 169 32 98 427 129 5 1902 410 1797 16 135 9 2 152 69 273	757 288 3283 214 51 84 77 27 169 32 98 399 129 5 1902 410 2148 16 135 9 2 152 69	722 286 3185 210 50 82 75 27 161 32 98 395 129 5 1902 410 2182 16 135 9 2 152 69	722 252 3111 210 50 82 74 27 161 32 98 394 129 6 1950 410 1104 16 135 12 6 152 69	671 252 3109 2 46 67 74 27 149 13 98 359 129 35 2288 539 461 16 135 56 11 152 69	671 252 2958 205 6 46 67 74 25 149 13 91 327 129 35 2288 539 325 16 135 56 11 238 69	516 186 2787 205 8 46 67 74 21 149 13 89 309 129 35 2288 539 352 16 135 56 11 238 69 317 10 67 386 138 138 138 138 138 138 138	498 186 3220 205 11 46 67 72 21 149 13 89 308 129 35 2288 539 458 16 135 56 11 238 69 317 36 144 52 6 53 71 10	498 166 3036 204 21 46 67 72 21 149 308 129 308 129 308 129 35 2288 539 864 16 135 56 11 238 69 317	496 166 3004 22 46 67 72 21 149 13 89 308 129 35 2288 539 914 16 135 56 11 238 69 317	491 154 2782 204 26 46 67 54 21 149 13 83 275 129 35 2288 539 1076 16 135 56 11 238 69 317 12	373 154 2618 203 28 46 67 54 21 101 13 83 243 129 35 2288 539 1147 16 135 56 11 238 69 317 199 21 264 3 10 15 13

RegenAcre	04PP	HD	196						40	53		10								40	53		
RegenAcre	04PP	HI	421						132	71		15								132	71		
RegenAcre	04PP	NG	17						2			13								2			
RegenAcre	04PP	NM	458						214	10		10								214	10		
RegenAcre	04PP		292				1	20	82	60		8	20			1	20			82	60 20		
ThinAcre ThinAcre	04PP 04PP	BM EE	120 1544				1 48	29 338				1 48	29 338			48	29 338			1 48	29 338		
ThinAcre	04PP	FL	516				40	129				40	129			40	129			40	129		
ThinAcre	04PP	HI	188				3	44				3	44			3	44			3	44		
ThinAcre	04PP	NG	36				4	5				4	5			4	5			4	5		
ThinAcre	04PP	NM	344					86				86				86				86			
ThinAcre	04PP	UM	176				31	13				31	13			31	13			31	13		
Volume	04PP	ВК	831				11		15	233		313						11		15			233
Volume	04PP	BM	736				78	47	104	106		67	5			0	5	78	42	104	61	14	25
Volume	04PP	EE	4243				459	226	605	532		447	59			8	59	451	167	613	310		307
Volume	04PP	FL	1130				161	84	216	81		_	23				23	161	61	216	104		
Volume	04PP	GB	145				21	7	29	13		5						21	7	29	9		4
Volume	04PP	HD	549				47	62	63	95		15	0			4	0	47	62	63	84		11
Volume Volume	04PP 04PP	HI NG	1206 71				155 3	91 1	206 3	130 16		25	8 1			1 1	8 1	154 2	83	207 4	120 1		18 16
Volume	04PP 04PP	NM	1330				251	27	336	27		22 32	T			16	T	251	11	4 352	15	12	10
Volume	04PP	UM	840				101	73	128	104		18	2			10	2	251 95	71	134	97	12	9
Young Mgmt	04PP	ВК	853	6	10	10	101	10	20	20	20	209	209	209	10	10	10	10	10	20	20	20	10
Young Mgmt	04PP	BM	871	32	5	-0	5	-•	72	108	108	83	47	47	5	5	5	-•	5	72	108	108	41
Young Mgmt	04PP	EE	7014	426	144	134	134	134	520	664	664	552	408	408	134	134	134	134	134	520	674	674	288
Young Mgmt	04PP	FL	1661	141	20	20	20	20	158	210	210	72	20	20	20	20	20	20	20	158	210	210	72
Young Mgmt	04PP	GB	231	2	4	4	4	4	22	28	28	13	7	7	4	4	4	4	4	22	28	28	10
Young Mgmt	04PP	HD	705	3	6	6	6	6	46	99	99	69	16	16	6	6	6	6	6	46	99	99	59
Young Mgmt	04PP	HI	1366	46	3	3	3	3	135	206	206	89	18	18	3	3	3	3	3	135	206	206	74
Young Mgmt	04PP	NG	95	6	2	2	2	2	4	4	4	15	15	15	2	2	2	2	2	4	4	4	2
Young Mgmt	04PP	NM	1643	88	91	5	5	5	219	229	229	25	15	15	5	5	5	5	5	219	229	229	15
Young Mgmt	04PP	PL	156	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Young Mgmt	04PP	UM	1144	21	13	13	13	13	95	155	155	81	21	21	13	13	13	13	13	95	155	155	73
Young Patch Young Patch	04PP 04PP	BK BM	577 462	15	33 2	37 1	35	101 181		22 80		13	1	35 2	34	51		155 66	18	20	2	5 12	118
Young Patch	04PP 04PP	EE	3089	148	2 128	104	556	347	89	58	88	412	43	2 69	54 74	2	151	218		20 184	32		164
Young Patch	04PP	FL	236	140	34	27	26	120	8	50	6	-12	-5	05	/ 4	1	4	210		104	52		104
Young Patch	04PP	Forest	27370		219	577	793	889	-	1701	-	841	2145	1876	2058	1635	1172	1739	1976	1957	1736	1067	1836
Young Patch	04PP	GB	24		12	0	7	000	2000		2007	0.1		1	2000	4	/-	2,00	2070	2007	2,00	2007	2000
Young Patch	04PP	HD	27					3	4	3			2			15							
Young Patch	04PP	HI	228	2		71	12	93		19	9			2					2			18	
Young Patch	04PP	NG	146		51	5		27		10		47					2	4					
Young Patch	04PP	NM	300				86	110		2	34			8		12							48
Young Patch	04PP	NS	35	16												19							
Young Patch	04PP	PL	58		2				13		28						7	2				6	
Young Patch	04PP	UM	460	37	97	17	25	53	28		5	43		4		35	32	18	1			33	32
AllHarvAcre	05WpHw	ВК	1038			72		69		58	169	151			50	22	69		97	160	121		
AllHarvAcre	05WpHw	BM	5509		21		1034	227	~~	999	28	337	21		196	839	226	129	898	14	344		196
AllHarvAcre	05WpHw	EE	13206	265	1282	84	266	261	33	1204	38	2552		1547	214	508	116	63	1199	516	1990		1282
AllHarvAcre	05WpHw	FL GB	3924 780		122	214	215 69	81		583 72	131	555 249		122	214	279 69	17	72	714	139 5	416 244		122
AllHarvAcre AllHarvAcre	05WpHw 05WpHw	HD	15548	480		3	3340	257	11	1139	140	249 835		480	3138	233	240	121	1058	5 154	244 781		3138
AllHarvAcre	05WpHw	HI	6831	216		786	724	223	5	767	272	436		216	626	233 989	123	345	372	341	390		5150
AllHarvAcre	05WpHw	NG	846	5		36	15	35	5	167	272	174		5	36	50	125	14	153	5	151		
AllHarvAcre	05WpHw	NM	4847	65	157		468	252	87	790		612		65	157	478	264	84	771	62	535		
AllHarvAcre	05WpHw	PL	1382		-			40	5	461	10	175			-	-	45	25	446	131	44		
AllHarvAcre	05WpHw	UM	4420			18	400	286		1022	14	470				530	174	177	859	92	378		
Burning	05WpHw	ВК	40505	691	691	826	842	1560	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393	2393
Burning	05WpHw	BM	139020	1068	1068	1156	2805	5243	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512	8512
Burning	05WpHw	EE	266376	657	657	670	2078	9984	16822	16822	16822	16822	16822	16822	16822	16822	16822	16822	16822	16822	16822	16822 2	16822
Burning	05WpHw	FL	25863	54	54	66	106	578	1667		1667		1667	1667	1667	1667		1667	1667			1667	
Burning	05WpHw	GB	31166			4	48	349	2051		2051			2051		2051						2051	
Burning	05WpHw	HD	197585	240	240	310	807															12717 1	
Burning	05WpHw	HI NG	43826 3851	56 44	56 44	61 79	87 90	876 219	2846 225	2846 225	2846 225	2846 225	2846 225	2846 225	2846 225	2846 225	2846 225						
Burning Burning	05WpHw 05WpHw	NG	73122	44 571	44 571	79 583	90 743	3109	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503	4503
Burning	05WpHw 05WpHw	NS	6514	10	10	24	43	97	4505	4303	4303	4303	4303	4303	4505	4505	4505	4303	4303	4505	4303	4303	4303
Burning	05WpHw	PL	31094	230	230	412	699	1623	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860
Burning	05WpHw	UM	83319	340	340	498	639	3817	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179	5179
Disturbance	05WpHw	ВК	47			2																45	
Disturbance	05WpHw	BM	235	12		7		52	1			70				27		24	3		30		9
Disturbance	05WpHw	EE	158	30	36	51	25				3	9		1		3							
Disturbance	05WpHw	FL	66		17	24	4		2			2		3			4				2	1	7
Disturbance	05WpHw	Forest	665						25		44	17	30	47	106	21	91	86	33	65	44	56	
Disturbance	05WpHw	HD	165	8									53										104
Disturbance	05WpHw	HI	34				2		13		1	-						~			18		
Disturbance	05WpHw	NG	51	20		2		40	45	65	2	4	44	6		24		3	10	10		-	F
Disturbance Disturbance	05WpHw 05WpHw	NM PL	237 69	20	3	2 2	20	40	45	65	3		17	6		24			10 25	10		7	5 2
Disturbance	05WpHw 05WpHw	UM	247		3 17	2	20 59	37	6	25	8	28	1/		3			53	23			1	2
Gaps	05WpHw 05WpHw	BK	247 54	3	3	о З	3	37	3	25	8 2	28	2	3	3	3	3	3	3	2	2	2	2
Gaps	05WpHw	BM	247	16	16	16	11	10	10	11	12	10	14	14	15	11	10	11	11	12	10	14	13
Gaps	05WpHw	EE	812	43	41	42	42	48	48	43	43	31	37	30	42	41	48	48	43	41	31	37	33
Gaps	05WpHw	FL	124	8	8	7	6	7	8	6	5	3	6	6	7	6	7	8	5	5	3	7	6
Gaps	05WpHw	GB	14	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0
Gaps	05WpHw	HD	604	37	37	37	23	22	22	34	35	31	36	33	21	20	22	38	34	35	31	36	20
- F *	озмрам				15	12	9	8	11	11	11	9	13	13	12	8	8	9	11	11			1.4
Gaps	05WpHw	HI	224	15	12	12	5	U					15	15	12	0	•	-	11	11	11	13	14
Gaps Gaps	05WpHw 05WpHw	NG	28	2	2	2	2	2	2	1	1	0	1	1	2	2	2	2	1	1	0	1	1
Gaps Gaps Gaps	05WpHw 05WpHw 05WpHw	NG NM	28 160	2 11	2 10	2 10	2 8	2 8	2 8	1 6	1 7	0 5	1 9	1 9	2 10	2 8	2 7	2 8	1 6	1 7	0 5	1 9	1 9
Gaps Gaps Gaps Gaps	05WpHw 05WpHw 05WpHw 05WpHw	NG NM NS	28 160 0	2 11 0	2 10 0	2 10 0	2 8 0	2 8 0	2 8 0	1 6 0	1 7 0	0 5 0	1 9 0	1 9 0	2 10 0	2 8 0	2 7 0	2 8 0	1 6 0	1 7 0	0 5 0	1 9 0	1 9 0
Gaps Gaps Gaps Gaps Gaps	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NG NM NS PL	28 160 0 28	2 11 0 2	2 10 0 2	2 10 0 2	2 8 0 2	2 8 0 2	2 8 0 2	1 6 0 0	1 7 0 0	0 5 0 0	1 9 0 2	1 9 0 2	2 10 0 2	2 8 0 2	2 7 0 2	2 8 0 2	1 6 0 0	1 7 0 0	0 5 0 0	1 9 0 2	1 9 0 2
Gaps Gaps Gaps Gaps	05WpHw 05WpHw 05WpHw 05WpHw	NG NM NS	28 160 0	2 11 0	2 10 0	2 10 0	2 8 0	2 8 0	2 8 0	1 6 0	1 7 0	0 5 0	1 9 0	1 9 0	2 10 0	2 8 0	2 7 0	2 8 0	1 6 0	1 7 0	0 5 0	1 9 0	1 9 0

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LateSerlClos LateSerlClos	05WpHw 05WpHw	BK BM	9394 37316	2140 5604	2222 8282	1842 9105	1145 7656	381 3689	546 1631	576 496	320 552	200 163	7 54	7 63	4 7	2 7	2 7						
LateSerIClos	05WpHW 05WpHw	EE			16891			4335	656	490	2264	855	837	866	, 671	, 87	76	25				41	41
LateSerIClos	05WpHw	FL	7390	1165	1600		893	567	392	323	430	110	84	70	30	28	28	4					
LateSerIClos	05WpHw	Forest	15									7	0	0	0	0	0	0	0	1	2	2	3
LateSerIClos	05WpHw	GB	8617		2010		2033	1814	89	2	241	16	16	16	45	45							
LateSerlClos LateSerlClos	05WpHw 05WpHw	HD HI	56403 12426	8611 2065	16076 2811		8531 1483	5761 908	1616 1070	344 394	788 436	103 66	25 49	134 73	15 3	15 2	2	2				24	24
LateSerIClos	05WpHW 05WpHw	NG	12420	2005	2011	218	267	908 247	278	594 114	450 206	54	49	75 9	4	4	Z	Z				24 16	24 16
LateSerlClos	05WpHw	NM	19171	2232	3193	4315	4081	2396	1707	309	680	109	54	54	6	5	2					14	14
LateSerlClos	05WpHw	NS	1730	276	442	442	404	166															
LateSerlClos	05WpHw	PL	6464	1675	1636	1033	970	372	398	99	106	33	25	13	31	31	22	20					
LateSerlClos LateSerlOpen	05WpHw	UM BM	22244 364	3384	4216	4707	4150	2609	1301	810	589 167	120 143	19 54	75	69	69	67	59					
LateSerlOpen	05WpHw 05WpHw	EE	504 517								199	145 159	54 159										
LateSerlOpen	05WpHw	FL	57								19	19	19										
LateSerlOpen	05WpHw	Forest	1280				32	59	111	138	127	60	35	35	35	49	53	74	88	88	100	92	104
LateSerlOpen	05WpHw	HD	404								154	133	117										
LateSerlOpen	05WpHw	HI	315 36								105	105 9	105 5										
LateSerlOpen LateSerlOpen	05WpHw 05WpHw	NG NM	110								22 44	33	33										
LateSerlOpen	05WpHw	PL	50								24	24	2										
LateSerlOpen	05WpHw	UM	601								201	201	199										
MidAgeClosed	05WpHw	ВК	8676	1028	931	868	651	578	360	200	234	143	201	368	469	447	378	428	353	262	141	238	398
MidAgeClosed	05WpHw	BM	40445	6438	3476	2171	1845	1606		1455	1297	1289	2267	2288	2429	1611	1385	1452	1393	1605	1390	2288	2106
MidAgeClosed MidAgeClosed	05WpHw 05WpHw	EE FL	89904 26670	8814 2295	5594 1909	5139 1505	5279 1401	6399 1521	6234 1531	5296 1111	3266 860	2280 660	3471 1243	1911 1228	4438 1565	3930 1286	5361 1391	5298 1605	4607 1170	4207 1048	2280 632	3433 1346	2667 1363
MidAgeClosed	05WpHw	Forest	1384	2295	1909	1505	1401	42	71	61	35	77	113	1220	78	99	124	69	80	72	75	122	1303
MidAgeClosed	05WpHw	GB	6889	2156	431	339	339	265	265	334	69	69	141	141	390	321	321	249	318	313	141	141	146
MidAgeClosed	05WpHw	HD	82537	11498	3295	2711	2874	2725	1665	4793	4177	4107	5230	4890	2587	2354	2594	5611	4786	4872	4212	5270	2286
MidAgeClosed	05WpHw	HI	46480	3887	3027	1827	1897	1481	1864	2226	1996	1956	2723	2779	2587	1598	1691	1972	2589	2371	2326	2671	3012
MidAgeClosed	05WpHw	NG	6301	669	516	499	429	401	224	239	103	95	258	253	391	341	346	368	265	260	123	258	263
MidAgeClosed MidAgeClosed	05WpHw 05WpHw	NM NS	37038 166	4688 166	3643	2202	1823	1763	1285	1342	1017	1034	1821	1754	2209	1731	1532	1605	1312	1514	1063	1819	1881
MidAgeClosed	05WpHW 05WpHw	PL	9780	984	683	788	715	687	308	161	168	76	528	536	691	691	646	621	175	89	70	516	647
MidAgeClosed	•	UM	35466	4966	3412	2622	2029	1695	1360	896	861		1793	1799	2210	1680	1506	1329	1000	1082		1740	1832
MidAgeOpen	05WpHw	Forest	548		29	59	27			10	10	18		12	31	43	29	45	65	47	39	44	40
OldSerlClose	05WpHw	ВК	55944	699	806	1188	2085	2860	2976	3039	2467	2540	2733		3458		3460	3462	3462		3462	3435	3435
OldSerlClose	05WpHw	BM	152392	596	939	1330	2163	6191		9591	7396	7451			10050						9986	9986	9981
OldSerlClose OldSerlClose	05WpHw	EE	333809	454	3584	4258															22095		
OldSerlClose	05WpHw 05WpHw	FL Forest	26218 0	6	13	130	808	1063	1427	1209	11/5	11/5	1200	1/12	1/55	1/5/	1755	0	1/81	1/81	1780 0	1779	0
OldSerlClose	05WpHw	GB	30022					285	2010	2033	1732	1734	1734	2035	2051	-	-	-	2051	-		2051	2051
OldSerlClose	05WpHw	HD	234926	559	1038	3402	6666														15239	15239	
OldSerlClose	05WpHw	HI	44606	123	212	426	1436	2190	2382	2696	2031	2050	2067	2836	2908	2909	2909	2909	2911	2911	2900	2900	2900
OldSerlClose	05WpHw	NG	3685				10	26	194	208	141	142	168	274	279	279	283	281	280	280	280	280	280
																						EUUJ	4999
OldSerlClose	05WpHw	NM	71844	461	511	829	1055	2712	3724	4731	2489	2571	2629	4994	5040	5027	5020	5022	5016	5006	5006	5002	
OldSerlClose	05WpHw	NS	7107	14	14	14	52	293	459	459	404	404	404	459	459	459	459	459	459	459	459	459	459
	•										404 1155								459				
OldSerlClose OldSerlClose	05WpHw 05WpHw	NS PL	7107 32899	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404	404 1158	404 1165	459 2098	459 2100	459 2100	459 2109	459 2111	459 2116	459 2116	459 2116	459 2116	459 2115
OldSerlClose OldSerlClose OldSerlClose	05WpHw 05WpHw 05WpHw	NS PL UM	7107 32899 149448	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840	404 1158 5946 712 2221	404 1165 6046 712 2310	459 2098	459 2100	459 2100	459 2109	459 2111	459 2116	459 2116	459 2116	459 2116	459 2115
OldSerlClose OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE	7107 32899 149448 2136 6728 23051	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657	404 1158 5946 712 2221 7697	404 1165 6046 712 2310 7697	459 2098	459 2100	459 2100	459 2109	459 2111	459 2116	459 2116	459 2116	459 2116	459 2115
OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE FL	7107 32899 149448 2136 6728 23051 1323	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657 441	404 1158 5946 712 2221 7697 441	404 1165 6046 712 2310 7697 441	459 2098 9205	459 2100 9268	459 2100 9267	459 2109 9269	459 2111 9245	459 2116 9283	459 2116 9283	459 2116 9283	459 2116 9282	459 2115 9281
OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE FL Forest	7107 32899 149448 2136 6728 23051 1323 3088	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657 441 47	404 1158 5946 712 2221 7697 441 130	404 1165 6046 712 2310 7697 441 225	459 2098	459 2100	459 2100	459 2109	459 2111	459 2116	459 2116	459 2116	459 2116	459 2115
OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE FL	7107 32899 149448 2136 6728 23051 1323	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657 441	404 1158 5946 712 2221 7697 441	404 1165 6046 712 2310 7697 441	459 2098 9205	459 2100 9268	459 2100 9267	459 2109 9269	459 2111 9245	459 2116 9283	459 2116 9283	459 2116 9283	459 2116 9282	459 2115 9281
OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE FL Fl Forest GB	7107 32899 149448 2136 6728 23051 1323 3088 903	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657 441 47 301	404 1158 5946 712 2221 7697 441 130 301	404 1165 6046 712 2310 7697 441 225 301	459 2098 9205	459 2100 9268	459 2100 9267	459 2109 9269	459 2111 9245	459 2116 9283	459 2116 9283	459 2116 9283	459 2116 9282	459 2115 9281
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OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw 05WpHw	NS PL UM BK BM EE FL Forest GB HD HI NG NM	7107 32899 149448 2136 6728 23051 1323 3088 903 12874 2016 351 6985	14 27	14 382	14 1004	52 1120	293 1713	459 2029	459 2049	404 1155 5840 712 2197 7657 441 47 301 4272 672 107 2321	404 1158 5946 712 2221 7697 441 130 301 4293 672 120 2332	404 1165 6046 712 2310 7697 441 225 301 4309 672 124 2332	459 2098 9205	459 2100 9268	459 2100 9267	459 2109 9269	459 2111 9245	459 2116 9283	459 2116 9283	459 2116 9283	459 2116 9282	459 2115 9281
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OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre Volume	05WpHw 05WpHw	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE	7107 32899 149448 2136 6728 23051 1323 3088 903 12874 2016 351 6985 156 2710 8672 1038 5509 13206 3924 780 15548 6831 846 4847 1382 4420 3465 18393 43878 13058 2602 48823 22764 2833 16193 4556 14723 3405	14 27 2984 265 480 216 5 65 854 1588 684 17 203 101 22 1305	14 382 3809 21 1282 122 157 73 4555 434 492 492 10 35 1795	14 1004 4137 72 84 214 3 786 36 272 760 2735 128 60 82 35 1639	52 1120 4868 1034 266 215 69 3340 724 15 468 400 3650 941 763 244 11304 2571 53 1661 1420 82 1069 1640	293 1713 6506 69 227 261 81 257 263 35 252 40 286 244 805 887 276 908 772 113 890 143 997 151 1275 620	459 2029 8146 33 33 11 5 87 5 113 36 15 295 16 79 1275 569 296 69	459 2049 8500 58 999 1204 583 72 1139 767 167 790 461 1022 207 3501 4149 2005 241 4013 2655 589 2750 1622 3517 137 1240 1507	404 1155 5840 712 2197 7657 441 47 301 4272 672 107 2321 52 896 2890 169 28 38 131 140 272 101 14 594 96 127 443 488 967 443 488 967	404 1158 5946 712 2221 7697 441 130 301 4293 672 120 2332 52 896 2890 151 337 2552 249 835 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 174 612 175 436 175 437 175 437 175 175 175 175 175 175 175 175 175 17	404 1165 6046 712 2310 7697 441 225 301 4309 672 124 2332 52 918 2892 21 60	459 2098 9205 271 1547 122 480 216 5 65 5018 398 1508 680 17 202 161 372 4108	459 2100 9268 274 50 196 214 3138 626 36 157 698 8858 2042 118 492 60 231 1556	459 2100 9267 292 292 292 292 292 292 292 292 292 29	459 2109 9269 331 331 69 226 116 17 240 123 264 45 174 225 736 361 55 778 398 850 145 568 151 1275 633	459 2111 9245 333 333 129 63 72 121 345 14 84 25 177 365 185 202 342 974 39 238 70 500 101 1208 696	459 2116 9283 365 365 97 898 1199 714 1058 372 153 771 446 859 299 2916 3892 2916 3892 2916 3892 2273 3433 1215 499 2510 1452 2795 176 1267 1387 731 72	459 2116 9283 343 343 160 14 516 139 5 154 341 5 62 131 92 508 38 1459 394 14 477 1097 14 175 371 261 267 1055 1787	459 2116 9283 245 245 121 344 1990 416 244 781 390 151 535 44 378 394 1112 6491 1360 795 2549 1272 492 1745 143 1236 388 1270 3714	459 2116 9282 109	459 2115 9281 123 123 123 196 1282 122 3138 3138 8858 8858
OldSerIClose OldSerIClose OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen OldSerIOpen RegenAcre Volume Volu	05WpHw 05WpHw	NS PL UM BK BM EE FL Forest GB HD HI NG PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG <	7107 32899 149448 2136 6728 23051 1323 3088 903 12874 2016 351 6985 156 2710 8672 1038 5509 13206 3924 780 15548 6831 846 4847 1382 4420 3465 18393 43878 13058 2602 48823 22764 2833 16193 4556 14723 3405	14 27 2984 265 480 216 5 65 854 1588 684 17 203 101 22 1305 200	14 382 3809 21 1282 122 157 157 73 4555 434 492 492 10 35 1795 122	14 1004 4137 72 84 214 3 786 36 18 246 272 760 9 2735 128 60 82 35 1639 336 486	52 1120 4868 1034 266 215 69 3340 724 15 468 400 3650 941 763 244 11304 2571 53 1661 1420 82 1069 1640 551 69	293 1713 6506 9 227 261 81 257 223 35 252 40 286 244 805 887 276 908 772 113 890 143 997 151 1275 620 510 93603	459 2029 8146 33 33 11 5 87 5 113 36 15 295 16 79 1275 569 296 69	459 2049 8500 58 999 1204 583 72 1139 767 167 790 461 1022 207 3501 4149 2005 241 4013 2655 589 2750 1622 3517 137 1240 1507 664 72	404 1155 5840 712 2197 7657 441 47 301 4272 672 107 2321 52 896 2890 169 28 38 131 140 272 100 14 594 96 127 443 488 967 34 49 237 1041 1284 712	404 1158 5946 712 2221 7697 441 130 301 4293 672 120 2332 52 896 2890 151 337 2552 249 835 436 174 612 175 470 518 188 8826 1917 882 2929 1527 607 2138 560 1641 388 1378 3203 1269 321 2117	404 1165 6046 712 2310 7697 441 225 301 4309 672 124 2332 52 918 2892 21 60	459 2098 9205 271 1547 122 480 216 5 65 5018 398 1508 680 17 202 161 372 4108 677 249	459 2100 9268 274 50 196 214 3138 626 36 157 698 8858 2042 118 492 60 231 1556 336	459 2100 9267 292 292 292 292 292 292 292 292 292 29	459 2109 9269 331 331 69 226 116 17 240 123 264 45 174 225 736 361 55 778 398 850 145 568 151 1275 633 510 69 3614	459 2111 9245 333 333 129 63 72 121 345 14 84 25 177 365 185 202 342 974 39 238 70 500 101 1208 696 296 141	459 2116 9283 365 365 97 898 1199 714 1058 372 153 771 446 859 299 2916 3892 2916 3892 2916 3892 2916 3892 2916 3892 2916 3892 2273 3433 1215 499 2510 1452 2795 176 1267 1387 731 272	459 2116 9283 343 343 160 14 516 139 5154 341 562 131 92 508 38 1459 394 14 477 1097 14 175 371 261 267 1055 1787 853 77 1336	459 2116 9283 245 245 121 344 1990 416 244 781 390 151 535 44 378 394 1112 6491 1360 795 2549 1272 492 1745 143 1236 388 1270 3714 1269 249	459 2116 9282 109 291 372 2515 555 249	459 2115 9281 123 123 123 196 1282 122 3138 3138 8858 8858 8858

Young Mgmt																							
	05WpHw	NG	2562	. 17	17	41	51	86	50	202	167	341	174	179	41	91	86	64	167	172	309	156	151
Young Mgmt	05WpHw	NM	14798	145	273	229	632	727	814	1136	884	1409	619	684	229	707	906	833	1126	924	1375	604	542
Young Mgmt	05WpHw	NS	(0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Young Mgmt	05WpHw	PL	4418	109	109	3	3	43	48	509	479	649	188	178	3	3	48	73	519	605	624	178	47
Young Mgmt	05WpHw	UM	13462		20	22	422	709	691	1313	1041	1511	489	475	5	535	709	886	1215	1133	1334	475	383
Young Patch	05WpHw	ВК	29			2																27	
Young Patch	05WpHw	BM	142			7		31	1			41				16		14	2		18		5
Young Patch	05WpHw	EE	126		21	51	25				2	6		1		2							
Young Patch	05WpHw	FL	50		10	24	4		1			1		2			2				1	1	4
Young Patch	05WpHw	Forest	3118		42	86	86	44	92	131	209	151	182	226	259	197	195	216	218	234	210	175	165
Young Patch	05WpHw	HD	98				2				1		32								11		61
Young Patch	05WpHw	HI	22				2		8		1	2	20					2			11		
Young Patch Young Patch	05WpHw	NG NM	30 142			n		24	27	38	2	2	26	4		14		2	6	6		4	2
Young Patch	05WpHw 05WpHw	PL	50		2	2 2	20	24	27	50	Z		10	4		14			15	0		4	3 1
Young Patch	05WpHw 05WpHw	UM	176		11	8	20 59	22	4	15	5	16	10		2			32	15			1	1
AllHarvAcre	06SlpH	BM	56		11	14	55	22	-	14	5	10			2	14		52		14		1	-
AllHarvAcre	06SlpH	EE	886		58	14		55	18	14	237		40		73	14			289	21	40		
AllHarvAcre	06SlpH	FL	3812		335	328	393	55	335	328	187		10		335	721			343	507	10		
AllHarvAcre	06SlpH	HI	3784		372	131	167	441		131	23		372		441	298			464	131	372		
AllHarvAcre	, 06SlpH	NG	289)	15	58			12	58			3		12	58			12	58	3		
AllHarvAcre	06SlpH	NM	827		153			64	82		15		71		146				161		71		
AllHarvAcre	06SlpH	PL	222	2	74								74								74		
AllHarvAcre	06SlpH	UM	592	2	120	30			112	30			8		112	30			112	30	8		
Burning	06SlpH	EE	19640	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982
Burning	06SlpH	FL	47180	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359
Burning	06SlpH	HD	500) 25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Burning	06SlpH	HI	126560		6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328	6328
Burning	06SlpH	NG	180		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Burning	06SlpH	NM	5760		288	288	288	288	288	288	288	288	288	288	288	288	288	288	288	288	288	288	288
Burning	06SlpH	PL	520		26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Burning	06SlpH	UM	23860		1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193	1193
Disturbance	06SlpH	BM	47			5		1				4.40		•		10	70	407		07	-	32	9
Disturbance	06SlpH	EE	673			14	207	135	24	46 25	гo	148	10	3	00	12	78	127	0	87	7	15	1
Disturbance	06SlpH	FL	1272 3383			44	387	52	34	25 18	58	360	16 730	28 101	86 190	13 85	61 300	73 463	9	53 165	111	91 270	200 492
Disturbance Disturbance	06SlpH 06SlpH	Forest HI	1512		203	37	64	603		232	26	300	12	21	190	85 71	300	463 44	95 10	105 5	114	270	492 52
Disturbance	06SlpH 06SlpH	NG	75		205	35	04	2	20	232	20	1	12	21	Z	/1		44	10	10		4	52
Disturbance	06SlpH	NM	58			33		2	20		, 50	1		8						10			
Disturbance	06SlpH	PL	148			55			27		50		25	0			19			8	14		
Disturbance	06SlpH	UM	435		83	1	7	35	31				20			15	10	126		0	7	95	32
Gaps	06SlpH	BM	(0	-			0	0	0	0	0	0	0				0	0	0	0	0
Gaps	06SlpH	EE	12		0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	0	1	1
Gaps	06SlpH	FL	83	5	5	3	1	2	4	6	5	5	5	6	5	1	1	2	6	5	5	5	6
Gaps	06SlpH	HI	92	. 4	2	1	3	5	6	7	7	7	5	5	2	2	2	5	7	7	5	5	5
Gaps	06SlpH	NG	(0 0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					-			•	0	0	0	•	•	•	0	0	-	-	0	0	•	-	
Gaps	06SlpH	NM	(0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaps Gaps	06SlpH 06SlpH	NM PL) O) O	-	0	0	-	-			-	-	-		-	0			-		0	0
•	•			0 0	0	0	0	0	0	0	0	0	-	-		0	-	0	0	0		0	0 1
Gaps Gaps LateSerlClos	06SlpH	PL	(14 22() 0 1) 14	0 14	-	-	0 0 1	0 0 1 0	0 0 1 41	0 0 1 41	0 0 1 41	0 1 41	0 1 14	0	0 0	0	0 0	0 0	0 0	0	-	-
Gaps Gaps LateSerlClos LateSerlClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE	(14 22(1828) 0 1 14 3 439	0 14 196	104	104	0 0 1 37	0 0 1	0 0 1 41 183	0 0 1 41 168	0 0 1 41 136	0 1 41 89	0 1 14 82	0 0 14	0 0	0	0 0	0 0 1 21	0 0	0	-	1 73
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL	(14 220 1828 8883) 0 1 14 3 439 2 1758	0 14 196	-	-	0 0 1	0 0 1 0	0 0 1 41	0 0 1 41	0 0 1 41 136 668	0 1 41 89 626	0 1 14 82 666	0 0 14 721	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos	OGSIpH OGSIpH OGSIpH OGSIpH OGSIpH OGSIpH	PL UM BM EE FL Forest	(14 220 1828 8882 188) 0 1 14 439 1758 3	0 14 196 1237	104 664	104 186	0 0 1 37 59	0 0 1 0 196 171	0 0 1 41 183 900	0 0 1 41 168 712	0 0 1 41 136 668 42	0 1 41 89 626 63	0 1 14 82 666 4	0 0 14 721 6	0 0	0	0 0	0 0 1 21	0 0	0	-	1 73 335 11
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI	(14 220 1825 8882 188 7645) 0 1 14 3 439 2 1758 3 5 2305	0 14 196 1237 813	104 664 541	104 186 550	0 0 1 37	0 0 1 0 196 171 163	0 0 1 41 183 900 274	0 1 41 168 712 199	0 0 1 41 136 668 42 638	0 1 41 89 626 63 497	0 1 14 82 666 4 580	0 14 721 6 298	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG	(14 220 1828 8882 188 7649 438	0 0 4 1 3 439 2 1758 3 5 2305 3 117	0 14 196 1237 813 100	104 664 541 30	104 186 550 27	0 0 1 37 59	0 0 1 0 196 171	0 0 1 41 183 900	0 0 1 41 168 712	0 0 1 41 136 668 42 638 3	0 1 41 89 626 63 497 12	0 1 14 82 666 4 580 70	0 0 14 721 6	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441 12
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG NM	(14 220 1823 8882 188 7645 438 952) 0 14 3439 1758 3 52305 3117 276	0 14 196 1237 813 100 58	104 664 541 30 58	104 186 550 27 58	0 0 1 37 59 346	0 0 1 196 171 163 1	0 0 1 41 183 900 274 4	0 1 41 168 712 199	0 0 1 41 136 668 42 638	0 1 41 89 626 63 497	0 1 14 82 666 4 580	0 14 721 6 298	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG NM PL	(14 220 1828 8882 188 7645 438 952 252) 0 4 1 9 14 8 439 2 1758 6 2305 8 117 2 276 2 66	0 14 196 1237 813 100 58 47	104 664 541 30 58 74	104 186 550 27 58 27	0 0 1 37 59 346 27	0 0 1 196 171 163 1 11	0 0 1 41 183 900 274 4 0	0 1 41 168 712 199 4	0 0 1 41 136 668 42 638 3 64	0 1 41 89 626 63 497 12 146	0 1 14 82 666 4 580 70 146	0 14 721 6 298 58	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441 12 146
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG NM PL UM	(14 220 1825 8882 188 7645 438 952 252 1676) 0 14 3 439 2 1758 3 5 2305 3 117 2 276 2 66 5 580	0 14 196 1237 813 100 58 47 34	104 664 541 30 58	104 186 550 27 58	0 0 1 37 59 346	0 0 1 196 171 163 1	0 0 1 41 183 900 274 4	0 1 41 168 712 199	0 0 1 41 136 668 42 638 3	0 1 41 89 626 63 497 12	0 1 14 82 666 4 580 70	0 14 721 6 298	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441 12
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG NM PL UM EE	(14 220 1828 8882 188 7645 438 952 252 1676) 0 11 3 14 3 439 2 1758 3 1758 3 117 2 276 2 66 5 580 5	0 14 196 1237 813 100 58 47 34 6	104 664 541 30 58 74 0	104 186 550 27 58 27	0 0 1 37 59 346 27	0 0 1 196 171 163 1 11	0 1 41 183 900 274 4 0 137	0 1 41 168 712 199 4 136	0 0 1 41 136 668 42 638 3 64 136	0 1 41 89 626 63 497 12 146	0 1 14 82 666 4 580 70 146	0 14 721 6 298 58	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441 12 146
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIOpen LateSerIOpen	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG NM PL UM	(14 220 1825 8882 188 7645 438 952 252 1676) 0 11 3 14 3 439 2 1758 3 1758 3 117 2 276 2 66 5 580 3	0 14 196 1237 813 100 58 47 34	104 664 541 30 58 74	104 186 550 27 58 27	0 0 1 37 59 346 27	0 0 1 196 171 163 1 11	0 0 1 41 183 900 274 4 0	0 1 41 168 712 199 4	0 0 1 41 136 668 42 638 3 64 136 42	0 1 41 89 626 63 497 12 146	0 1 14 82 666 4 580 70 146	0 14 721 6 298 58	0 0 0	0	0 0 1	0 0 1 21 179	0 0 1	0	1	1 73 335 11 441 12 146
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIOpen LateSerIOpen LateSerIOpen	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG NM PL UM EE FL FL Forest	(14 22(1828 8882 188 7645 438 952 255 1676 (173 5918) 0 4 1 3 439 2 1758 3 1758 3 117 2 276 2 66 5 580 3	0 14 196 1237 813 100 58 47 34 6 31 52	104 664 541 30 58 74 0 16	104 186 550 27 58 27 70	0 0 1 37 59 346 27 46	0 0 196 171 163 1 11	0 0 1 41 183 900 274 4 0 137 42	0 1 41 168 712 199 4 136 42	0 0 1 41 136 668 42 638 3 64 136	0 1 41 89 626 63 497 12 146 239	0 1 14 82 666 4 580 70 146 142	0 14 721 6 298 58 30	0 0 9	0 0 8	0 1 9	0 1 21 179 8	0 0 1 7	0 1 11	1	1 73 335 11 441 12 146 112
Gaps Gaps LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIClos LateSerIOpen LateSerIOpen	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG NM PL UM EE FL	(14 220 1828 8882 188 764 438 952 252 1676 (173 5918 94) 0 4 1 3 439 2 1758 3 1758 3 117 2 276 2 66 5 580 3	0 14 196 1237 813 100 58 47 34 6 31	104 664 541 30 58 74 0 16 52	104 186 550 27 58 27 70	0 0 1 37 59 346 27 46	0 0 196 171 163 1 11	0 0 1 41 183 900 274 4 0 137 42 650	0 0 1 41 168 712 199 4 136 42 305	0 0 1 41 136 668 42 638 3 64 136 42 290	0 1 41 89 626 63 497 12 146 239	0 1 14 82 666 4 580 70 146 142	0 14 721 6 298 58 30	0 0 9	0 0 8	0 1 9	0 1 21 179 8	0 0 1 7	0 1 11	1	1 73 335 11 441 12 146 112
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG NM PL UM EE FL Forest HI	(14 220 1828 8882 188 764 438 952 252 1676 (173 5918 94) 0 11 3 14 3 439 2 1758 3 117 2 276 2 66 5 580 3 117 2 276	0 14 196 1237 813 100 58 47 34 6 31 52 927	104 664 541 30 58 74 0 16 52	104 186 550 27 58 27 70	0 0 1 37 59 346 27 46	0 0 196 171 163 1 11	0 0 1 41 183 900 274 4 0 137 42 650	0 0 1 41 168 712 199 4 136 42 305	0 0 1 41 136 668 42 638 3 64 136 42 290	0 1 41 89 626 63 497 12 146 239	0 1 14 82 666 4 580 70 146 142	0 14 721 6 298 58 30	0 0 9	0 0 8	0 1 9	0 1 21 179 8	0 0 1 7	0 1 11	1	1 73 335 11 441 12 146 112
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG	(14 22(1828 8882 188 7645 438 952 252 1676 (173 5918 945 251 1676 173 5918 945 252 1676 173 173 173 173 173 173 173 173) 0 11 14 3439 1758 2305 3117 276 266 580 3 3 4	0 14 196 1237 813 100 58 47 34 6 31 52 927 2	104 664 541 30 58 74 0 16 52	104 186 550 27 58 27 70	0 0 1 37 59 346 27 46	0 0 196 171 163 1 11	0 0 1 41 183 900 274 4 0 137 42 650	0 0 1 41 168 712 199 4 136 42 305 4 8	0 0 1 41 136 668 42 638 3 64 136 42 290	0 1 41 89 626 63 497 12 146 239	0 1 14 82 666 4 580 70 146 142	0 14 721 6 298 58 30	0 0 9	0 0 8	0 1 9	0 1 21 179 8	0 0 1 7	0 1 11	1	1 73 335 11 441 12 146 112
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NM PL UM EE FL Forest HI NG NM UM BM	(14 22(1828 8882 188 7649 438 952 252 1676 (173 5918 949 34 298 34) 0 11 14 3439 1758 52305 3117 2276 266 5580 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6	104 664 541 30 58 74 0 16 52 6	104 186 550 27 58 27 70 226	0 0 1 37 59 346 27 46 254	0 0 196 171 163 1 11 14 637	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14	0 0 1 41 168 712 199 4 136 42 305 4 8 14	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14	0 1 41 89 626 63 497 12 146 239	0 1 14 82 666 4 580 70 146 142 153	0 14 721 6 298 58 30 261	0 0 9 9	0 0 8 376	0 1 9	0 0 1 179 8 333	0 0 1 7 257	0 1 11 415	1 10 377 14	1 73 335 11 441 12 146 112 409
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE	(14 22(1828 8882 182 8882 182 7645 438 952 252 1676 (173 5918 945 298 314 4982	 0 1 14 439 1758 2305 117 2305 117 2305 117 276 66 580 580 580 37 	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300	104 664 541 30 58 74 0 16 52 6 44 478	104 186 550 27 58 27 70 226 226	0 0 1 37 59 346 27 46 254 254 41 553	0 0 196 171 163 1 11 14 637 55 366	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58	0 1 41 89 626 63 497 12 146 239 48	0 1 14 82 666 4 580 70 146 142 153	0 14 721 6 298 58 30 261	0 0 9 9 416	008376	0 0 1 9 407 350	0 0 1 179 8 333 14	0 0 1 7 257 14 113	0 1 11 415 14 73	1 10 377 14 289	1 73 335 11 441 12 146 112 409 14 237
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed	06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL	(14 22(1828 8882 188 7645 438 952 252 1676 (175 5918 945 298 314 4982 17058) 0 1 1 14 439 1758 2 2 3 177 2 2 66 5 8 177 2 26 6 5 8 1 7 2 76 2 3 177 2 76 2 3 175 3 177 3 175 3 177 3 177 3 177 3 177 3 177 3 177 3 177 3 177 3 177 175 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 2 176 3 177 177 177 177 177 177 177	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300	104 664 541 30 58 74 0 16 52 6	104 186 550 27 58 27 70 226	0 0 1 37 59 346 27 46 254 254 41 553 1236	0 0 196 171 163 1 11 14 637 55 366 1431	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056	0 1 41 89 626 63 497 12 146 239 48 14 14 721	0 1 14 82 666 4 580 70 146 142 153 237 580	0 14 721 6 298 58 30 261 261	0 0 9 9 416 277 187	0 0 8 376 277 187	0 0 1 9 407 350 522	0 0 1 179 8 333 333 14 113 1056	0 0 1 7 257 14 113 1056	0 1 11 415 14 73 1056	1 10 377 14 289 1064	1 73 335 11 441 12 146 112 409 14 237 908
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed	06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH 06SIpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL FL Forest	(14 220 1828 8882 182 8882 182 7645 438 952 252 1676 (1775 5918 945 24 34 298 314 4982 17058 5812) 0 11 14 439 1758 2305 117 276 66 580 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046	104 664 541 30 58 74 0 16 52 6 44 478 1329	104 186 550 27 58 27 70 226 226 42 536 1039	0 0 1 37 59 346 27 46 254 254 41 553 1236 102	0 0 196 171 163 1 11 14 637 55 366 1431 271	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056 636	0 0 1 41 136 668 42 638 3 64 136 42 290 4 290 4 8 14 58 1056 869	0 1 41 89 626 63 497 12 146 239 48 14 721 340	0 1 14 82 666 4 580 70 146 142 153 237 580 238	0 14 721 6 298 58 30 261 261 237 187 168	0 0 9 9 416 277 187 338	0 0 8 376 277 187 589	0 0 1 9 407 350 522 289	0 0 1 179 8 333 333 14 113 1056 212	0 0 1 7 257 14 113 1056 188	0 1 11 415 14 73 1056 320	1 10 377 14 289 1064 606	1 73 335 11 441 12 146 112 409 14 237 908 273
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed	06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL FOrest HI	(14 220 1828 8882 182 8882 182 7645 438 952 252 1676 (177 5918 945 34 945 34 945 17058 314 4982 17058 5812 15178	0 0 1 1 1 4 3 439 2 1758 3 1758 3 117 2 276 2 66 5 580 3 6 5 580 3 7 4 7 7 47	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996	104 664 541 30 58 74 0 16 52 6 44 478 1329 964	104 186 550 27 58 27 70 226 226 42 536 1039 1021	0 0 1 37 59 346 27 46 254 254 41 553 1236 102 1197	0 0 196 171 163 1 11 14 637 55 366 1431 271 1149	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056 636 1111	0 0 1 41 136 668 42 638 3 64 136 42 290 4 290 4 8 14 58 1056 869 670	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298	0 1 14 82 666 4 580 70 146 142 153 237 580	0 14 721 6 298 58 30 261 261	0 0 9 9 416 277 187 338 395	0 0 8 376 277 187 589 395	0 0 1 9 407 350 522 289 836	0 0 1 179 8 333 333 14 113 1056 212 1111	0 0 1 7 257 14 113 1056 188 1111	0 1 11 415 14 73 1056 320 739	1 10 377 14 289 1064 606 762	1 73 335 11 441 12 146 112 409 14 237 908 273 321
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG	(14 220 1828 8882 182 8882 182 7645 438 952 252 1676 (175 5918 945 298 34 298 314 4982 17058 5812 15178 794	0 0 1 1 1 4 3 439 2 1758 3 117 2 276 3 117 2 276 6 65 5 80 3 6 5 80 3 7 3 747 4 747	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17	104 186 550 27 58 27 70 226 226 42 536 1039 1021 4	0 0 1 37 59 346 27 46 254 254 41 553 1236 102 1197 19	0 0 196 171 163 1 11 14 637 55 366 1431 271 1149 76	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056 636 1111 73	0 0 1 41 136 668 42 638 3 64 136 42 290 4 136 42 290 4 8 14 58 1056 869 670 73	0 1 41 89 626 63 497 12 146 239 48 14 721 340	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190	0 14 721 6 298 58 30 261 237 187 168 23	0 0 9 9 416 277 187 338 395 3	0 0 8 376 277 187 589 395 395 3	0 0 1 9 407 350 522 289 836 15	0 0 1 179 8 333 333 14 113 1056 212 1111 73	0 0 1 7 257 14 113 1056 188 1111 73	0 1 11 415 14 73 1056 320 739 70	1 10 377 14 289 1064 606 762 70	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	06SlpH 06SlpH	PL UM BM EE FL Forest HI NM PL UM EE FL Forest HI NM UM BM EE FL Forest HI NG NM	(14 220 1828 8882 182 8882 182 7649 438 955 255 1676 (175 5918 949 234 4985 17058 5812 15178 794 2350) 0 11 14 3439 1758 2305 117 276 66 580 3 276 276 276 3 277 3 274 3 747	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15	104 186 550 27 58 27 70 226 226 42 536 1039 1021	0 0 1 37 59 346 27 46 254 254 41 553 1236 102 1197 19 232	0 0 196 171 163 1 11 14 637 55 366 1431 271 1149 76 232	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056 636 1111 73 217	0 0 1 41 136 668 42 638 3 64 136 42 290 4 136 42 290 4 8 14 58 1056 869 670 73 153	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298	0 1 14 82 666 4 580 70 146 142 153 237 580 238	0 14 721 6 298 58 30 261 261 237 187 168	0 0 9 9 416 277 187 338 395 3 86	0 0 8 376 277 187 589 395 395 3 86	0 0 1 9 407 350 522 289 836 15 232	0 0 1 179 8 333 333 14 113 1056 212 1111 73 217	0 0 1 7 257 14 113 1056 188 1111 73 217	0 1 11 415 14 73 1056 320 739	1 10 377 14 289 1064 606 762	1 73 335 11 441 12 146 112 409 14 237 908 273 321
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	06SlpH 06SlpH	PL UM BM EE FL Forest HI NG VM EE FL Forest HI NG BM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM PL	(14 22(1828 8882 182 8882 182 7645 433 952 252 1676 (177 5918 945 294 314 4982 17058 5812 15178 794 2350 926) 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22	104 186 550 27 58 27 70 226 226 42 536 1039 1021 4 79	0 0 1 37 59 346 27 46 254 254 41 553 1236 102 1197 19 232 74	0 0 1 1 0 196 171 163 1 11 14 637 55 366 1431 271 1149 76 232 74	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74	0 0 1 41 168 712 199 4 136 42 305 4 305 4 8 14 113 1056 636 1111 73 217 74	0 0 1 41 136 668 42 638 3 64 136 42 290 4 4 290 4 8 14 58 1056 869 670 73 153 74	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190	0 14 721 6 298 58 30 261 237 187 168 23	0 0 9 9 416 277 187 338 395 3 86 74	0 0 8 376 277 187 589 395 395 386 74	0 0 1 9 407 350 522 289 836 15 232 74	0 0 1 21 179 8 333 333 14 113 1056 212 1111 73 217 74	0 0 1 7 257 14 113 1056 188 1111 73 217 74	0 1 11 415 14 73 1056 320 739 70 146	1 10 377 14 289 1064 606 762 70 161	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15
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Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed	06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM UM BM EE FL FOrest HI NG NM UM EE FL FO FL FO FO FL FO FL FO FO FL FO FO FL FO FO FO FO FO FO FO FO FO FO FO FO FO	(14 22(1828 8882 182 8882 182 982 1676 177 5918 945 252 1676 177 5918 945 234 17058 34 4982 17058 5812 15178 794 2356 926 2392 210) 0 11 14 439 1758 2305 117 276 66 580 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82 116 42	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22 210 42	104 186 550 27 58 27 70 226 226 42 536 1039 1021 4 79 136 42	0 0 1 37 59 346 27 46 254 254 41 553 1236 102 1197 19 232 74 256 42	0 0 1 1 0 196 171 163 1 11 14 637 55 366 1431 271 1149 76 232 74	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74	0 0 1 41 168 712 199 4 136 42 305 4 133 1056 636 1111 73 217 74 150	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056 869 670 73 153 74 150	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58 30	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190 15	0 14 721 6 298 58 30 261 237 187 168 23 15	0 0 9 9 416 277 187 338 395 3 86 74 8	0 0 8 376 277 187 589 395 3 95 3 86 74 8	0 0 1 9 407 350 522 289 836 15 232 74 120	0 0 1 21 179 8 333 333 14 113 1056 212 1111 73 217 74 150	0 0 1 7 257 14 113 1056 188 1111 73 217 74 150	0 1 11 415 14 73 1056 320 739 70 146 142	1 10 377 14 289 1064 606 762 70 161 142	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15 30
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Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen	06SlpH 06SlpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM PL UM FL Forest HI NG NM PL UM EE FL Forest HI NG NM EE FL Forest HI NG NM EE FL FO FO FI FO FO FI FO FI FO FO FI FO FO FI FO FI FI FO FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FI FI FI FI FI FI FI FI FI FI	(14 220 1828 8882 182 8882 182 8882 182 952 252 1676 (175 5918 945 292 314 4982 17058 5812 15178 794 2350 926 2392 210 2164 200 400 2392 210 2164 200 400 2392 210 2164 200 2392 210 2164 200 2392 210 2164 200 2392 210 2164 200 2392 2352 2167 2052 2172 21) 0 1 1 1 4 4 3 1758 3 1758 3 1758 3 1758 3 1758 3 1758 3 177 2 266 580 3 2 580 3 2 3 4 3 2 7 4 3 5 8 2 3 7 4 7 4 9 5 8 2 3 7 4 7 4 9 5 8 2 3 7 4 7 4 5 8 2 3 7 4 7 6 5 8 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82 116 42 17 4 8 424	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22 210 42 132 48 553	104 186 550 27 58 27 70 226 226 42 536 1039 1021 4 79 136 42 36 4 8 553	0 0 1 37 59 346 27 46 254 41 553 1236 102 1197 19 232 74 256 42 84 42 84 48 582	0 0 196 171 163 1 11 14 637 55 366 1431 271 1149 76 232 74 286 42 48 556	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74 150	0 0 1 41 168 712 199 4 136 42 305 4 136 42 305 4 8 14 113 1056 636 1111 73 217 74 150 7	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056 869 670 73 153 74 150 7 7	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58 30 103 0 560	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190 15 290 41 565	0 14 721 6 298 58 30 261 237 187 168 23 15 223 15 223	0 0 9 9 416 277 187 338 395 3 86 74 8 103 41 566	0 0 8 376 277 187 589 395 395 386 74 8 110 41 520	0 0 1 9 407 407 350 522 289 836 15 232 74 120 154 154	0 0 1 21 179 8 333 333 14 113 1056 212 1111 73 217 74 150 305 41 445	0 0 1 7 257 14 113 1056 188 1111 73 217 74 150 223 41 394	0 1 11 415 14 73 1056 320 739 70 146 142 104 142 104	1 10 377 14 289 1064 606 762 70 161 142 112 112 9 375	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15 30 154 0 374
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Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	06SIpH 06SIpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM PL UM FL Forest HI UM FL Forest HI UM FL Forest HI NG NM PL UM FL Forest HI NG NM PL UM EE FL FO FO FI FO FO FI FO FO FI FO FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FO FI FO FI FO FI FO FI FO FI FO FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FO FI FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FI FI FI FI FI FO FI FI FI FI FI FI FI FI FI FI FI FI FI	() 14 220 1828 888 182 888 182 888 182 182) 0 1 1 1 4 4 3 2 3 2 3 5 2 3 1 1 2 2 6 6 5 8 1 2 2 3 1 1 7 8 2 3 1 7 6 5 8 0 3 2 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82 116 42 17 4 8 424 310 1046 996 36 82 116 42 17 4 8 424 319 485 62 29 378 245	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22 210 42 132 4 8 553 551 626 10 62 29 381 251	104 186 550 27 58 27 70 226 42 536 1039 1021 4 79 136 42 36 42 36 4 8 553 682 789 12 62 76 381 251	0 0 1 37 59 346 27 46 254 41 553 1236 102 1197 19 232 74 256 42 84 4 8 84 4 8 582 761 808 38 120 76 381 251	0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74 150 570 740 855 17 120 76 381 251	0 0 1 41 168 712 199 4 136 42 305 4 8 14 133 1056 636 1111 73 217 74 150 7 554 707 830 13 90 76 382 251	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056 869 670 73 153 74 150 7 7 554 7554 7554 728 821 10 70 76 382 251	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58 30 103 103 0 560 1096 955 13 70 61 391 251	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190 15 290 41 565 1360 985 13 65 518 251	0 14 721 6 298 58 30 261 237 168 23 15 223 15 223 41 573 1301 984 13 62 51 518 251	0 0 0 9 9 416 277 187 338 395 3 86 74 8 103 41 566 1259 1 941 13 62 51 9251	0 0 8 376 277 187 589 395 3 86 74 8 110 41 520 1223 3 941 13 62 40 509 251	0 0 1 9 407 350 522 289 836 15 232 74 120 154 41 445 1180 4 915 13 62 40 435 251	0 0 1 21 179 8 333 333 1056 212 1111 73 217 74 150 305 41 445 1175 6 909 13 62 40 435 251	0 0 1 7 257 14 113 1056 188 1111 73 217 74 150 223 41 394 1144 100 906 7 62 35 435 251	0 1 1 11 415 415 14 73 1056 320 739 70 146 142 104 41 390 144 11 906 7 62 27 431 251	1 10 377 14 289 1064 606 762 70 161 142 112 112 9 375 1053 13 902 7 62 27 336 251	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15 30 154 0 374 853 14 853 14 850 7 62 27 304 251
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeOpen MidAgeOpen MidAgeOpen MidAgeOpen OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	06SIpH 06SIpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM PL UM FL Forest HI UM FL Forest HI UM EE FL Forest HI NG NM PL UM FL Forest HI NG NM PL UM FL Forest HI NG NM PL UM FL FO FO FI FI FO FO FI FI FO FO FI FI FO FO FI FI FO FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FI FO FI FI FO FI FI FI FO FI FI FI FI FO FI FI FO FI FI FI FI FI FI FI FI FO FI FI FI FI FI FI FI FI FI FI FI FI FI	() () () () () () () () () ()) 0 1 1 1 4 4 3 2 2 3 2 3 3 2 3 3 4 3 5 5 8 3 1 1 7 5 5 8 1 1 7 5 8 1 1 7 6 6 5 8 1 1 7 6 6 5 8 1 7 7 6 6 5 8 1 7 7 6 6 5 8 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82 116 42 17 4 8 424 319 485 424 319 485 62 29 378	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22 210 42 132 4 8 553 551 626 10 62 29 381	104 186 550 27 58 27 70 226 42 536 1039 1021 4 79 136 42 36 4 2 36 4 8 553 682 789 12 62 76 381 251 374	0 0 1 37 59 346 27 46 254 41 553 1236 102 1197 19 232 74 256 42 274 256 42 84 4 808 85 82 761 808 38 120 76 381 251 374	0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74 150 570 740 855 17 120 76 381 251 374	0 0 1 41 168 712 199 4 136 42 305 4 8 14 133 1056 636 1111 73 217 74 150 7 554 707 830 13 90 76 382 251 374	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056 869 670 73 153 74 150 7 7 554 728 821 10 70 76 382 251 374	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58 30 103 103 0 560 1096 955 13 70 61 391 251 416	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190 15 290 41 565 1360 985 13 65 51 318 251 416	0 14 721 6 298 58 30 261 237 187 168 23 15 223 15 223 41 573 1301 984 13 62 51 8251 416	0 0 0 9 9 416 277 187 338 395 3 86 74 8 103 41 566 1259 1 941 13 62 51 941 13 62 51 416	0 0 8 376 277 187 589 395 3 86 74 8 110 41 520 1223 3 941 13 62 40 509 251 416	0 0 1 9 407 350 522 289 836 15 232 74 120 154 412 415 13 62 40 435 251 416	0 0 1 21 179 8 333 333 14 113 1056 212 1111 73 217 74 150 305 41 415 150 305 41 445 1175 6 909 13 62 40 435 251 416	0 0 1 7 257 14 113 1056 188 1111 73 217 74 150 223 41 394 1144 10 906 7 62 35 435 251 416	0 1 1 11 415 415 1056 320 739 70 146 142 104 41 390 144 11 906 7 62 27 431 251 416	1 10 377 14 289 1064 606 762 70 161 142 112 112 9 375 1053 13 902 7 62 27 336 251 416	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15 30 154 0 374 853 14 850 7 62 27 304 251 416
Gaps Gaps LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlClos LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen LateSerlOpen MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed MidAgeClosed OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	06SIpH 06SIpH	PL UM BM EE FL Forest HI NG PL UM EE FL Forest HI NG NM UM BM EE FL Forest HI NG NM PL UM FL Forest HI UM FL Forest HI UM FL Forest HI NG NM PL UM FL Forest HI NG NM PL UM EE FL FO FO FI FO FO FI FO FO FI FO FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FI FO FO FI FO FI FO FI FO FI FO FI FO FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FO FI FI FI FO FI FI FO FI FI FO FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FO FI FI FI FI FI FI FI FI FO FI FI FI FI FI FI FI FI FI FI FI FI FI	() 14 220 1828 888 182 888 182 888 182 182) 0 1 1 1 4 4 3 2 2 3 2 3 3 1 2 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 1 7 3 2 7 4 3 2 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7	0 14 196 1237 813 100 58 47 34 6 31 52 927 2 34 274 6 300 1046 996 36 82 116 42 17 4 8 424 310 1046 996 36 82 116 42 17 4 8 424 319 485 62 29 378 245	104 664 541 30 58 74 0 16 52 6 44 478 1329 964 17 15 22 210 42 132 4 8 553 551 626 10 62 29 381 251	104 186 550 27 58 27 70 226 42 536 1039 1021 4 79 136 42 36 42 36 4 8 553 682 789 12 62 76 381 251	0 0 1 37 59 346 27 46 254 41 553 1236 102 1197 19 232 74 256 42 84 4 8 84 4 8 582 761 808 38 120 76 381 251	0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 1 41 183 900 274 4 0 137 42 650 4 8 14 338 1067 373 1142 73 232 74 150 570 740 855 17 120 76 381 251	0 0 1 41 168 712 199 4 136 42 305 4 8 14 133 1056 636 1111 73 217 74 150 7 554 707 830 13 90 76 382 251	0 0 1 41 136 668 42 638 3 64 136 42 290 4 8 14 58 1056 869 670 73 153 74 150 7 7 554 728 821 10 70 76 382 251 374	0 1 41 89 626 63 497 12 146 239 48 14 721 340 298 58 30 103 103 0 560 1096 955 13 70 61 391 251	0 1 14 82 666 4 580 70 146 142 153 237 580 238 190 15 290 41 565 1360 985 13 65 518 251	0 14 721 6 298 58 30 261 237 187 168 23 15 223 15 223 41 573 1301 984 13 62 51 8251 416	0 0 0 9 9 416 277 187 338 395 3 86 74 8 103 41 566 1259 1 941 13 62 51 9251	0 0 8 376 277 187 589 395 3 86 74 8 110 41 520 1223 3 941 13 62 40 509 251	0 0 1 9 407 350 522 289 836 15 232 74 120 154 41 445 1180 4 915 13 62 40 435 251	0 0 1 21 179 8 333 333 1056 212 1111 73 217 74 150 305 41 445 1175 6 909 13 62 40 435 251	0 0 1 7 257 14 113 1056 188 1111 73 217 74 150 223 41 394 1144 100 906 7 62 35 435 251	0 1 1 11 415 14 73 1056 320 739 70 146 142 104 142 104 41 390 144 11 906 7 62 27 431 251	1 10 377 14 289 1064 606 762 70 161 142 112 112 9 375 1053 13 902 7 62 27 336 251	1 73 335 11 441 12 146 112 409 14 237 908 273 321 58 15 30 154 0 374 853 14 853 14 850 7 62 27 304 251

OldSerlOpen	06SlpH	НІ	44217		1447	2368	2374	2374	2374	2374	2374	2374	2378	2378	2378	2378	2378	2378	2378	2378	2378	2378	2378
OldSerlOpen	06SlpH	NG	36			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
OldSerlOpen	06SlpH	NM	1543		49	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83
OldSerlOpen	06SlpH	PL	57		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
OldSerlOpen	06SlpH	UM	6388		72	346	346	346	346	346	346	346	354	354	354	354	354	354	354	354	354	354	354
RegenAcre	06SlpH	BM	28							14										14			
RegenAcre	06SlpH	EE	740		40			55	18		237		40						289	21	40		
RegenAcre	06SlpH	FL	2486				393		335	328	187					393			343	507			
RegenAcre	06SlpH	ні	2640		372		167	441		131	23		372			167			464	131	372		
RegenAcre	06SlpH	NG	149		3				12	58			3						12	58	3		
RegenAcre	06SlpH	NM	535		71			64	82		15		71						161		71		
RegenAcre	06SlpH	PL	222		74			•••	02				74								74		
RegenAcre	06SlpH	UM	308		8				112	30			8						112	30	8		
Volume	06SlpH	BM	84		0	25				17			0			25				17	0		
Volume	06SlpH	EE	1684	103	118	23		68	23	17	491		81		137	23			527	55	81		
Volume	06SlpH	FL	7140	105	624	609	1027	00	412	403	489		01		624	1648			428	876	01		
Volume	06SlpH	HI	6796	820	789	243	435	542	412	403 161	489		753		820	683			428 589	161	753		
Volume	06SlpH	NG	451	820	29	243 107	455	542	15	71	47		755		22	107			15	71	755		
Volume	•			119		107		79		/1	20		, 144			107			210	/1	, 144		
	06SlpH	NM	1403	119	304			79	101		30		144		272				210				
Volume	06SlpH	PL	451		153	50			107	27					200	50			107	27	149		
Volume	06SlpH	UM	928		226	56			137	37			17		208	56			137	37	17		
Young Mgmt	06SlpH	BM	84	200	244	14	14	14	40	40	240	240	200		405	14	14	14	220	240	200	70	50
Young Mgmt	06SlpH	EE	2908	299	341	125	70	12	12	12	249	249	289	52	125	85	85	12	228	249	289	73	52
Young Mgmt	06SlpH	FL	8398	210	381	701	1094	759	431	38	225	225	225	38	373	1094	1094	759	46	225	225	217	38
Young Mgmt	06SlpH	HI	8750	488	876	984	710	338	207	40	63	63	435	412	853	779	779	338	63	63	435	412	412
Young Mgmt	06SlpH	NG	447	0	15	73	73	58	0	0	0	0	3	3	15	70	70	58	0	0	3	3	3
Young Mgmt	06SlpH	NM	1694	81	235	220	156	3	3	3	18	18	89	74	220	149	149	3	18	18	89	74	74
Young Mgmt	06SlpH	PL	666	0	74	74	74	0	0	0	0	0	74	74	74	0	0	0	0	0	74	74	74
Young Mgmt	06SlpH	UM	1139	6	131	161	161	41	11	11	11	11	19	19	131	153	153	41	11	11	19	19	19
Young Patch	06SlpH	BM	45			3		1														32	9
Young Patch	06SlpH	EE	402			8		79		27		87		2		7	46	75		51	4	15	1
Young Patch	06SlpH	FL	872	25		26	229	31	20	15	35		9	17	51	8	36	43	5	31		91	200
Young Patch	06SlpH	Forest	13248		102	271	384	552	871	836	745	555	1006	907	970	773	551	822	932	926	818	502	725
Young Patch	06SlpH	HI	917	75	120	22	38	356		137	15		7	13	1	42		26	6	3		4	52
Young Patch	06SlpH	NG	45			21		1	12		4	1								6			
Young Patch	06SlpH	NM	35								30			5									
Young Patch	06SlpH	PL	88			33			16				15				11			5	8		
Young Patch	06SlpH	UM	309	2	49	1	4	21	18							9		74			4	95	32
AllHarvAcre	07PVH	ВК	1131		34		111	3	99	104	8	176	37	73		97	3	22	147	15	107	65	30
AllHarvAcre	07PVH	BM	4161		423	64	295	191	434	359	124	306	614	75		282	67		430		349	148	
AllHarvAcre	07PVH	EE	5203			301	86	397	381	371	103	488	376	737		162	328		499	92	398	429	55
AllHarvAcre	07PVH	FL	5167		274	558	89	76	467	638	186	283	350	925	1	263	65		285	183	144	205	175
AllHarvAcre	07PVH	GB	450			77		1	1	77	42	1	1	120		42	1		1	42	1	1	42
AllHarvAcre	07PVH	HD	1891		398	108	18		435	126		75	398	145	20	18	20		55		18	37	20
AllHarvAcre	07PVH	HI	3117		476	200	130	7	514	305	17	182	483	255	14	147	21		143	42	112	38	31
		HI NG	3117 41		476	200 11	130		514	305 11	17	182	483 2	255 11	14	147	21 2		143	42	112 2	38	31
AllHarvAcre	07PVH	NG	41		476	11		2	514	11	17			11	14						2		31
AllHarvAcre AllHarvAcre	07PVH 07PVH	NG NM	41 707		476	11 121	35			11 156	17	69		11 121	14	67			35	42 34	2 33	2	31
AllHarvAcre AllHarvAcre AllHarvAcre	07PVH 07PVH 07PVH	NG NM PL	41 707 836		476	11 121 28	35 2	2 34	148	11 156 30		69 150	2	11 121 176	14	67 2	2		35 150	34	2 33 2	2 148	
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre	07PVH 07PVH 07PVH 07PVH	NG NM PL UM	41 707 836 3688	14672		11 121 28 550	35 2 126	2 34 18	148 135	11 156 30 671	109	69 150 267	2 12	11 121 176 794		67 2 241	2 12	17724	35 150 256	34 120	2 33 2 133	2 148 135	109
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre Burning	07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK	41 707 836 3688 342670		14706	11 121 28 550 14800	35 2 126 14807	2 34 18 17727	148 135 17758	11 156 30 671 17724	109 17724	69 150 267 17731	2 12 17761	11 121 176 794 17724	17724	67 2 241 17731 :	2 12 17727		35 150 256 17724	34 120 17731	2 33 2 133 17727	2 148 135 17724 1	109 .7724
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM	41 707 836 3688 342670 344215	15224	14706 15647	11 121 28 550 14800 15459	35 2 126 14807 15395	2 34 18 17727 17645	148 135 17758 18001	11 156 30 671 17724 17642	109 17724 17578	69 150 267 17731 17578	2 12 17761 18068	11 121 176 794 17724 17642	17724 17578	67 2 241 17731 : 17578 :	2 12 17727 17645	17578	35 150 256 17724 17578	34 120 17731 : 17578 :	2 33 2 133 17727 : 17645 :	2 148 135 17724 1 17578 1	109 .7724 .7578
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE	41 707 836 3688 342670 344215 725883	15224 28930	14706 15647 28930	11 121 28 550 14800 15459 29587	35 2 126 14807 15395 29302	2 34 18 17727 17645 38292	148 135 17758 18001 37943	11 156 30 671 17724 17642 38244	109 17724 17578 37943	69 150 267 17731 17578 37980	2 12 17761 18068 38271	11 121 176 794 17724 17642 38244	17724 17578 37943	67 2 241 17731 : 17578 : 37980 :	2 12 17727 17645 38271	17578 37943	35 150 256 17724 17578 37943	34 120 17731 : 17578 : 37980 :	2 33 2 133 17727 17645 38271	2 148 135 17724 1 17578 1 37943 3	109 .7724 .7578 .7943
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL	41 707 836 3688 342670 344215 725883 165766	15224 28930 5474	14706 15647 28930 5748	11 121 28 550 14800 15459 29587 6069	35 2 126 14807 15395 29302 5520	2 34 18 17727 17645 38292 8877	148 135 17758 18001 37943 9087	11 156 30 671 17724 17642 38244 9371	109 17724 17578 37943 8813	69 150 267 17731 17578 37980 8822	2 12 17761 18068 38271 9151	11 121 176 794 17724 17642 38244 9371	17724 17578 37943 8813	67 2 241 17731 : 17578 : 37980 : 8822	2 12 17727 17645 38271 8877	17578 37943 8813	35 150 256 17724 17578 37943 8813	34 120 17731 : 17578 : 37980 : 8822	2 33 2 133 17727 : 17645 : 38271 : 8877	2 148 135 17724 1 17578 1 37943 3 8813	109 .7724 .7578 .7943 .8813
AllHarvAcre AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB	41 707 836 3688 342670 344215 725883 165766 42207	15224 28930 5474 1577	14706 15647 28930 5748 1577	11 121 28 550 14800 15459 29587 6069 1654	35 2 126 14807 15395 29302 5520 1577	2 34 18 17727 17645 38292 8877 2230	148 135 17758 18001 37943 9087 2229	11 156 30 671 17724 17642 38244 9371 2306	109 17724 17578 37943 8813 2229	69 150 267 17731 17578 37980 8822 2229	2 12 17761 18068 38271 9151 2230	11 121 176 794 17724 17642 38244 9371 2306	17724 17578 37943 8813 2229	67 2 241 17731 : 17578 : 37980 : 8822 2229	2 12 17727 17645 38271 8877 2230	17578 37943 8813 2229	35 150 256 17724 17578 37943 8813 2229	34 120 17731 : 17578 : 37980 : 8822 2229	2 33 2 133 17727 17645 38271 8877 2230	2 148 135 17724 1 17578 1 37943 3 8813 2229	109 .7724 .7578 .7943 .8813 .2229
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD	41 707 836 3688 342670 344215 725883 165766 42207 53144	15224 28930 5474 1577 2098	14706 15647 28930 5748 1577 2496	11 121 28 550 14800 15459 29587 6069 1654 2223	35 2 126 14807 15395 29302 5520 1577 2115	2 34 18 17727 17645 38292 8877 2230 2700	148 135 17758 18001 37943 9087 2229 3098	11 156 30 671 17724 17642 38244 9371 2306 2808	109 17724 17578 37943 8813 2229 2700	69 150 267 17731 17578 37980 8822 2229 2700	2 12 17761 18068 38271 9151 2230 3098	11 121 176 794 17724 17642 38244 9371 2306 2808	17724 17578 37943 8813 2229 2700	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700	2 12 17727 17645 38271 8877 2230 2700	17578 37943 8813 2229 2700	35 150 256 17724 17578 37943 8813 2229 2700	34 120 17731 : 17578 : 37980 : 8822 2229 2700	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700	109 .7724 .7578 .7943 .8813 .2229 .2700
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852	15224 28930 5474 1577 2098 2485	14706 15647 28930 5748 1577 2496 2961	11 121 28 550 14800 15459 29587 6069 1654 2223 2715	35 2 126 14807 15395 29302 5520 1577 2115 2540	2 34 18 17727 17645 38292 8877 2230 2700 4988	148 135 17758 18001 37943 9087 2229 3098 5457	11 156 30 671 17724 17642 38244 9371 2306 2808 5181	109 17724 17578 37943 8813 2229 2700 4981	69 150 267 17731 17578 37980 8822 2229 2700 5006	2 127761 18068 38271 9151 2230 3098 5464	11 121 176 794 17724 17642 38244 9371 2306 2808 5181	17724 17578 37943 8813 2229 2700 4981	67 2 241 17731 : 37980 : 8822 2229 2700 5006	2 17727 17645 38271 2230 2700 4988	17578 37943 8813 2229 2700 4981	35 150 256 17724 17578 37943 8813 2229 2700 4981	34 120 17731 : 37980 : 8822 2229 2700 5006	2 33 2 133 17727 : 38271 : 8877 2230 2700 4988	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053	15224 28930 5474 1577 2098 2485 6832	14706 15647 28930 5748 1577 2496 2961 6832	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727	148 135 17758 18001 37943 9087 2229 3098 5457 8725	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736	109 17724 17578 37943 8813 2229 2700 4981 8725	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725	2 12761 18068 38271 9151 2230 3098 5464 8727	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736	17724 17578 37943 8813 2229 2700 4981 8725	67 2 241 17731 : 37980 : 8822 2229 2700 5006 8725	2 17727 17645 38271 2230 2700 4988 8727	17578 37943 8813 2229 2700 4981 8725	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725	109 7724 7578 7943 8813 2229 2700 4981 8725
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079	15224 28930 5474 1577 2098 2485 6832 11780	14706 15647 28930 5748 1577 2496 2961 6832 11780	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871	109 17724 17578 37943 8813 2229 2700 4981 8725 13750	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784	2 17761 18068 38271 9151 2230 3098 5464 8727 13750	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871	17724 17578 37943 8813 2229 2700 4981 8725 13750	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 :	2 17727 17645 38271 2230 2700 4988 8727 13750	17578 37943 8813 2229 2700 4981 8725 13750	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 :	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636	15224 28930 5474 1577 2098 2485 6832 11780 903	14706 15647 28930 5748 1577 2496 2961 6832 11780 903	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059	148 135 17758 18001 37943 2229 3098 5457 8725 13750 1059	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059	2 17761 18068 38271 2230 3098 5464 8727 13750 1059	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059	2 17727 17645 38271 2230 2700 4988 8727 13750 1059	17578 37943 8813 2229 2700 4981 8725 13750 1059	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059	2 33 2 133 17727 : 17645 : 38271 : 38271 : 2230 2700 4988 8727 13750 : 1059	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198	15224 28930 5474 1577 2098 2485 6832 11780 903 2777	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844	2 34 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895	109 17724 17578 37943 2229 2700 4981 8725 13750 1059 4867	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867	12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867	2 33 2 133 17727 : 17645 : 38271 : 38271 : 2230 2700 4988 8727 13750 : 1059 4867	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059 .4867
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219	2 34 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895	109 17724 17578 37943 2229 2700 4981 8725 13750 1059 4867	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867	12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 33 2 133 17727 : 17645 : 38271 : 38271 : 2230 2700 4988 8727 13750 : 1059 4867	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1	109 7724 7578 87943 8813 2229 2700 4981 8725 .3750 1059 4867 .2872
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685	15224 28930 5474 1577 2098 2485 6832 11780 903 2777	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844	2 34 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895	109 17724 17578 37943 2229 2700 4981 8725 13750 1059 4867	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 :	12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170	2 33 2 133 17727 : 17645 : 38271 : 38271 : 2230 2700 4988 8727 13750 : 1059 4867	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059 .4867 .2872 .274
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890	148 135 17758 : 18001 : 37943 : 9087 2229 3098 5457 8725 13750 : 1059 4867 12872 :	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170 26	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059 .4867 .2872 .2872 .274 .12
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	109 17724 17578 37943 2229 2700 4981 8725 13750 1059 4867	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 :	12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170	2 33 2 133 17727 : 17645 : 38271 : 38271 : 2230 2700 4988 8727 13750 : 1059 4867	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059 .4867 .2872 .274
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890	148 135 17758 : 18001 : 37943 : 9087 2229 3098 5457 8725 13750 : 1059 4867 12872 :	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 13422	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NG NM NS PL UM BK BM EE FL FOrest	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766	148 135 17758 : 18001 : 37943 : 9087 2229 3098 5457 8725 13750 : 1059 4867 12872 :	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	67 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 :	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170 26	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 7666 7	148 135 17758 : 18001 : 37943 : 9087 2229 3098 5457 8725 13750 : 1059 4867 12872 :	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 2222 12	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 7 610 589	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 1059 4895 13422	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 12 222 141 129	2 12 17727 17645 38271 8877 2230 2700 4988 8727 13750 1059 4867 12884 370 742	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244	34 120 17731 17578 37980 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 12884 :	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233	109 7724 7578 7943 8813 2229 2700 4981 8725 3750 1059 4867 2872 274 12 264 1325
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NG NM NS PL UM BK BM EE FL Forest HI NS UM BK	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 14	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1	148 135 17758 18001 37943 2229 3098 5457 8725 13750 1059 4867 12872 12 299 30 12 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 12 222 141 129 1	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170 26 156 429 17 0	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL FOrest HI NS UM BK BM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 379 7 666 1 5	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610	148 135 17758 : 18001 : 37943 : 9087 2229 3098 5457 8725 13750 : 1059 4867 12872 : 12 299 300 12 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 863 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 222 141 129 1 6	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170 26 156 429 17 0 4	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1325
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 14 102 161	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 379 7 66 1 5 66	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 112 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 6	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12872 12872 299 300 1299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 202 1566 1 6 6	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 1 6 9	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 17578 37980 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1325 .1 .5 .6
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FORST HI S	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 102 161	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 379 7 66 1 5 66 1 5 66 7	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12872 12872 12872 12872 300 1059 4867 12872 12872 300 1059 4867 12872 300 16 9 8	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 863 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 222 141 129 1 6	2 12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 370 742	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 170 26 156 429 17 0 4	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1325
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 14 102 161	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 379 7 66 1 5 66 1 5 66 7	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 112 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 6	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12872 12872 299 300 1299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 202 1566 1 6 6	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 1 6 9	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 17578 37980 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1325 .1 .5 .6
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FORST HI S	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 102 161	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 379 7 66 1 5 66 1 5 66 7	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 112 97 83 12 97	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 6	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12872 12872 12872 12872 300 12899 300 1 6 9 8	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 863 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 202 1566 1 6 6	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9	2 12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 370 742	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 156 429 17 0 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1325 .1 .5 .6
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FOrest HI SUM BK BM EE FL GB	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 14 102 161 150 20	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 6 7 1	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 112 97 83 11 6 83 1 6 8 8 1	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 118 1 6 9 8 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 610 589	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 122 299 300 1 6 9 8 1	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 156 1 202	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 2222 141 129 1 6 9 7 1	2 12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 6 9 8 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1115	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 1059 4867 12884 : 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .15 .6 .6 .1
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FORST HI SUM BK HD	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 14 102 161 150 20 80	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 66 1 5 6 7 1 4	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 11 6 83 1 6 83 1 6 8 8 1 4	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 118 1 6 9 8 1 4	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852 1 6 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 6	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 122 299 300 1 6 9 8 30 1 6 9 8 1 4	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 9 8 1 4	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 308	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397 0 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 156 1 202 156 1 6 6 6 6 1 4	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 175 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 2222 141 129 1 6 9 7 1 4	2 12 17727 17645 38271 8877 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 6 9 8 1 4	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 6 9 8 1 1 6 9 8 1 4	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244 0 4 244	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 49 8 1 4	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 1059 4867 12884 : 410 0 4 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .15 .6 .6 .1 .4
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FOrest HI NS UM BK HD HI NS	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1 5 66 1 5 66 7 1 4 66	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 11 6 83 1 6 83 1 6 8 8 1 4 6	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 118 1 6 9 8 1 4 6	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 852 1 6 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 610 589 1 6 9 8 1 4 6 9 8 1 4 6	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 30 12872 12 299 30 1 16 9 8 1 4 6 9 8 1 4 6	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 9 8 1 4 5	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 3 308 0 3 9 8 1 4 5	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397 0 3 6 7 1 4 5 5	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 6 1 4 6 6	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 175 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6	2 12 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 1059 4867 12884 3700 742 1 6 9 8 1 6 9 8 1 4 6	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 115 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244 0 4 244 0 4 9 8 1 4 5	34 120 17731 17578 37980 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 429 17 0 4 28 156 156 156	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 4 1 5	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FOrest HI NS UM BK BM EE FL FI SOTEST HI NS UM NS	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 0	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 66 1 5 6 7 1 4 66 7 1 4 60	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 11 2 97 83 11 6 83 1 6 83 1 6 8 8 1 4 6 0	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 1 118 1 6 9 8 1 1 118 1 6 9 8 1 1 4 6 0	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852 1 6 852	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 12872 299 300 1 6 9 8 1 4 6 9 8 1 4 6 0	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 9 8 1 4 5 0	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 3 3 8 1 4 5 0	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397 0 3 6 7 1 4 5 0	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 6 1 4 6 6 6 1 4 6 0	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 475	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 0	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 3700 742 1 6 9 8 1 4 6 9 8 1 4 6 0	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 11115 1 1115 1 6 9 8 1 1 6 9 8 1 4 6 0	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244 0 4 244 0 4 9 8 1 4 5	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 4 9 8 1 4 9 8 1 4 5 0	2 33 2 133 17727 : 38271 : 38271 : 38271 : 38271 : 38277 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 4 5 0	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HI NS UM BK BM EE FL FOR SI HD HI NS UM BK NS NM NS NM NS NM NM NS NM NM NS NM NM NM NS NM NM NM NM NM NM NM NM NM NM NM NM NM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 022	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 66 1 5 66 7 1 4 66 1 5 66 1 5 60 1	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 1 6 83 1 6 8 8 1 6 8 8 1 4 6 0 1	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 1 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852 1 6 852 1 6 852 1 6 852 1 1 6 9 8 1 4 6 9 8 1 4 6 0 1	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 0 1	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 1 4 5 0 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 0 308 0 3 9 8 1 4 5 0 1 2 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 2 7 0 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 3 7 5 1 1 3 7 5 1 1 3 7 5 1 1 2 2 7 0 1 2 3 7 5 1 3 7 5 1 3 7 5 1 2 2 7 0 1 3 7 5 1 2 2 7 0 1 3 7 5 1 3 7 5 1 3 0 8 1 3 3 0 8 1 3 3 1 8 1 3 1 3 3 1 8 1 3 1 2 2 1 1 3 1 5 1 1 2 5 1 1 2 5 1 1 2 5 1 3 1 3 1 3 3 1 8 1 3 1 1 2 5 1 1 2 5 1 1 2 5 1 1 2 5 1 3 3 8 1 3 3 1 3 1 3 1 3 1 3 1 3 1 3 1	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 4 6 7 1 4 5 0 1	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 165 1 5 6 7 1 4 6 7 1 4 6 0 1	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 6 6 1 4 6 6 1 4 6 0 1	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 475 1 6 9 7 1 4 6 9 7 1 4 6 0 1	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 0 1	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 0 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 115 1 6 9 8 1 1 6 9 8 1 4 6 9 8 1 4 6 0 1	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 244 0 4 244 0 4 9 8 1 4 5	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 9 8 17 0 4 9 8 11 4 5 0 1	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 410	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .125 .6 .6 .1 .4 .6 .0 .1
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HI NS UM BK BM EE FL FOR SI HD HI NS PL PL HI NS PL NS N N NS PL NS N N N NS PL N N N N N N N N N N N N N N N N N N	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 102 161 150 20 80 114 0 20 53	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 66 1 5 6 7 1 4 60 1 1 4 6 0 1	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 11 6 83 1 6 8 8 1 6 8 8 1 4 6 0 1 1	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 1 18 1 6 9 8 1 1 18 1 6 9 8 1 4 6 0 1 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 9 8 52 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 6 9 8 1 6 9 8 1 4 6 0 1 1	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 9 8 1 4 5 0 4 9 8 1 1 4 5 0 1 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 0 308 0 308 0 3 9 8 1 4 5 0 1 1 1	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 4 6 7 1 4 5 0 1 0 3 6 7 1 1 4 5 0 1 0	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0 1 0	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 1 6 9 7 1 4 6 9 7 1 4 6 0 1 1	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 115 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4 9 8 1 4 5 0 4 9 8 1 4 5 0 1 1	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 9 8 17 0 4 9 8 11 4 5 0 1 1	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 4 5 0 1 1	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FOrest HI NS UM BK BM EE FL FL GB HD HI NS UM BK UM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 102 161 150 20 80 114 020 15 109	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1 5 6 7 1 4 66 7 1 4 6 0 1 1 4 6 0 1 1 6 9097	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 11 6 83 1 6 8 8 1 6 8 8 1 4 6 0 1 1 1 6	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 1 6 9 8 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852 1 6 852 1 6 9 8 5 2 8 5 2 8 5 2 0 1 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 1 1 1 6 9 1 1 1 1 1 2 1 1 5 1 2 1 1 5 1 2 5 1 2 1 1 5 1 2 5 1 2 1 1 5 1 2 5 1 2 5 1 2 1 1 5 1 2 5 1 2 1 1 5 1 2 5 1 2 5 1 2 1 1 5 1 2 5 1 2 1 1 5 2 5 2	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 4 6 0	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 16 9 8 1 6 9 8 1 4 6 0 1 1 6 0 1 1 6	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 175 688 75 23 0 4 9 8 1 175 688 75 23 0 4 9 75 23 0 175 175 175 175 175 175 175 175 175 175	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 3 9 8 1 4 5 0 1 1 5	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 4 6 7 1 4 5 0 1 4 5 0 1 0 4 8 6 7	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 1 6 9 7 1 4 6 9 7 1 4 6 0 1 1	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 16 9 9 8 1 1 6 9 8 1 4 6 0 1 1 6	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4 9 8 244 0 4 9 8 1 4 5 0 1 1 5	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 9 8 11 4 5 0 1 1 5	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 410 0 4 9 8 1 4 10 5 0 1 1 5	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO S HD HI NS HI HI HI NS HI HI NS HI HI HI NS HI NS HI HI NS HI HI NS HI BK BM BK BK BM EE FL BK BM EE FL BK BM EE FL BK BM EE FL BK BM EE FL BK BM EE FL BK BM BK BK BM BK BK BM BK BK BK BK BK BK BK BK BK BK BK BK BK	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 020 80 114 020 5 109 14555 18127	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1 5 6 7 1 4 66 7 1 4 6 0 1 1 4 6 0 1 1 6 9097	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 1 1 97 83 1 6 83 1 6 8 8 1 4 6 8 8 1 1 6 2259 2400	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 1 118 1 6 9 8 1 4 6 9 8 1 1 1 1 6 9 8 1 1 1 1 8 1 1 1 1 8 1 1 1 1 1 8 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 852 1 6 852 1 6 9 8 5 2 8 6 8 7 4 12010 2 8 4 8 5 2 8 5 2 8 12 1 5 2 5 2 10 2 5 5 2 0 2 8 4 8 7 4 12010 2 8 4 8 5 2 8 4 12010 2 8 4 8 12010 2 8 4 8 12010 2 8 4 8 12010 2 8 4 12010 2 8 4 12010 2 8 4 8 12010 2 8 12 1 15 2 8 4 12010 2 8 4 8 12010 2 8 4 8 5 2 8 1 8 1 2 8 1 8 1 1 1 1 1 1 1 1 1 1 1	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 379	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 1059 4867 12872 12 299 30 1 16 9 8 1 4 6 9 8 1 4 6 0 1 1 6 180	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 177 688 75 23 0 4 9 8 1 1 75 23 0 4 9 8 1 1 75 23 0 1 1 1 75 23 0 1 1 1 75 23 0 1 1 1 75 23 0 1 1 1 5 1 1 1 1 7 5 23 0 1 1 1 5 1 1 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 308 0 308 1 4 5 0 1 1 5 82	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 4 6 7 1 4 5 0 1 4 5 0 1 0 4 8 6 7	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 1 6 9 7 1 4 6 9 7 1 4 6 0 1 1	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 370 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 16 9 9 8 1 1 6 9 8 1 4 6 0 1 1 6 104	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4 9 8 1 4 5 0 4 9 8 1 4 5 0 1 1 5 22	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 429 17 0 4 429 17 0 4 429 17 0 4 5 0 1 1 5 8 7	2 33 2 133 17727 : 17645 : 38271 : 38271 : 38271 : 38271 : 38277 2230 2700 4988 8727 13750 : 1059 4867 12884 : 1059 4867 12884 : 410 0 4 9 8 1 4 10 9 8 1 4 10 5 0 1 1 5 65	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL FOR ST HI NS UM BK BM EE FL FOR ST HI NS UM BK BM EE FL FOR ST HI NS UM BK BM EE FL ST ST ST ST ST ST ST ST ST ST ST ST ST	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 020 80 114 020 5 109 14555 18127	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1 5 6 7 1 4 66 7 1 4 66 1 1 5 6 7 1 1 4 6 9097 8459 20188	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 11 6 83 1 6 8 8 1 4 6 8 8 1 4 6 0 1 1 6 2259 2400 6773	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 9 8 1 4 6 0 1 1 1 1 8 50	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 852 1 6 852 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 728 2044	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 1 6 9 8 1 1 1 1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 1059 4867 12872 299 300 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 9 9 8 1 4 8 1 2 299 10 8 7 10 10 10 10 10 10 10 10 10 10 10 10 10	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 9 8 1 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 75 23 0 4 9 8 1 1 17 688 1 1 1 1 17 688 1 1 1 1 1 1 1 1 1 1 1 1 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 308 1059 4867 12872 67 308 1059 4867 12872 11 5 5 82 11	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397 0 3 6 7 1 4 5 0 3 9 7 1 4 5 0 1 0 3 6 7 1 1 4 5 0 1 0 3 8 6 7 1 1 8 8 397	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1 165 1 5 6 7 1 1 5 6 7 1 4 6 0 1 0 5 8	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 4755 1 1 6 9 7 1 4 6 9 7 1 4 6 0 1 1 6	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 6 9 7 1 6 9 7 1 6 9 7 1 1 6 9 7 1 1 1 1 1 1 1 1 1 1 1 1 1	2 12 17727 17645 38271 8877 2230 2700 4988 8727 13750 1059 4867 12884 3700 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 115 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 9 8 1 1 4 6 0 1 1 1 6 9 8 1 1 1059	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4 8 244 0 4 9 8 1 4 5 0 1 1 5 2 2137	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 429 17 0 4 49 8 1 4 5 0 1 1 5 87 148	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 4 10 9 8 1 4 10 5 0 1 1 5 65 148	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL GB HD HI NS UM BK EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FO SUM EE FL FU SUM EE FL FU SUM EE FL FU SUM EE FL FU SUM EE FL FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FU SUM FL FL FU SUM FL FL FL FU SUM FL FU SUM FL FU SUM FL FL FL FU SUM FL FU SUM FL FL FU SUM FL FL FU SUM FL FL FL FU SUM FL FL FL FU SUM FL FL FU SUM FL FL FL FU SUM FL FL FL FU SUM FL FL FL FU FL FU FL FU FL FU FL FU FL FU FL FL FU FL FL FU FL FU FL FL FL FU FL FL FL FL FL FL FL FL FL FL FL FL FL	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 0 20 80 114 0 20 80 114	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 666 1 5 6 7 1 4 66 7 1 4 66 1 1 5 6 7 1 1 4 6 9097 8459 20188	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 11 6 83 1 6 8 8 1 4 6 8 8 1 4 6 0 1 1 6 2259 2400 6773	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 1 1 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 9 8 1 1 1 1 8 1 1 1 8 1 1 1 1 8 1 1 1 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 852 1 6 852 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 728 2044 3647	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 379 1310 945	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 12872 299 30 12872 12 299 30 1 16 9 8 1 4 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 1 6 9 8 1 4 4 2 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 95 13422 0 4 9 8 1 1 1 7 688 75 23 0 4 9 8 1 1 1 7 688 75 23 0 4 9 8 1 1 1 7 6 8 8 1 1 1 7 6 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 308 0 308 1 4 5 0 1 1 5 82 11 436	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 397 0 307 0 36 7 1 4 50 0 3 6 7 1 1 4 5 0 1 0 4 8 55	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8 5 5	11 121 176 794 17724 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 1566 1 4895 13422 56 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0 5	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 4755 1 1 6 9 7 1 4 6 9 7 1 4 6 0 1 1 6	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 6 9 7 1 6 9 7 1 6 9 7 1 1 6 9 7 1 1 1 1 1 1 1 1 1 1 1 1 1	2 12 17727 17645 38271 8877 2230 2700 4988 8727 13750 1059 4867 12884 3700 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 115 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 104 295 524	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4 8 244 0 4 9 8 1 4 5 0 1 1 5 22 137 48	34 120 17731 17578 37980 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 4 429 17 0 4 429 17 0 4 429 17 0 4 429 17 0 4 5 0 1 1 5 87 148 429	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 4988 8727 1059 4867 1059 4867 1059 4867 12884 : 410 0 4 9 8 1 410 0 4 9 8 1 4 5 0 1 1 5 65 148 429	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8 8 55	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 .059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .1 .4 .6 .0 .1 .0 .5
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FOR FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL FL FL FOR FL FL FOR FL FL FOR FL FL FOR FL FL FOR FL FL FOR FL FL FL FL FL FL FL FL FL FL FL FL FL	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 6666 24 8131 7 826 1444 102 161 150 20 80 114 0 20 80 114 0 20 15 109 14555 18127 41069 12909	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 379 7 66 1 5 6 6 1 5 6 7 1 4 6 6 0 1 1 5 6 9097 8459 20188 5099	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 12 97 83 11 6 83 1 6 8 8 1 4 6 8 8 1 4 6 0 1 1 6 2259 2400 6773	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 118 1 6 9 8 1 1 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 9 8 1 1 1 1 8 1 1 1 8 1 1 1 1 8 1 1 1 1	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 852 1 6 852 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 728 2044 3647	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 379 1310 945	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 12872 299 30 12872 12 299 30 1 16 9 8 1 4 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 1 6 9 8 1 4 4 2 299	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 95 13422 0 4 9 8 1 1 1 7 688 75 23 0 4 9 8 1 1 1 7 688 75 23 0 4 9 8 1 1 1 7 6 8 8 1 1 1 7 6 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 67 308 0 308 0 308 1 4 5 0 1 1 5 82 11 436	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 4 863 397 0 3 6 7 1 4 5 0 1 0 3 6 7 1 4 5 0 1 0 3 6 7 1 4 5 0 1 3 8 5 5 1375 8 3	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8 5 5 175	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0 5	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 16 9 7 1 4 6 9 7 1 4 6 0 1 1 6 454	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 1 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 0 1 1 6 8 4 5 4 5 4 5 1 1 6 8 7 7 1 1 6 7 7 7 7 7 7 7 7 7 7 7 7 7	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 3700 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 8 1 1 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 1115 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 104 295 524 80	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4867 12872 78 244 0 4 9 8 1 4 5 0 1 1 5 22 137 48 12	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 4867 156 429 17 0 4 9 8 17 0 4 9 8 11 4 5 0 1 1 1 5 87 148 429 205	2 33 2 133 17727 : 38271 : 38271 : 38271 : 38271 : 38277 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 410 0 4 9 8 1 4 5 0 1 1 5 5 5 148 429 205	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8 8 55 174 22	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0 .5 .1
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL FL GB HD HI NG NM PL UM BK BM EE FL GB HD HI NG SUM BM EE FL GB HD HI NG SUM BM EE FL GB HD HI NG SUM EE FL GB HD HI NS SUM EE FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FO FL FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FO FD FD FO F	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 102 161 150 20 80 114 0 20 80 114 0 20 80 114 0 20 80 114	15224 28930 5474 1577 2098 2485 6832 11780 903 2777 9153 3 3 379 7 66 1 5 6 6 7 1 4 6 6 7 1 4 6 0 1 1 5 6 9097 8459 20188 5099 20188	14706 15647 28930 5748 1577 2496 2961 6832 11780 903 2777 9153 519 12 97 83 11 6 8 8 1 6 8 8 1 6 8 8 1 4 6 0 1 1 1 6 2259 2400 6773 2388	11 121 28 550 14800 15459 29587 6069 1654 2223 2715 6885 12131 943 2872 9764 37 17 351 118 1 6 9 7 351 118 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 9 8 1 4 6 0 1 1 1 2 308 1 5308 1558	35 2 126 14807 15395 29302 5520 1577 2115 2540 6874 12010 943 2844 9219 276 852 1 6 852 1 6 852 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 6 728 2044 3647 1295	2 34 18 17727 17645 38292 8877 2230 2700 4988 8727 13784 1059 4867 12890 766 7 610 589 1 6 9 8 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	148 135 17758 18001 37943 9087 2229 3098 5457 8725 13750 1059 4867 12872 12 299 300 1 1059 4867 12872 12 299 300 1 6 9 8 1 4 6 0 1 1 6 9 8 1 4 6 0 1 1 6 180 524 420 250	11 156 30 671 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 1 17 688 75 23 0 4 9 8 1 4 5 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 17 688 75 23 0 4 9 8 1 1 3 75 23 0 4 9 8 1 1 7 5 23 0 4 9 8 1 1 7 688 1 1 7 5 23 0 4 9 8 1 1 7 5 23 0 4 9 8 1 1 23 0 4 9 8 1 1 5 23 0 4 9 8 1 1 5 23 0 4 9 8 1 1 5 23 0 4 9 8 1 4 5 0 1 1 5 23 0 4 9 8 1 4 5 0 1 1 5 23 0 1 1 5 23 0 1 1 5 23 0 23 23 23 23 23 23 23 23 23 23	109 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 67 308 0 308 0 3 9 8 1 4 5 0 1 1 5 82 11 436 368 43	69 150 267 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 863 397 0 3 6 7 1 2883 397 0 3 6 7 1 4 5 0 1 0 4 8 5 5 137 8 42	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1 15 6 7 1 4 6 7 1 4 6 0 1 0 5 8 55 175 7	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 1566 1 6 6 6 1 4 6 6 6 1 4 6 0 1 0 5	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 16 9 7 1 4 6 9 7 1 4 6 0 1 1 6 454	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 1 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 0 1 1 6 8 4 5 4 5 4 5 1 1 6 8 7 7 1 1 6 7 7 7 7 7 7 7 7 7 7 7 7 7	2 17727 17645 38271 2230 2700 4988 8727 13750 1059 4867 12884 3700 742 1 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 6 9 8 1 4 8 1 1 6 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1	17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 902 1115 1 1115 1 6 9 8 1 4 6 9 8 1 4 6 0 1 1 1 6 104 295 524 80	35 150 256 17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 78 244 0 4867 12872 78 244 0 4 9 8 1 4 5 0 1 1 5 22 137 48 12	34 120 17731 17578 37980 8822 2229 2700 5006 8725 13784 1059 4867 12883 170 26 156 429 17 0 4 429 17 0 4 9 8 17 0 4 9 8 11 5 6 156 156 156 156 156 156 156 156	2 33 2 133 17727 : 17645 : 38271 : 8877 2230 2700 4988 8727 13750 : 1059 4867 12884 : 410 0 4 410 0 4 9 8 1 410 0 4 9 8 1 4 5 0 1 1 5 65 148 429 205 25	2 148 135 17724 1 17578 1 37943 3 8813 2229 2700 4981 8725 13750 1 1059 4867 12872 1 20 163 819 233 1 5 6 7 1 4 6 7 1 4 6 0 1 0 5 8 8 1 7 1 4 6 7 1 4 6 7 1 4 6 0 1 0 5 8 8 1 7 1 4 6 7 1 4 6 7 1 1 4 6 7 1 1 4 6 7 1 1 5 5 6 7 1 1 5 5 8 1 1 5 5 5 1 1 4 1 5 5 5 1 1 5 5 5 1 1 4 1 5 5 5 1 1 5 5 5 1 1 5 5 5 1 1 5 5 5 1 1 5 5 1 1 5 5 1 1 5 5 1 1 2 2 7 1 1 2 1 1 5 1 1 2 1 2 1 1 2 1 2 1 2 1 2	109 .7724 .7578 .7943 .8813 .2229 .2700 .4981 .8725 .3750 1059 .4867 .2872 .274 .12 .264 .1325 .1 .5 .6 .6 .1 .4 .6 .0 .1 .0 .5 .1
AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL GB HD HI NS UM BK BM EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL GB HD HI NS EE FL FO FD HI NS EE FL FO FD HI NS EE FL FD FD HI NS EE FL FD FD HI NS EE FL FD FD HI NS EE FL FD FD HI NS EE FL FD FD HI NS EE FL FD FD HI NS EE FL FD S C S FL HI NS EE FL FD FD FD FD FD FD FD FD FD FD FD FD FD	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 1685 91 66666 24 8131 7 826 1444 14 102 161 150 20 80 114 0 20 80 114 0 20 80 114 150 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AllHarvAcre AllHarvAcre AllHarvAcre Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Burning Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	07PVH 07PVH	NG NM PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HI NS UM BK BM EE FL Forest HD HI NS UM BK BM EE FL Forest FL GB HD HI NS UM BK BM EE FL FO Forest HD HI NG NM NS PL UM BK BM EE FL FO FO FI S M BM EE FL S OT S HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO FO S HD HI NS UM BK BM EE FL FO FO S HD HI NS C HI NS C HI NS C HI NS C HI NS C HI NS C HI NS C HI S HI NS C NM NM NS C HI NS C HI NS C NM NM NS C HI NS C NM NM NS C HI NS C NM NM NM NM NM NM NM NM NM NM NM NM NM	41 707 836 3688 342670 344215 725883 165766 42207 53144 91852 167053 268079 20636 89198 244428 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13784 1059 4867 12883 863 397 0 36 7 1 4 50 6 7 1 4 5 0 1 0 4 8 55 175 3 42 2231	2 12 17761 18068 38271 9151 2230 3098 5464 8727 13750 1059 4867 12884 726 1165 1165 1165 1165 1165 1165 1 5 6 7 1 4 6 0 1 0 5 8 55 175 7 42 20	11 121 176 794 17724 17642 38244 9371 2306 2808 5181 8736 13871 1059 4895 13422 56 202 1566 1 6 6 6 1 4 6 6 1 4 6 6 1 4 6 0 1 0 5 5 1 10 20 20 20 20 20 20 20 20 20 20 20 20 20	17724 17578 37943 8813 2229 2700 4981 8725 13750 1059 4867 12872 252 475 1 16 9 7 1 4 6 9 7 1 4 6 0 1 1 6 454	67 2 241 17731 : 17578 : 37980 : 8822 2229 2700 5006 8725 13784 : 1059 4867 12883 : 12 222 141 129 1 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 4 6 9 7 1 1 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 9 7 7 1 4 6 0 1 1 6 8 4 5 4 5 4 5 1 1 6 8 7 7 1 1 6 7 7 7 7 7 7 7 7 7 7 7 7 7	2 17727 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LateSerlClos LateSerlOpen	07PVH 07PVH	UM BK	20236 18850	7602	6105	3059 5403	2642 3755	1343	263 1219	192 547	244 266	109 189	109 10	10	3			121		135	135	109	
LateSerlOpen LateSerlOpen LateSerlOpen	07PVH 07PVH 07PVH	BM EE FL	20276 35848 12096		5605 12460 2819	5393 11678 3251	4868 7473 2482	2573 1577 2213	890 427 822	612 378 128	67 386 84	67 369 84	67 365 76	67 365 73	67 349 64	21							
LateSerlOpen	07PVH	Forest	8474		2015	9251	5	5	022	120	04	107	275	398	557	916	829	896	826	657	1022	930	1013
LateSerlOpen	07PVH	GB	2770		729	777	634 016	535	89 150	1	1	1	1	1	1								
LateSerlOpen LateSerlOpen	07PVH 07PVH	HD HI	4462 5494		1260 1421	1368 1479	916 1044	711 998	159 312	48 87	41	41	32	32	7								
LateSerlOpen	07PVH	NG	3403		1098	978	776	299	162	80	2	2	2	2	2								
LateSerlOpen LateSerlOpen	07PVH 07PVH	NM NS	14822 522		5108 396	4164 42	3325 42	1734 42	192	42	61	60	34	34	34	34							
LateSerlOpen	07PVH	PL	2896		872	795	662	232	110	75	75	75											
LateSerlOpen	07PVH	UM	11314		3530	3437	2219	1182	694	88	47	47	23	23	18	6							
MidAgeClosed MidAgeClosed	07PVH 07PVH	BK BM	2144 4649	724 1070	191 202	83 202	37 202	34 135	26 124				104 295	104 419	169 430	169 430	177 430	73 135	73 11	8	8	82 282	82 282
MidAgeClosed	07PVH	EE	8481	457	776	1323	663	300	147	89	454	454	524	572	499	499	554	484	436	55	55	70	70
MidAgeClosed MidAgeClosed	07PVH	FL	4604	314	475	480	368	288 268	214 688	5 590	530	1225	80 687	92 574	285 431	285 840	459 1426	380	368 547	175 486	175 960	81 1665	80 741
MidAgeClosed	07PVH 07PVH	Forest GB	12478 432	32	44	44	44	42	11	590	550	1335	007	574	451 1	840 1	43	710 43	43	480	900 42	1002	/41
MidAgeClosed	07PVH	HD	694	105	39	59	20	20	20	20			18	18	55	55	55	57	57	20	20	38	18
MidAgeClosed MidAgeClosed	07PVH 07PVH	HI NG	1851 84	223 78	169 2	186 2	76 2	69	31	17			105	105	143	143	160	69	69	31	31	119	105
MidAgeClosed	07PVH	NM	454	93	34	52	34						35	35	35	35	35					33	33
MidAgeClosed	07PVH	NS	685	685	225	225							-	2	450	450	450	4.40	4.40			2	-
MidAgeClosed MidAgeClosed	07PVH 07PVH	PL UM	1429 3425	225 339	225 252	225 273	179	161	102	52			2 121	2 121	150 256	150 256	150 365	148 244	148 244	109	109	2 121	2 121
MidAgeOpen	07PVH	ВК	438		239	179	7	10	3	01					200	200				200	200		
MidAgeOpen	07PVH	BM	134					67	67														
MidAgeOpen MidAgeOpen	07PVH 07PVH	EE FL	751 154		4	4	16 9	365 73	349 64	21													
MidAgeOpen	07PVH	Forest	5013				5	,,,	01		275	291	282	625	547	271	279	386	743	544	270	172	328
MidAgeOpen	07PVH	GB	2					1	1														
MidAgeOpen MidAgeOpen	07PVH 07PVH	HI NG	64 4				25	32 2	7 2														
MidAgeOpen	07PVH	NM	154		26	26		34	34	34													
MidAgeOpen	07PVH	UM	88		18	18	5	23	18	6													
OldSerlClose OldSerlClose	07PVH 07PVH	BK BM	30639 21785	915 159	1349 452	2060 464	2555 637	2794 1371	1539 1070	1539 1076	1559 1283	1568 1283	1568 1283	1535 1283	1386 1283	1386 1276	1386 1276	1386 1276	1340 1276	1240 1261	1240 1261	1228 1261	1066 1254
OldSerlClose	07PVH	EE	106817	5215	5687	6622		10026	5893	5785	5746	5210	4782	4782	4782	4782	4564	4032	4486	4394	4152	4056	3900
OldSerlClose	07PVH	FL	4424	107	42	314	661	1424	137	127	124	124	124	124	124	124	124	124	124	124	124	124	124
OldSerlClose OldSerlClose	07PVH 07PVH	Forest GB	156 979	7	87	295	295	295								3	7	10	14	26	28	33	35
OldSerlClose	07PVH	HD	1352	, 81	19	160	211	274	39	39	39	39	41	41	41	41	41	41	41	41	41	41	41
OldSerlClose	07PVH	HI	4821	28	24	34	85	862	218	255	255	255	255	255	255	255	255	255	255	255	255	255	255
OldSerlClose	07PVH	NG	35015	306	112	621	1199	2342	2015	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030
OldSerlClose	07P\/H	NIM	12005	573	777	827	719	1043	526	526	526	526	542	542	542	542	542	542	542	542	542	542	542
OldSerlClose OldSerlClose	07PVH 07PVH	NM NS	12005 2689	573 193	777 219	827 219	719 199	1043 199	526 222	526 178	526 148	526 148	542 148	542 148	542 148	542 65	542 65	542 65	542 65	542 65	542 65	542 65	542 65
OldSerlClose OldSerlClose	07PVH 07PVH		2689 4525	193 77	219 61		199 543	199 1104	222 166	178 166	148 166	148 166	148 166			65 166	65 166	65 166	65 166	65 166	65 166	65 166	65 166
OldSerIClose OldSerIClose OldSerIClose	07PVH 07PVH 07PVH	NS PL UM	2689 4525 22113	193	219 61 609	219 250 835	199 543 1264	199 1104 1943	222 166 1271	178 166 1245	148 166 1236	148 166 1236	148 166 1236	148 166 1144	148 166 1144	65 166 1068	65 166 1068	65 166 1068	65 166 1068	65 166 1058	65 166 1058	65 166 920	65 166 920
OldSerlClose OldSerlClose	07PVH 07PVH	NS PL	2689 4525	193 77	219 61	219 250	199 543	199 1104	222 166	178 166	148 166	148 166	148 166 1236 8185	148 166 1144 8185	148 166	65 166	65 166	65 166	65 166	65 166	65 166	65 166	65 166
OldSerlClose OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NS PL UM BK BM EE	2689 4525 22113 130418 129166 285838	193 77	219 61 609 315 1213 341	219 250 835 1077 1489 1424	199 543 1264 2968 2099 5806	199 1104 1943 5380 4394	222 166 1271 6973 7168 17197	178 166 1245 7648 7513 17574	148 166 1236 7929 8058 17587	148 166 1236 8006 8058 17604	148 166 1236 8185 8058	148 166 1144 8185	148 166 1144 8192 8058	65 166 1068 8195 8125 17952	65 166 1068 8195 8125	65 166 1068 8195 8125 17973	65 166 1068 8195 8125 17973	65 166 1058 8195 8125	65 166 1058 8195 8125 17973	65 166 920 8195 8125	65 166 920 8195 8125
OldSerlClose OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen	07PVH 07PVH 07PVH 07PVH 07PVH 07PVH 07PVH	NS PL UM BK BM EE FL	2689 4525 22113 130418 129166 285838 78946	193 77	219 61 609 315 1213 341 65	219 250 835 1077 1489 1424 191	199 543 1264 2968 2099 5806 983	199 1104 1943 5380 4394 11702 1252	222 166 1271 6973 7168 17197 4304	178 166 1245 7648 7513 17574 5062	148 166 1236 7929 8058 17587 5106	148 166 1236 8006 8058 17604 5106	148 166 1236 8185 8058 17608 5114	148 166 1144 8185 8058 17608 5117	148 166 1144 8192 8058 17624 5126	65 166 1068 8195 8125 17952 5190	65 166 1068 8195 8125 17973 5190	65 166 1068 8195 8125 17973 5190	65 166 1068 8195 8125 17973 5190	65 166 1058 8195 8125 17973 5190	65 166 1058 8195 8125 17973 5190	65 166 920 8195 8125 17973 5190	65 166 920 8195 8125 17973 5190
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OldSerlClose OldSerlClose OldSerlOpen OldS	07PVH 07PVH	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NM PL UM BK	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 172 2216 1839 172 2216 1839 172 280 682 140 600 1460 281	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 105 35 22	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 381 193 1 37 38 148	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 22	148 166 1236 7929 8058 17587 5106 1916 1911 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 194 1 57 52 148 135 104	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293 6297	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17 109 65	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 17952 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 22	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31
OldSerlClose OldSerlClose OldSerlOpen OldS	07PVH 07PVH	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NM PL UM	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 172 280 682 140 600 1460	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 105 35 22	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 381 193 1 37 38 148	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 22	148 166 1236 7929 8058 17587 5106 1916 1911 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 1 57 52 148 135	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 2 121	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31
OldSerlClose OldSerlClose OldSerlOpen OldS	07PVH 07PVH	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI SM EE FL GB HD HI SM EE FL FL FL FL FL FL FL FO F FL F F FL F F F F	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 1722 2800 682 140 600 1460 281 712 624 540	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 105 35 22	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 381 193 1 37 38 148	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 22	148 166 1236 7929 8058 17587 5106 1916 1911 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 1 57 52 148 135 104 295	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293 6297	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17 109 65 11 381 193	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 2 121 8 55 174	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22 22	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31
OldSerlClose OldSerlClose OldSerlOpen OldS	07PVH 07PVH	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI SM EE FL GB	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 172 280 682 140 682 140 600 1460 281 712 624 540 43	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 105 35 22	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 381 193 1 37 38 148	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 22	148 166 1236 7929 8058 17587 5106 1916 1911 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 1 57 52 148 135 104 295 70 80	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293 6297	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17 109 65 11 381 193 1	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 2 121 8	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22 22 82 82 82 82 82 82 80 80	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31
OldSerlClose OldSerlClose OldSerlOpen OldS	07PVH 07PVH	NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI SM EE FL GB HD HI SM EE FL FL FL FL FL FL FL FO F FL F F FL F F F F	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 1722 2800 682 140 600 1460 281 712 624 540	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 105 35 22	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 381 193 1 37 38 148	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 22	148 166 1236 7929 8058 17587 5106 1916 1916 1191 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 1 57 52 148 135 104 295 70	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293 6297	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17 109 65 11 381 193	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 2 121 8 55 174	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22 22	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31
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OldSerlClose OldSerlClose OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OldSerlOpen OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr OthrSheltAcr RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre RegenAcre ThinAcre ThinAcre ThinAcre ThinAcre ThinAcre	07PVH 07PVH	NS PL UM BK FL GB HD HI NM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI NM PL UM BK BM EE FL GB HD HI	2689 4525 22113 130418 129166 285838 78946 19651 18492 28693 45073 37349 104325 9276 36537 100688 708 1720 2216 1839 1722 2800 682 140 600 14600 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 682 140 600 1460 281 712 624 540 540 537 537 537 537 537 537 537 537 537 537	193 77	219 61 609 315 1213 341 65 152 59 145 40 285 212 56 349 340 340	219 250 835 1077 1489 1424 191 457 88 145 182 416 1277 410 454 983	199 543 1264 2968 2099 5806 983 670 231 605 632 640 2257 430 622 2249 104 295 70 80 18 105 35 2 121	199 1104 1943 5380 4394 11702 1252 939 330 810 678 1117 3848 430 1052 3286 124 48 12 124 48 12	222 166 1271 6973 7168 17197 4304 1733 1102 1654 2621 2179 6260 530 2183 5608 65 11 381 193 1 37 38 148 135	178 166 1245 7648 7513 17574 5062 1870 1191 1765 2853 2263 6410 530 2218 6226 104 295 70 80 18 105 35 2 121	148 166 1236 7929 8058 17587 5106 1916 1916 1191 1813 2899 2341 6425 530 2218 6273 8 124 103 186 42 17	148 166 1236 8006 8058 17604 5106 1577 1191 1813 2899 2341 6426 530 2218 6273 65 11 381 194 1 57 52 148 135 104 295 70 80 18 105 35 2 121 7 37 9	148 166 1236 8185 8058 17608 5114 1577 1191 1813 2908 2341 6452 530 2293 6297 124 48 12 124 48 12 37 490 328 338 1 398	148 166 1144 8185 8058 17608 5117 1372 1191 1813 2908 2341 6452 530 2293 6297 8 55 174 42 17 109 65 11 381 193 1 37 38 148 135 64 301 558 77 108	148 166 1144 8192 8058 17624 5126 583 1191 1813 2933 2341 6452 530 2293 6302 1 1 2203	65 166 1068 8195 8125 5190 492 1192 1813 2940 2343 6452 530 2293 6314 82 282 70 80 18 105 33 2121 8 55 174 42 17 109 7 37 9	65 166 1068 8195 8125 17973 5190 554 1192 1813 2940 2343 6486 530 2293 6320 1 1 20 14 1 20 14 3 67 328 64 1	65 166 1068 8195 8125 17973 5190 398 1192 1813 2940 2343 6486 530 2293 6320	65 166 1068 8195 8125 17973 5190 557 1192 1813 2940 2343 6486 530 2293 6320 147 430 499 285 143 35 150	65 166 1058 8195 8125 17973 5190 1023 1192 1813 2940 2343 6486 530 2293 6320 8 55 174 42 17 109	65 166 1058 8195 8125 17973 5190 1104 1192 1813 2940 2343 6486 530 2293 6320 22 22 82 82 282 70 80 18 105 33 2 121 3 67 328 64 105 33 2 121 3 67 328 64 105	65 166 920 8195 8125 17973 5190 1294 1192 1813 2940 2343 6486 530 2293 6320 65 148 429 205 148 429 205 1 37 38 2 148	65 166 920 8195 8125 17973 5190 1383 1192 1813 2940 2343 6486 530 2293 6320 8 55 175 42 20 31

ThinAcro																							
ThinAcre	07PVH	PL	84			28				28				28									
ThinAcre	07PVH	UM	1742			550	5	18		550		11	12	550		11	12			11	12		
Volume	07PVH	ВК	1114		7		32	0	27	149	3	284	7	134		38	0	6	115	3	174	85	50
Volume	07PVH	BM	3040		89	13	97	45	92	435	149	585	320	33		74	13		381		508	206	
Volume	07PVH	EE	3447			63	27	86	114	163	76	664	153	846		135	69		201	23	193	568	66
Volume	07PVH	FL	3051		58	117	26	16	115	227	69	421	91	725	2	343	14		150	47	152	269	209
Volume	07PVH	GB	271			16		0	0	16	13	2	0	79	_	81	0		0	11		2	51
Volume	07PVH	HD	712		84	22	6	U	96	48	10	92	84	93	29	4	38		31		31	48	6
Volume	07PVH	HI	1494		100	42	37	1	111	190	5	255	101	134	19	64	27		137	10		50	25
	07PVH	NG			100		57	0	111		J	255	101		19	04	27		137	10	081	50	25
Volume			6			2				2		74	0	2		10	0			-	-	2	
Volume	07PVH	NM	346			26	11	7		77		74		26		16			41	7		3	
Volume	07PVH	PL	809			6	1		48	9		215	_	291		0			41		4	194	
Volume	07PVH	UM	2442			116	40	4	41	289	35	413	3	524		240	3		181	31		177	131
Young Mgmt	07PVH	ВК	2400	70	71	71	71	71	71	175	175	240	136	144	79	79	71	71	153	153	175	158	166
Young Mgmt	07PVH	BM	4996	265	121	121	121	121	121	416	540	551	256	132	121	121	121	121	403	403	403	269	269
Young Mgmt	07PVH	EE	6645	596	276	166	166	166	166	236	284	665	595	602	221	221	166	166	236	236		595	650
Young Mgmt	07PVH	FL	2722	285	17	12	12	12	12	92	104	297	217	379	187	187	13	12	92	92	92	217	391
Young Mgmt	07PVH	GB	185	12								1	1	43	42	42						1	43
Young Mgmt	07PVH	HD	471	22	24	4	4	4	4	22	22	59	41	41	24	24	24	4	22	22	22	41	41
Young Mgmt	07PVH	HI	1478	56	42	25	25	25	25	130	130	168	63	80	56	56	39	25	130	130	130	63	80
Young Mgmt	07PVH	NG	3980	123	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203
Young Mgmt	07PVH	NM	1316	67	87	53	53	53	53	88	88	88	53	53	53	53	53	53	86	86	86	55	55
Young Mgmt	07PVH	PL	1066	10	16	16	16	16	16	18	18	166	164	164	16	16	16	16	18	18	18	164	164
Young Mgmt	07PVH	UM	3368	162	127	69	69	69	69	190	190	325	204	313	178	178	69	69	190	190	190	204	313
Young Patch	07PVH	ВК	995	2	306	22	163							33	149				46	100		12	162
Young Patch	07PVH	BM	53	-	7	10	100		7					55	115	7				15			7
Young Patch	07PVH	EE	4117	223	, 57	207	689	452	, 176	1	39	509	428			,	218	532		92	242	96	, 156
Young Patch Young Patch	07PVH 07PVH	FL	4117	223	57	207	505	452 4	1/0	10	53	203	720				210	552		52	242	50	100
	07PVH 07PVH		14 32385		268	688	996	4 1125	1870	10 2170	2024	1133	2126	2198	2381	1919	1408	2041	2288	2290	1051	1386	<u>,,,,</u>
Young Patch		Forest			∠0ŏ	UÕÕ	990	1172	10/0	21/0	2024	1132	2120	7190	2301	1918	140Q	∠∪41	220Ö	2290	τοοτ	1200	2223
Young Patch	07PVH	HI	4	4				200								00							
Young Patch	07PVH	NS	487	. -				360		44						83							
Young Patch	07PVH	UM	854	39	49	70		348	18	14			-	92		76				10		138	
AllHarvAcre	08Doak	ВК	2385	89	216	299	99	10	334	210	2	45	299	336	18	81		81	39			209	18
AllHarvAcre	08Doak	BM	19733	2082	1374	1270	691	1944	1904	1264	424	2166	1986	1318	166	752	20	409	660	206	284	738	75
AllHarvAcre	08Doak	EE	5347	1146	400	96	5	1102	355	115	77	1124	355	89	20	113	51		14	69	63	90	63
AllHarvAcre	08Doak	FL	2721	165	165	323	165	13	341	102	8	11	330	339	8	165		165	19	13		389	
AllHarvAcre	08Doak	GB	2157	332	158	28	72	60	253	228		83	230	51		272		72	23			295	
AllHarvAcre	08Doak	HD	11048	1866	1086	185	90	2027	1124	256	180	2040	1203	263	16	40		3	294	46	26	267	36
AllHarvAcre	08Doak	ні	1449	9	87	215	113	28	96	26	28		124	215	104	9		37			28	198	132
AllHarvAcre	08Doak	NG	787	109	52		78		122			39	122		8	70		70		39		70	8
AllHarvAcre	08Doak	NM	9206	478	1021	305	429	399	484	611	692	49	500	581	481	478	582	32	159	383	13	599	930
AllHarvAcre	08Doak	NS	2568	190	488	000	68	86	262	104	226	86	262	001	68	104	226	02	200	000	20	104	294
AllHarvAcre	08Doak	PL	13224	2316	1003	132	40	2620	1203	101	322	2669	1226	321	39	114	220		462	175	99	423	60
AllHarvAcre	08Doak 08Doak	UM	8634	459	702	914	222	458		1117	199	741	704	1155	33	269	2		245	255	39	210	199
						-									45.05			45.05					
Burning	08Doak	BK	100083	5054	6062	6056	5846	5843	5650	5644	5434	4513	4721	4715	4505	4505	4505	4505	4505	4505		4505	4505
Burning	08Doak	BM	185549						9207	8907	7979	9374	8949	8649	7721	7658	7575	7575	7721	7658			7575
Burning	08Doak	EE	89528	6035		5490	5456	5558	4621	4291	4280	4937	4231	3901	3890	3881	3876	3876	3890	3881			3876
Burning	08Doak	FL	13047	436	763	708	598	848	958	895	801	575	727	664	570	562	562	562	570	562	562	562	562
Burning	08Doak	GB	18851	1431	1655	1525	1497	890	925	795	767	820	918	788	760	760	760	760	760	760	760	760	760
Burning	08Doak	HD	116490	9185	9355	8468	8283	7227	5956	5053	4900	6441	5649	4746	4593	4578	4577	4577	4593	4578	4577	4577	4577
Burning	08Doak	HI	9011	686	806	745	719	381	451	390	364	363	450	389	363	363	363	363	363	363	363	363	363
Burning	08Doak	NG	17042	1009	1289	1237	1237	886	824	772	772	747	799	747	747	747	747	747	747	747	747	747	747
Burning	08Doak	NM	177304	10510	12055	11839	11603	9076	8982	8659	8637	7929	8381	8058	8036	7929	7929	7929	8036	7929	7929	7929	7929
Burning	08Doak	NS	30876	1977	2303	2041	2041	1660	1779	1517	1517	1402	1569	1307	1307	1307	1307	1307	1307	1307	1307	1307	1307
Burning	08Doak	PL	660271	46615	47355	46391	46392	34303	32701	21600	24727	31008	29265	28262	28301	28316	28262	28262	28301	28316	20262	28262	28262
Burning	08Doak	UM								21020	31/3/										28262		3846
Disturbance	08Doak	••••	945/8	6904	7225	7437	6542	4476					4550			3881		3846	3846	3881			94
Disturbance	00000	BK	94578 893	6904	7225	7437 108	6542 60	4476	4718	4930			4550	4760	3846	3881 20	3848	3846 341	3846	3881	3848		
Disturbance	08Doak	BK BM	893		7225	7437 108	60			4930	4016	4332		4760		3881 20		3846 341	3846			22	63
Disturbance	08Doak	BM	893 1408	6904 51				620	4718				4550 464			20	3848 134		3846	3881 5	3848		63 4
Disturbanco	08Doak	BM EE	893 1408 431	51	7225 27		60			4930 114	4016	4332		4760			3848	341	3846		3848	22	4
Disturbance	08Doak 08Doak	BM EE FL	893 1408 431 107				60	620	4718	4930	4016 17	4332 5	464	4760 54	3846	20 15	3848 134 28	341 14		5	3848 114	22 8	4 70
Disturbance	08Doak 08Doak 08Doak	BM EE FL Forest	893 1408 431 107 4724	51			60	620	4718	4930 114	4016	4332		4760		20	3848 134	341	3846		3848	22 8 385	4
Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB	893 1408 431 107 4724 2	51 10	27		60	620	4718	4930 114 13	4016 17	4332 5	464	4760 54	3846 252	20 15 135	3848 134 28	341 14	112	5 268	3848 114	22 8	4 70 666
Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD	893 1408 431 107 4724 2 383	51 10 2			60	620	4718	4930 114	4016 17	4332 5	464	4760 54	3846	20 15 135 52	3848 134 28	341 14 651		5	3848 114	22 8 385 2	4 70
Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI	893 1408 431 107 4724 2 383 178	51 10	27 14		60 7	620 282	4718	4930 114 13 58	4016 17 185	4332 5	464	4760 54	3846 252	20 15 135	3848 134 28	341 14	112	5 268	3848 114 147	22 8 385	4 70 666
Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG	893 1408 431 107 4724 2 383 178 180	51 10 2 34	27 14 61	108	60 7 30	620 282 35	4718	4930 114 13 58 17	4016 17	4332 5 637	464	4760 54	3846 252	20 15 135 52	3848 134 28 409	341 14 651 30	112 91	5 268 92	3848 114 147 10	22 8 385 2	4 70 666 38
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM	893 1408 431 107 4724 2 383 178 180 1076	51 10 2	27 14		60 7	620 282	4718	4930 114 13 58	4016 17 185	4332 5 637 47	464	4760 54	3846 252	20 15 135 52	3848 134 28	341 14 651 30 59	112	5 268	3848 114 147	22 8 385 2	4 70 666 38 107
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG	893 1408 431 107 4724 2 383 178 180 1076 54	51 10 2 34	27 14 61	108 30	60 7 30 496	620 282 35 14	4718	4930 114 13 58 17 43	4016 17 185	4332 5 637 47 1	464	4760 54	3846 252	20 15 135 52	3848 134 28 409 47	341 14 651 30 59 24	112 91	5 268 92	3848 114 147 10	22 8 385 2	4 70 666 38
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM	893 1408 431 107 4724 2 383 178 180 1076	51 10 2 34	27 14 61	108 30 9	60 7 30	620 282 35	4718	4930 114 13 58 17	4016 17 185	4332 5 637 47	464	4760 54	3846 252 36	20 15 135 52	3848 134 28 409	341 14 651 30 59	112 91	5 268 92	3848 114 147 10	22 8 385 2	4 70 666 38 107
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS	893 1408 431 107 4724 2 383 178 180 1076 54	51 10 2 34	27 14 61	108 30	60 7 30 496	620 282 35 14	4718	4930 114 13 58 17 43	4016 17 185	4332 5 637 47 1	464	4760 54	3846 252	20 15 135 52	3848 134 28 409 47	341 14 651 30 59 24	112 91	5 268 92	3848 114 147 10	22 8 385 2	4 70 666 38 107
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL GB HD HI NG NM NS PL	893 1408 431 107 4724 2 383 178 180 1076 54 383	51 10 2 34 17	27 14 61 193	108 30 9	60 7 30 496 47	620 282 35 14	4718 75 100	4930 114 13 58 17 43 149	4016 17 185 27	4332 5 637 47 1	464	4760 54	3846 252 36	20 15 135 52 4	3848 134 28 409 47 31	341 14 651 30 59 24	112 91	5 268 92 17	3848 114 147 10	22 8 385 2 110	4 70 666 38 107 29
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835	51 10 2 34 17 95	27 14 61 193 115	108 30 9 125	60 7 30 496 47 30	620 282 35 14 134	4718 75 100	4930 114 13 58 17 43 149 34	4016 17 185 27 2	4332 5 637 47 1 3	464 640	4760 54 137	3846 252 36 165	20 15 135 52 4 22	3848 134 28 409 47 31 1	341 14 651 30 59 24 10	112 91 5	5 268 92 17 29	3848 114 147 10 1	22 8 385 2 110	4 70 666 38 107 29 14
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40	51 10 2 34 17 95 2	27 14 61 193 115 2	108 30 9 125 2	60 7 30 496 47 30 2	620 282 35 14 134 2	4718 75 100 60 2	4930 114 13 58 17 43 149 34 2	4016 17 185 27 2 2 2	4332 5 637 47 1 3 2	464 640	4760 54 137 2	3846 252 36 165 2	20 15 135 52 4 22 22 2	3848 134 28 409 47 31 1 2	341 14 651 30 59 24 10 2	112 91 5 2	5 268 92 17 29 2	3848 114 147 10 1 2	22 8 385 2 110 143 2	4 70 666 38 107 29 14 2
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512	51 10 2 34 17 95 2 27	27 14 61 193 115 2 27	108 30 9 125 2 27	60 7 30 496 47 30 2 25	620 282 35 14 134 2 25	4718 75 100 60 2 25	4930 114 13 58 17 43 149 34 2 26	4016 17 185 27 2 2 2 25	4332 5 637 47 1 3 2 24	464 640 2 25	4760 54 137 2 26	3846 252 36 165 2 27	20 15 135 52 4 22 25	3848 134 28 409 47 31 1 2 25	341 14 651 30 59 24 10 2 25	112 91 5 2	5 268 92 17 29 2 26	3848 114 147 10 1 1 2 26	22 8 385 2 110 143 2 25	4 70 666 38 107 29 14 2 25
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220	51 10 2 34 17 95 2 27 11	27 14 61 193 115 2 7 11	108 30 9 125 2 7 11	60 7 30 496 47 30 2 5 11	620 282 35 14 134 2 25 11	4718 75 100 60 2 5 11	4930 114 13 58 17 43 149 34 2 26 11	4016 17 185 27 2 2 2 5 11	4332 5 637 47 1 3 2 24 11	464 640 2 25 11	4760 54 137 2 26 11	3846 252 36 165 2 7 11	20 15 135 52 4 22 25 11	3848 134 28 409 47 31 1 2 25 11	341 14 651 30 59 24 10 25 11	112 91 5 26 11	5 268 92 17 29 2 26 11	3848 114 147 10 1 2 26 11	22 8 385 2 110 143 2 5 11	4 70 666 38 107 29 14 2 5 11
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32	51 10 2 34 17 95 2 27 11 2	27 14 61 193 115 2 7 11 2	108 30 9 125 2 27 11 1	60 7 30 496 47 30 2 5 11 1	620 282 35 14 134 2 25 11 1	4718 75 100 60 2 25 11 2	4930 114 13 58 17 43 149 34 2 26 11 2	4016 17 185 27 2 2 2 5 11 2 1	4332 5 637 47 1 3 2 24 11 2 1	464 640 2 25 11 2	4760 54 137 2 26 11 1	3846 252 36 165 2 27 11 1	20 15 135 52 4 22 25 11 1	3848 134 28 409 47 31 1 2 25 11 2	341 14 651 30 59 24 10 2 5 11 2 2 5	112 91 5 2 26 11 2	5 268 92 17 29 2 26 11 2	3848 114 147 10 1 2 26 11 2	22 8 385 2 110 143 25 11 1	4 70 666 38 107 29 14 2 5 11 1 1
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415	51 10 2 34 17 95 2 27 11 2 1 21	27 14 61 193 115 2 27 11 2 1 21	108 30 9 125 2 27 11 1 1 21	60 7 30 496 47 30 2 25 11 1 2	620 282 35 14 134 2 25 11 1 2	4718 75 100 60 2 25 11 2 2 21	4930 114 13 58 17 43 149 34 2 26 11 2 1 21	4016 17 185 27 2 2 2 5 11 2 2 1 2 2 5	4332 5 637 47 1 3 2 24 11 2	464 640 2 25 11 2 2 20	4760 54 137 2 26 11 1 2	3846 252 36 165 2 27 11 1 2 21	20 15 135 52 4 22 25 11 1 1 1 21	3848 134 28 409 47 31 1 2 25 11 2 11 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21	112 91 5 2 26 11 2 2 21	5 268 92 17 29 2 26 11 2 2 21	3848 114 147 10 1 1 2 26 11 2 2 2 1	22 8 385 2 110 143 2 5 11 1 1 20	4 70 666 38 107 29 14 2 5 11 1 1 1
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32	51 10 2 34 17 95 2 27 11 2 1 21 21 2	27 14 61 193 115 2 77 11 2 1 21 21 2	108 30 9 125 2 27 11 1 1 21 21 1	60 7 30 496 47 30 2 25 11 1 2 21 1	620 282 35 14 134 2 25 11 1 2 21 1	4718 75 100 60 2 25 11 2 21 21 2	4930 114 13 58 17 43 149 34 2 26 11 2 1	4016 17 185 27 2 2 25 11 20 20 2	4332 5 637 47 1 3 2 24 11 2 1 20 2	464 640 2 25 11 2 20 20 2	4760 54 137 2 26 11 1 2 21 1	3846 252 36 165 2 27 11 1 2 21 1	20 15 135 52 4 22 25 11 1 1 1 21 1	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 21	341 14 651 30 59 24 10 2 25 11 2 1 21 21 2	112 91 5 2 26 11 2 21 21 2	5 268 92 17 29 2 26 11 2 21 21 2	3848 114 147 10 1 2 26 11 2 26 11 2 2 1 2 1 2	22 8 385 2 110 143 2 5 11 1 1 20 1	4 70 666 38 107 29 14 25 11 1 1 20 1
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 220 32 29 415 32 0	51 10 2 34 17 95 2 27 11 2 1 21 21 2 0	27 14 61 193 115 2 7 11 2 1 21 21 2 0	108 30 9 125 2 7 11 1 1 21 1 21 0	60 7 30 496 47 30 2 5 11 1 2 21 1 0	620 282 35 14 134 2 5 11 1 2 21 1 0	4718 75 100 60 2 25 11 2 21 2 21 2 0	4930 114 13 58 17 43 149 34 2 26 11 2 1 21 21 2 0	4016 17 185 27 2 2 25 11 2 20 2 0	4332 5 637 47 1 3 2 24 11 2 2 1 20 2 0	464 640 2 25 11 2 20 2 0	4760 54 137 2 26 11 1 2 21 1 0	3846 252 36 165 2 7 11 1 2 21 1 0	20 15 135 52 4 22 25 11 1 1 21 1 0	3848 134 28 409 47 31 1 2 25 11 2 1 21 21 2 0	341 14 651 30 59 24 10 2 5 11 2 1 21 21 2 0	112 91 5 26 11 2 21 21 2 0	5 268 92 17 29 2 6 11 2 21 2 1 2 0	3848 114 147 10 10 1 2 26 11 2 26 11 2 21 2 21 2 0	22 8 385 2 110 143 25 11 1 1 20 1 0	4 70 666 38 107 29 14 25 11 1 1 20 1 20 1 0
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 220 32 29 415 32 0 176	51 10 2 34 17 95 2 7 11 2 1 21 21 2 0 11	27 14 61 193 115 2 7 11 2 1 21 21 2 0 8	108 30 9 125 2 7 11 1 1 21 1 0 8	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8	620 282 35 14 134 2 5 11 1 2 21 1 0 9	4718 75 100 60 2 5 11 2 21 2 21 2 0 9	4930 114 13 58 17 43 149 34 2 26 11 2 1 21 21 2 0 9	4016 17 185 27 2 2 5 11 2 2 5 11 2 0 2 0 8	4332 5 637 47 1 3 2 24 11 20 2 0 8	464 640 2 25 11 2 20 2 0 10	4760 54 137 2 26 11 1 2 21 1 0 11	3846 252 36 165 2 7 11 1 2 21 1 0 9	20 15 135 52 4 22 25 11 1 1 21 1 0 7	3848 134 28 409 47 31 1 2 25 11 2 1 21 2 1 21 2 0 6	341 14 651 30 59 24 10 25 11 2 1 21 21 2 0 8	112 91 5 26 11 2 21 2 21 2 0 10	5 268 92 17 29 2 6 11 2 21 2 21 2 0 11	3848 114 147 10 10 1 2 26 11 2 2 21 2 21 2 0 11	22 8 385 2 110 143 25 11 1 1 20 1 0 9	4 70 666 38 107 29 14 25 11 1 1 20 1 0 6
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 220 32 29 415 32 0 176 690	51 10 2 34 17 95 2 7 11 2 1 21 21 2 0 11 35	27 14 61 193 115 27 11 21 21 21 20 8 34	108 30 9 125 2 7 11 1 1 21 1 0 8 34	60 7 30 496 47 30 25 11 1 2 21 1 0 8 34	620 282 35 14 134 25 11 1 2 21 1 0 9 35	4718 75 100 60 2 5 11 2 2 1 2 21 2 0 9 35	4930 114 13 58 17 43 149 34 2 6 11 2 1 21 21 21 20 9 35	4016 17 185 27 2 2 5 11 2 2 5 11 2 0 8 34	4332 5 637 47 1 3 24 11 20 2 1 20 2 0 8 34	464 640 2 25 11 2 20 2 0 10 34	4760 54 137 2 26 11 1 2 21 1 0 11 35	3846 252 36 165 2 7 11 1 2 21 1 0 9 35	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35	3848 134 28 409 47 31 1 2 5 11 2 1 21 21 21 20 6 34	341 14 651 30 59 24 10 25 11 21 21 21 20 8 34	112 91 5 26 11 2 21 2 0 10 34	5 268 92 17 29 2 6 11 2 21 2 21 2 0 11 35	3848 114 147 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35	22 8 385 2 110 143 25 11 1 1 20 1 0 9 35	4 70 666 38 107 29 14 25 11 1 20 1 0 6 34
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370	51 10 2 34 17 95 2 7 11 21 21 21 21 21 35 19	27 14 61 193 115 2 7 11 2 1 21 21 21 20 8 34 19	108 30 9 125 2 27 11 1 1 21 1 0 8 34 19	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19	620 282 35 14 134 2 5 11 1 2 21 1 0 9 35 19	4718 75 100 60 2 25 11 2 21 2 21 2 0 9 35 19	4930 114 13 58 17 43 149 34 2 26 11 2 1 21 21 21 2 0 9 35 19	4016 17 185 27 2 2 25 11 20 2 0 8 34 18	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17	464 640 2 25 11 2 20 2 0 10 34 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 21 21 21 21 20 8 34 19	112 91 5 26 11 2 21 2 10 34 19	5 268 92 17 29 2 6 11 2 21 2 21 2 0 11 35 19	3848 114 147 10 1 1 2 26 11 2 26 11 2 2 1 2 21 2 0 11 35 19	22 8 385 2 110 143 25 11 1 1 20 1 0 9 35 17	4 70 666 38 107 29 14 25 11 1 20 1 20 1 0 6 34 17
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM S PL UM BK BM EE FL GB HD HI NG NM NS PL UM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370	51 10 2 34 17 95 2 7 11 21 21 21 21 21 21 35 19 17	27 14 61 193 115 2 77 11 21 21 21 21 21 21 21 21 34 19 17	108 30 9 125 2 27 11 1 1 21 1 21 1 0 8 34 19 17	60 7 30 496 47 30 2 25 11 1 2 21 1 0 8 34 19 17	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 0 9 35 19 17	4718 75 100 60 2 25 11 2 21 2 21 2 21 2 0 9 35 19 17	4930 114 13 58 17 43 149 34 2 26 11 21 21 21 21 21 21 9 35 19 16	4016 17 185 27 2 2 5 11 2 2 5 11 2 0 8 34	4332 5 637 47 1 3 24 11 20 2 1 20 2 0 8 34	464 640 2 25 11 2 20 2 0 10 34	4760 54 137 2 26 11 1 2 21 1 0 11 35	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19 16	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35	3848 134 28 409 47 31 1 2 5 11 2 1 21 21 21 20 6 34	341 14 651 30 59 24 10 25 11 21 21 21 20 8 34	112 91 5 2 26 11 2 21 2 21 2 0 10 34 19 17	5 268 92 17 29 2 26 11 2 21 2 21 2 0 11 35 19 17	3848 114 147 10 1 1 2 26 11 2 26 11 2 2 21 2 21 2 11 35 19 17	22 8 385 2 110 143 25 11 1 1 20 1 0 9 35	4 70 666 38 107 29 14 25 11 1 20 1 0 6 34
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM SS PL UM BK BM EE FL GB HD HI NG NM NS PL UM SS PL UM BK	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670	51 10 2 34 17 95 2 27 11 21 21 21 2 1 21 2 11 35 19 17 2744	27 14 61 193 115 2 7 11 2 1 21 2 1 2 1 2 1 2 1 2 1 2 1 2	108 30 9 125 2 27 11 1 1 1 1 1 21 1 1 0 8 34 19 17 104	60 7 30 496 47 30 2 25 11 1 2 21 1 0 8 34 19 17 1	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 0 9 355 19 17 40	4718 75 100 60 2 25 11 2 21 2 21 2 21 2 0 9 35 19 17 40	4930 114 13 58 17 43 149 34 2 26 11 21 21 21 21 21 21 21 9 35 19 16 39	4016 17 185 27 2 2 25 11 20 2 1 20 2 0 8 34 18 16	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16	464 640 2 25 11 2 20 2 0 10 34 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19 16 81	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 2 1 21 2 1 2 1 2 1 2 1 2	112 91 5 2 26 11 2 21 2 10 34 19 17 2	5 268 92 17 29 2 26 11 2 21 2 21 2 21 2 0 11 35 19 17 39	3848 114 147 10 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35 19 17 39	22 8 385 2 110 143 2 5 11 1 1 20 1 0 9 35 17 16	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak 08Doak	BM EE FL Forest GB HD HI NG NM S PL UM BK BM EE FL GB HD HI NG NM NS PL UM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670 17244	51 10 2 34 17 95 2 27 11 21 21 21 21 21 21 35 19 17 2744 7905	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 21 21	108 30 9 125 2 27 11 1 1 21 1 21 1 0 8 34 19 17	60 7 30 496 47 30 2 25 11 1 2 21 1 0 8 34 19 17	620 282 35 14 134 2 25 11 1 2 21 1 0 9 35 19 17	4718 75 100 60 2 25 11 2 2 1 2 2 1 2 0 9 35 19 17	4930 114 13 58 17 43 149 34 2 26 11 21 21 21 21 21 21 9 35 19 16	4016 17 185 27 2 2 25 11 20 2 0 8 34 18	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20	464 640 2 25 11 2 20 2 0 10 34 17 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19 16	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 21 21 21 21 20 8 34 19	112 91 5 2 26 11 2 21 2 21 2 0 10 34 19 17	5 268 92 17 29 2 26 11 2 21 2 21 2 0 11 35 19 17	3848 114 147 10 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35 19 17 39	22 8 385 2 110 143 2 5 11 1 1 20 1 1 20 1 0 9 35 17 16 75	4 70 666 38 107 29 14 25 11 1 20 1 20 1 0 6 34 17
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM SS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 0 176 690 370 331 3670 17244 3783	51 10 2 34 17 95 2 27 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 21 21	108 30 9 125 2 27 11 1 1 1 1 1 21 1 1 0 8 34 19 17 104	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19 17 1 826 0	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 0 9 355 19 17 40	4718 75 100 60 2 5 11 2 2 11 2 2 11 2 2 11 2 12 0 9 35 19 17 40 478 75	4930 114 13 58 17 43 149 34 2 26 11 21 21 21 21 21 21 21 9 35 19 16 39	4016 17 185 27 2 2 25 11 20 2 1 20 2 0 8 34 18 16	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16	464 640 2 25 11 2 20 2 0 10 34 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 7 11 1 2 21 1 2 21 1 0 9 35 19 16 81 409	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 2 1 21 2 1 2 1 2 1 2 1 2	112 91 5 2 26 11 2 21 2 10 34 19 17 2	5 268 92 17 29 2 26 11 2 21 2 21 2 21 2 0 11 35 19 17 39	3848 114 147 10 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35 19 17 39	22 8 385 2 110 143 2 5 11 1 1 20 1 0 9 35 17 16	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM SS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670 17244	51 10 2 34 17 95 2 27 11 21 21 21 21 21 21 35 19 17 2744 7905	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 21 21	108 30 9 125 2 7 11 1 1 21 1 1 21 1 0 8 34 19 17 104 1512	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19 17 1 826	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 0 9 35 19 17 40 424	4718 75 100 60 2 25 11 2 21 2 21 2 21 2 21 2 10 9 35 19 17 40 478	4930 114 13 58 17 43 149 34 2 26 11 21 21 21 21 21 21 21 21 21 21 21 21	4016 17 185 27 2 2 25 11 20 2 1 20 2 0 8 34 18 16 174	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20	464 640 2 25 11 2 20 2 0 10 34 17 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19 16 81	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 2 1 21 2 1 2 1 2 1 2 1 2	112 91 5 2 26 11 2 21 2 10 34 19 17 2	5 268 92 17 29 2 6 11 2 2 21 2 21 2 21 2 0 11 35 19 17 39 408	3848 114 147 10 1 10 1 2 26 11 2 2 6 11 2 2 1 2 2 1 2 11 35 19 17 39 324 11	22 8 385 2 110 143 2 5 11 1 1 20 1 1 20 1 0 9 35 17 16 75	4 70 666 38 107 29 14 25 11 1 20 1 0 6 34 17 15 20
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM SS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 0 176 690 370 331 3670 17244 3783	51 10 2 34 17 95 2 27 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 21 21	108 30 9 125 2 7 11 1 1 21 1 1 21 1 0 8 34 19 17 104 1512 357	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19 17 1 826 0	620 282 35 14 134 2 25 11 1 2 21 1 0 9 35 19 17 40 424 0	4718 75 100 60 2 5 11 2 2 11 2 2 11 2 2 11 2 12 0 9 35 19 17 40 478 75	4930 114 13 58 17 43 149 34 2 6 11 2 1 21 21 21 21 21 21 21 21 21 21 35 19 16 39 357 75	4016 17 185 27 2 2 2 5 11 2 2 0 2 1 2 0 8 34 18 16 174 81	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20	464 640 2 25 11 2 20 2 0 10 34 17 17	4760 54 137 2 26 11 1 2 21 1 0 11 35 18	3846 252 36 165 2 7 11 1 2 21 1 2 21 1 0 9 35 19 16 81 409	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19	3848 134 28 409 47 31 1 2 25 11 2 1 2 1 2 1 2 1 2 1 2 1 2 1	341 14 651 30 59 24 10 2 5 11 2 1 21 2 1 21 2 1 21 2 1 2 1 2 1	112 91 5 2 26 11 2 21 2 10 34 19 17 2	5 268 92 17 29 2 6 11 2 2 11 2 2 11 35 19 17 39 408 57	3848 114 147 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35 19 17 39 324 11	22 8 385 2 110 143 2 5 11 1 1 20 1 1 20 1 0 9 35 17 16 75	4 70 666 38 107 29 14 25 11 1 20 1 0 6 34 17 15 20
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 0 176 690 370 331 3670 17244 3783 1221	51 10 2 34 17 95 2 27 11 2 1 21 2 1 21 2 1 21 2 1 35 19 17 2744 7905 2565	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 21 21	108 30 9 125 2 7 11 1 1 21 1 1 21 1 0 8 34 19 17 104 1512 357	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19 17 1 826 0	620 282 35 14 134 2 25 11 1 2 21 1 0 9 35 19 17 40 424 0	4718 75 100 60 2 5 11 2 2 11 2 2 11 2 2 11 2 12 0 9 35 19 17 40 478 75	4930 114 13 58 17 43 149 34 2 6 11 2 1 21 21 21 21 21 21 21 21 21 21 35 19 16 39 357 75	4016 17 185 27 2 2 2 5 11 2 2 0 2 1 2 0 8 34 18 16 174 81	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20 6	464 640 2 25 11 2 20 2 0 10 34 17 17 6	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 7 11 1 2 21 1 0 9 35 19 16 81 409 165	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	341 14 651 30 59 24 10 25 11 2 1 21 21 21 21 21 21 21 21 21 21 21	112 91 5 26 11 2 2 1 2 0 10 34 19 17 2 208	5 268 92 17 29 2 6 11 2 2 1 2 2 1 2 0 11 35 19 17 39 408 57 11	3848 114 147 10 10 1 2 26 11 2 26 11 2 2 21 2 21 2 0 11 35 19 17 39 324 11	22 8 385 2 110 143 2 5 11 1 1 20 1 0 9 35 17 16 75 18	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM S PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL FL FOrest	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 0 176 690 370 331 3670 17244 3783 1221 115	51 10 2 34 17 95 2 7 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	27 14 61 193 115 2 7 11 2 1 21 2 1 21 2 1 21 2 0 8 34 19 17 541 3914 537 278	108 30 9 125 2 7 11 1 1 21 1 1 21 1 0 8 34 19 17 104 1512 357	60 7 30 496 47 30 2 5 11 1 2 21 1 0 8 34 19 17 1 826 0	620 282 35 14 134 2 5 11 1 2 21 1 2 21 1 0 9 35 19 17 40 424 0 13	4718 75 100 60 2 5 11 2 2 1 2 2 1 2 0 9 35 19 17 40 478 75 13	 4930 114 13 58 17 43 149 34 2 26 11 2 1 21 2 0 9 35 19 16 39 357 75 5 	4016 17 185 27 2 2 2 5 11 2 2 0 2 1 2 0 8 34 18 16 174 81	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20 6	464 640 2 25 11 2 20 2 0 10 34 17 17 6	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 7 11 1 2 21 1 0 9 35 19 16 81 409 165 9	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 0 6 34 19 17	341 14 651 30 59 24 10 25 11 2 1 21 21 21 21 21 21 21 21 21 21 21	112 91 5 26 11 2 2 1 2 0 10 34 19 17 2 208	5 268 92 17 29 2 6 11 2 21 2 21 2 21 2 0 11 35 19 17 39 408 57 11 8	3848 114 147 10 1 2 26 11 2 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 1 3 5 19 17 39 324 11 1 3 5 19 17 7 39 324 11	22 8 385 2 110 143 2 5 11 1 1 20 1 0 9 35 17 16 75 18	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI SC SPL UM SC SC SC SC SC SC SC SC SC SC SC SC SC	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670 17244 3783 1221 115 643	51 10 2 34 17 95 2 7 11 21 21 21 21 21 21 21 21 21 21 21 21	27 14 61 193 115 2 7 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 2	108 30 9 125 2 27 11 1 1 21 1 21 1 21 1 0 8 34 19 17 104 1512 357 0	60 7 30 496 47 30 2 25 11 1 2 21 1 2 21 1 0 8 34 19 17 1 826 0 13 98	620 282 35 14 134 2 5 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 17 40 424 0 13 23	4718 75 100 60 2 25 11 2 21 2 21 2 21 2 21 2 11 2 9 35 19 17 40 478 75 13 23 162	 4930 114 13 58 17 43 149 34 2 26 11 2 1 21 2 0 9 35 19 16 39 357 75 5 23 	4016 17 185 27 2 2 25 11 20 2 0 8 34 18 16 174 81 11	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20 6	464 640 2 25 11 2 20 2 0 10 34 17 17 6	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 0 9 35 19 16 81 409 165 9 72	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 0 6 34 19 17	341 14 651 30 59 24 10 2 5 11 2 1 2 1 21 2 1 21 2 1 21 2 1 21 2 0 8 34 19 17 190 13	112 91 5 26 11 2 26 11 2 21 2 0 10 34 19 17 2 208 10	5 268 92 17 29 26 11 2 21 2 21 2 21 2 0 11 35 19 17 39 408 57 11 8 23	3848 114 147 10 1 1 2 26 11 2 26 11 2 2 26 11 2 2 2 1 2 2 1 1 35 19 17 39 324 11 13 23 177	22 8 385 2 110 143 2 5 11 1 20 1 20 1 0 9 35 17 16 75 18 12	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL FOrest GB HD	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670 17244 3783 1221 115 643 4689	51 10 2 34 17 95 2 27 11 21 2 1 21 2 1 21 2 1 21 2 1 21 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 3 5 2 2 7 7 11 2 1 2 12 11 2 12 11 2 12 11 2 12 11 2 12 1	27 14 61 193 115 2 27 11 21 2 1 21 2 1 21 2 1 21 2 1 21 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 1 2 2 2 2 2 2 2 1 2 1 2 1 2	108 30 9 125 2 27 11 1 1 21 1 1 21 1 1 21 1 1 21 1 1 1	60 7 30 496 47 30 2 5 11 1 2 21 1 2 21 1 0 8 34 19 17 1 826 0 13	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 17 40 424 0 13 23 128	4718 75 100 60 2 5 11 2 2 1 2 2 1 2 0 9 35 19 17 40 478 75 13 23	 4930 114 13 58 17 43 149 34 2 26 11 2 1 21 2 0 9 35 19 16 39 357 75 5 23 	4016 17 185 27 2 2 25 11 20 2 0 8 34 18 16 174 81 11	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20 6	464 640 2 25 11 2 20 2 0 10 34 17 17 6	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 16 81 409 165 9 72 3 9	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	341 14 651 30 59 24 10 2 5 11 2 1 2 1 21 2 1 21 2 1 21 2 1 21 2 0 8 34 19 17 190 13	112 91 5 2 26 11 2 21 2 21 2 0 10 34 19 17 2 208 10 215	5 268 92 17 29 26 11 2 2 21 2 21 2 21 2 0 11 35 19 17 39 408 57 11 8 23 290	3848 114 147 10 1 1 2 26 11 2 26 11 2 2 26 11 2 2 2 1 2 2 1 1 35 19 17 39 324 11 13 23 177	22 8 385 2 110 143 2 5 11 1 20 1 20 1 0 9 35 17 16 75 18 12	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM SS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL FOrest GB HD HI NG	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 0 176 690 370 331 3670 1724 3783 1221 115 643 4689 306 770	51 10 2 34 17 95 2 27 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	27 14 61 193 115 2 7 11 2 1 21 21 21 21 21 21 21 21 21 314 3914 3914 537 278 118 713 28 241	108 30 9 125 2 27 11 1 1 21 1 1 21 1 1 21 1 1 21 1 0 8 34 19 17 104 1512 357 0 110	60 7 30 496 47 30 2 25 11 1 2 21 1 0 8 34 19 17 1 826 0 13 98 28	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 0 9 35 19 17 40 424 0 13 23 128 28	4718 75 100 60 2 25 11 2 21 2 21 2 0 9 35 19 17 40 478 75 13 23 162 28	 4930 114 13 58 17 43 149 34 2 26 11 2 2 1 21 2 34 2 35 16 39 357 75 5 23 162 	4016 17 185 27 2 2 2 5 11 2 0 2 1 20 2 1 20 2 0 8 34 18 16 174 81 11 111	4332 5 637 47 1 3 2 24 11 20 2 4 11 20 2 0 8 34 17 16 20 6 1	464 640 2 25 11 2 20 2 0 10 34 17 17 6 3	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 7 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 16 81 409 165 9 72 3 9 70	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	 341 14 651 30 59 24 10 2 25 11 2 1 21 2 1 21 2 1 21 2 1 21 2 10 8 34 19 17 190 13 87 	112 91 5 2 26 11 2 2 1 2 2 1 2 0 10 34 19 17 2 208 10 215 28	5 268 92 17 29 2 6 11 2 2 21 2 0 11 35 19 17 39 408 57 11 8 23 290 28	3848 114 147 10 10 1 2 26 11 2 26 11 2 21 2 21 2 21	22 8 385 2 110 143 2 5 11 1 20 1 20 1 0 9 35 17 16 75 18 12	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6 14
Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	08Doak 08Doak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL FL Forest GB HD HI	893 1408 431 107 4724 2 383 178 180 1076 54 383 835 40 512 220 32 29 415 32 29 415 32 0 176 690 370 331 3670 17244 3783 1221 115 643 4689 306	51 10 2 34 17 95 2 27 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	27 14 61 193 115 2 7 11 2 1 21 2 1 21 21 21 21 21 21 21 21 3914 3914 3914 537 278 118 713 28 241	108 30 9 125 2 27 11 1 1 21 1 1 21 1 1 21 1 1 21 1 1 21 1 1 21 1 1 21 1 1 21 1 1 21 2	60 7 30 496 47 30 2 25 11 1 2 21 1 2 21 1 0 8 34 19 17 1 826 0 13 98	620 282 35 14 134 2 25 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 17 40 424 0 13 23 128	4718 75 100 60 2 25 11 2 21 2 21 2 21 2 21 2 11 2 9 35 19 17 40 478 75 13 23 162	 4930 114 13 58 17 43 149 34 2 26 11 2 1 21 2 0 9 35 19 16 39 357 75 5 23 	4016 17 185 27 2 2 25 11 20 2 0 8 34 18 16 174 81 11	4332 5 637 47 1 3 2 24 11 20 2 1 20 2 0 8 34 17 16 20 6	464 640 2 25 11 2 20 2 0 10 34 17 17 6	4760 54 137 2 26 11 1 2 21 1 0 11 35 18 16	3846 252 36 165 2 27 11 1 2 21 1 2 21 1 2 21 1 0 9 35 19 16 81 409 165 9 72 3 9	20 15 135 52 4 22 25 11 1 1 21 1 0 7 35 19 16	3848 134 28 409 47 31 1 2 5 11 2 1 21 2 1 21 2 1 21 2 1 21 2 1 21 2	341 14 651 30 59 24 10 2 5 11 2 1 2 1 21 2 1 21 2 1 21 2 1 21 2 0 8 34 19 17 190 13	112 91 5 2 26 11 2 21 2 21 2 0 10 34 19 17 2 208 10 215	5 268 92 17 29 26 11 2 2 21 2 21 2 21 2 0 11 35 19 17 39 408 57 11 8 23 290	3848 114 147 10 10 1 2 26 11 2 26 11 2 21 2 21 2 21	22 8 385 2 110 143 2 5 11 1 20 1 20 1 0 9 35 17 16 75 18 12	4 70 666 38 107 29 14 2 5 11 1 20 1 0 6 34 17 15 20 6

LateSerIClos	08Doak	PL	11156			342	33	423	571	543	159							202	223	522	423	60	
LateSerlClos LateSerlOpen	08Doak 08Doak	UM BK	7555 434		1870 216	379 210	336	73	272	230	230							203	168	212	42	199	
LateSerlOpen	08Doak	BM	5014		1374	1094	182	168	231	209	83												
LateSerlOpen	08Doak	EE	1493		355	25		14	19	19	5												
LateSerlOpen LateSerlOpen	08Doak 08Doak	FL Forest	291 5541		165 84	102 248	121	8 59	8 48	8 5		50	147	211	369	575	533	570	466	374	580	524	577
LateSerlOpen	08Doak	GB	246		158	28			-	-										-		-	_
LateSerlOpen	08Doak	HD	3161		1072	181	18	16	4	4	1	1	1										
LateSerlOpen LateSerlOpen	08Doak 08Doak	HI NG	113 52		87 52	26																	
LateSerlOpen	08Doak	NM	910		452	188	67	107	48	48													
LateSerlOpen	08Doak	NS	348		262																		
LateSerlOpen LateSerlOpen	08Doak 08Doak	PL UM	3598 2265		1003 702	914	90	39 5	79 24	79 21	54 37	14 18	14 16										
MidAgeClosed	08Doak 08Doak	BK	2447		147	39	39	J	89	188	188	188	188	101	39	39	128	146	225	188	188	99	81
MidAgeClosed	08Doak	BM	11454		813	600	377	174	49	429	457	457	647	802	593	593	716	546	752	504	504	614	642
MidAgeClosed MidAgeClosed	08Doak	EE FL	2586 4088		140 34	132 37	217 24	216 11	141 224	51 389	46 391	46 391	136 391	135 165	192 11	102 11	121 237	127 237	217 402	159 378	159 378	51 165	46 178
MidAgeClosed	08Doak 08Doak	Forest	7386		54	57	24	124	307	428	714	903	405	318	245	467	822	384	324	264	450	829	402
MidAgeClosed	08Doak	GB	2727		23	23	223	200	200	72	72	72	272	272	223	23	23	23	295	272	272	72	72
MidAgeClosed	08Doak	HD HI	3080		189 28	247 28	238	125	89 180	92 302	26 302	12 302	99 302	218 141	304	304	349	262 321	123 302	39 302	39 302	17 113	26 9
MidAgeClosed MidAgeClosed	08Doak 08Doak	NG	3244 1209		28	28	39	39	189 39	302 117	302 117	302 78	302 78	78	28 39	28 39	217 39	321 47	302 117	302 78	302 78	78	9 109
MidAgeClosed	08Doak	NM	17914		506	29	475	1028	1097	1044	845	845	1327	1460	1067	621	504	842	1304	1490	1490	975	415
MidAgeClosed	08Doak	NS	3650		74.6	600	104	330	330	294	68	68	172	398	330	226	642	68	172	398	398	294	64
MidAgeClosed MidAgeClosed	08Doak 08Doak	PL UM	6256 4305		716 332	692 342	624 269	159 251	6 52	6 23	61 21	61	61 203	223 203	522 268	522 268	643 467	643 264	420 264	60 199	60 199	35	61 56
MidAgeOpen	08Doak	BM	440		552	148	209	83	52	20			200	200	200	200	107	201	201	100	100	55	50
MidAgeOpen	08Doak	EE	38			14	19	5															
MidAgeOpen MidAgeOpen	08Doak 08Doak	FL Forest	16 2882			8	8			40	40	64	222	414	311	156	155	218	425	306	152	166	213
MidAgeOpen	08Doak 08Doak	HD	11			4	4	1	1	40	40	04	222	414	511	130	133	210	425	500	152	100	215
MidAgeOpen	08Doak	NM	96	i		48	48																
MidAgeOpen	08Doak	PL	200			39	79	54	14	14													
MidAgeOpen OldSerlClose	08Doak 08Doak	UM BK	95 44602		5152	5 3344	19 2871	37 2847	18 2847	16 1916	1837	1800	1800	1916	1916	1904	1825	1624	1624	1624	1557	1544	1489
OldSerlClose	08Doak	BM	59698		7294	3642	3399	3587	3410	3088	2637	2581	2325	2387	2345	2345	2345	2345	2345	2342	2347	2337	2300
OldSerlClose	08Doak	EE	46123		4501	2687	2808	2642	2485	2069	1841	1859	1859	2075	2069	2060	2044	2044	2044	2044	2044	2044	2042
OldSerlClose OldSerlClose	08Doak 08Doak	FL Forest	4872 86		862	611	365	365	365	146	103	103	103	133	133	133 1	133 3	125 5	125 9	125 15	125 16	125 18	84 19
OldSerlClose	08Doak	GB	1880		744	157	22	22	22	15	38	15	15	15	15	15	15	15	15	15	15	14	14
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OldSerlClose OldSerlClose	08Doak 08Doak	HI NG	6923 7051		943 832	415 496	286 396	286 363	286 349	313 314	285 243	285 232	285 232	285 280	285 280	283 280	283 280	265 280	265 280	265 280	265 274	200 274	200 274
OldSerlClose	08Doak 08Doak	NM	74625		8693	490	4049	3881	3875	3213	245	2451	2432	3161	3148	3148	3120	3085	3082	3072	3107	3071	3008
OldSerlClose	08Doak	NS	138667	7551	7438	7177	7034	7034	7034	6834	6806	6805	6805	6825	6825	6825	6825	6811	6811	6811	6811	6811	6794
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OldSerlClose OldSerlOpen	08Doak 08Doak	UM BK	55095 63261		5138 8	2669 2214	2691 2823	2942 2823	2907 2823	2576 3755	2435 3755	2620 3755	2620 3755	2537 3755	2440 3755	2427 3755	2426 3755	2426 3755	2426 3755	2409 3755	2577 3755	2325 3755	2317 3755
OldSerlOpen	08Doak	BM	183383		1673	8092	9682	9822					10329										
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OldSerlOpen OldSerlOpen	08Doak 08Doak	FL Forest	13272 14090			379	562 236	562 566	562 1012	781 1109	802 1285	802 1304	802 1327	802 1512	802 1534	802 385	802 247	802 272	802 380	802 625	802 680	802 781	802 835
OldSerlOpen	08Doak	GB	17815		60	895	986	986	986	993	993	993	993	993	993	993	993	993	993	993	993	993	993
OldSerlOpen	08Doak	HD	135962		1863	6584	7229	7235	7247	7553	7557	7557	7557	7558	7558	7558	7558	7558	7558	7558	7558	7558	7558
OldSerlOpen OldSerlOpen	08Doak 08Doak	HI NG	8432 11198			428 495	470 609	470 609	470 609	471 634													
OldSerlOpen	08Doak 08Doak	NM	109589			4899	5567	5575	5634	6235	6283	6283	6283	6283	6283	6283	6283	6283	6283	6283	6283	6283	6283
OldSerlOpen	08Doak	NS	26530)	86	1236	1312	1312	1312	1512	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
OldSerlOpen	08Doak	PL	506437										28865										
OldSerlOpen OthrSheltAcr	08Doak 08Doak	UM BK	92433 561		438	4070	4927 81	5012 2	5012 37	5172	5184 2	5203 37	5205 81	5221	5221	5221 81	5221	5221	5221 39	5221	5221	5221 120	5221
OthrSheltAcr	08Doak	BM	4461				599	203	121	190	278	141	409	75	20	594			514	75	20	738	75
OthrSheltAcr	08Doak	EE	90				4.65				18	6	4.65	18	6	465				18	6	476	18
OthrSheltAcr OthrSheltAcr	08Doak 08Doak	FL GB	869 452				165 72		11 23			11 23	165 72			165 72			11 23			176 95	
OthrSheltAcr	08Doak	HD	1215				90	128	49	87	164	49	3	36		3			264	36		267	36
OthrSheltAcr	08Doak	HI	157				9	28			28		9			9		28			28	9	
OthrSheltAcr OthrSheltAcr	08Doak 08Doak	NG NM	350 407				70 68	16		36	16	13	70 32		13	70 32			52		13	70 84	
OthrSheltAcr	08Doak	PL	1932				00	223	200	50	283	200	52	60	15	52			423	60	15	423	60
OthrSheltAcr	08Doak	UM	1776	i			203		42	203	199	42		199		35			245	199		210	199
RegenAcre RegenAcre	08Doak 08Doak	BK BM	522 1914			89	18	48	81 409			269	2 203	126 169	18	75	20	81 409		48	264	89	18
RegenAcre	08Doak 08Doak	EE	816		45			40 46	409	90	45	209 57	205	46		108	20 51	409		40 46	204 57	90	45
RegenAcre	08Doak	FL	1019			213		13	165					237				165		13		213	
RegenAcre	08Doak	GB	967						72	200		407	420	23		200		72			26	200	
RegenAcre RegenAcre	08Doak 08Doak	HD HI	427 953		14	189	104	9	3 9			127	128 28	58 189	104	36		3 9	14	9	26	189	132
RegenAcre	08Doak	NG	281			200	8		70			39	20	200	8			70		39		200	8
RegenAcre	08Doak	NM	6628		569	69	361	383	32		569	36	16	452	361	446	582	32		383		515	930
RegenAcre RegenAcre	08Doak 08Doak	NS PL	1524 864		226		68	61		104	226	99	223	261	68	104 60	226			61	99	104	294
RegenAcre	08Doak 08Doak	UM	864 546					01				99 226	223	42		60 199				21	99 37		
ThinAcre	08Doak	ВК	1302	8	216	210		8	216	210		8	216	210									
ThinAcre	08Doak	BM	13358			1270	92 5	1693 1056	1374	1074		1756 1061		1074	146 14	83			146 14	83			
ThinAcre ThinAcre	08Doak 08Doak	EE FL	4441 833		355 165	96 110	5	1056	355 165	25 102	14 8	1061	355 165	25 102	14 8	5			14 8	5			
ThinAcre	08Doak	GB	738	60	158	28		60	158	28		60	158	28									
ThinAcre	08Doak	HD	9406			185 26		1890	1072	169 26	16	1864	1072	169	16	1			16	1			
ThinAcre	08Doak	HI	339		87	26			87	26			87	26									

ThinAoro	09Deel	NC	15	-	52				50				50										
ThinAcre ThinAcre	08Doak 08Doak	NG NM	15) 217:		52 452	236			52 452	129	107		52 452	129	107				107				
ThinAcre	08Doak	NS	1044		262			86	262	-	-	86	262	-	-				-				
ThinAcre	08Doak	PL	10428			132	40	2336	1003		39	2370	1003		39	54			39	54			
ThinAcre	08Doak	UM	6312		702	914	19	458	702	914	2	473	704	914	20	35	2	420	•	35	2	200	20
Volume Volume	08Doak 08Doak	BK BM	1673 10229		54 344	245 305	162 736	2 580	226 1222	52 550	2 341	56 1071	74 808	262 683	28 66	98 699	38	139 705	9 347	105	436	206 530	28 91
Volume	08Doak	EE	249		204	11	1	344	88	136	76	323	88	98	12	165	77	705	4	71	82	130	88
Volume	08Doak	FL	2624	l 58	42	468	255	24	376	25	2	13	77	394	2	200		285	4	18		381	
Volume	08Doak	GB	218		39	7	110	15	190	297		48	54	50		377		124	6			334	
Volume	08Doak	HD	4108		305	47	32	519	283	173	191	744	507	193	4	72		5	100	21	37	365	43
Volume Volume	08Doak 08Doak	HI NG	1892 834		22 13	416	239 126	8	39 155	7	40	74	78 28	301	162 12	10 85		22 121		74	36	296 15	213 12
Volume	08Doak	NM	12400			200	827	853	177	734	876	74	150	696	609	688	851	55	42	557	3	838	1391
Volume	08Doak	NS	2910) 289	645		149	22	66	151	328	22	66		107	151	328					151	435
Volume	08Doak	PL	559		251	11	9	747	311		338	977	667	558	9	128			118	114	141	565	73
Volume	08Doak	UM	4114		176	228	70	113	187	530	64	609	176	601		403	0		104	90	64	295	240
Young Mgmt Young Mgmt	08Doak 08Doak	BK BM	2643 7992		31 58	143 61	242 470	245 529	156 529	60 317	62 472	99 672	99 482	186 402	167 222	248 631	159 508	141 488	60 264	60 312	60 391	188 535	206 562
Young Mgmt	08Doak 08Doak	EE	3529		173	189	99	106	106	202	201	258	168	402 187	136	226	207	201	111	112	169	259	276
Young Mgmt	08Doak	FL	2904		11	213	378	392	179	14	1	12	12	238	227	392	166	166	1	14	14	238	225
Young Mgmt	08Doak	GB	276		200	201	73	73	73	201	201	224	24	24	1	273	273	273	1	1	1	224	224
Young Mgmt	08Doak	HD	2093		91	15	18	16	16	102	221	310	223	140	51	54	9	9	20	29	55	305	332
Young Mgmt	08Doak 08Doak	HI NG	2462 969		0 42	189 44	302 83	302 85	113 85	0 8	28 8	28 47	28 47	189 47	293 16	302 86	113 86	9 78	0 8	0 47	28 47	217 47	321 16
Young Mgmt Young Mgmt	08Doak 08Doak	NM	1973		1076	44 1165		947	878	。 982	。 1184	47 1184	702	569	943	00 1421	1538	78 1164	ہ 686	500	500	47 1067	1614
Young Mgmt	08Doak	NS	4008		333	336	300	74	74	111	337	337	233	7	75	179	405	337	233	7	7	111	405
Young Mgmt	08Doak	PL	6092	2 89	89	114	114	189	189	199	361	660	660	558	259	259	138	138	138	199	298	721	720
Young Mgmt	08Doak	UM	2974		57	50	29	33	33	238	238	303	100	299	234	234	35	35	70	91	93	268	446
Young Patch	08Doak	BK	520			64	35	266		60	10	2	274	22		12	79	201		2	67	13	55
Young Patch	08Doak 08Doak	BM EE	832 253		16		4	366 166	44	68	10	3	274	32		9	16			3		5	37 2
Young Patch Young Patch	08Doak 08Doak	FL	63		10			100	44	8						9	10	8					2 41
Young Patch	08Doak	Forest	1877:		124	366	527	798	1255	1172	1138	900	1174	1276	1321	1111	768	1184	1264	1332	1117	753	1191
Young Patch	08Doak	GB	:	L																		1	
Young Patch	08Doak	HD	22		8					34					21	31			54	54			22
Young Patch	08Doak	HI	10		26		10	24		10	10					2		18			6	65	
Young Patch	08Doak	NG	10		36 114	18	18 293	21 8		10 25	16	28					28	35	3	10	6 1		63
Young Patch Young Patch	08Doak 08Doak	NM NS	32		114	10	293	٥		25		28					28	35 14	5	10	T		03 17
Young Patch	08Doak	PL	220			5	28	79		88		2					18	6					17
Young Patch	08Doak	UM	49:		68	73	18		35	20	1				97	13	1			17		84	8
AllHarvAcre	09Ioak	ВК	21514	1 537	271	2099	128	1585	2118	77	2584	241	1064	434	2113	195	14	2537	1198	1979	729	685	926
AllHarvAcre	09Ioak	BM	22042		790		40	480	2331	511		22	609	1559	1697	787		2239	572	2955	517	129	2039
AllHarvAcre	09Ioak	EE	34280		87	1168		562	813	283	977	384	7125	314	1255	609	1884	877	424	344	695	6565	999
AllHarvAcre	09loak	FL GB	941 8756			542 10560	645 3003	1131	746 7480	138 328	79 6596	622 788	21 2643	971 7171	674	607 1895	529 2738	341 5335	543 3547	79 5389	403 2031	184 1527	993 8293
AllHarvAcre AllHarvAcre	09loak 09loak	GB HD	4913		426			7018	3285	328 1138	1522	788 927	3250	1029	489	1895 5573	124	5335 6863	2960	1862	141	3268	8293 1734
AllHarvAcre	09loak	HI	950		24	1491	753	22	244	131	510	331	225	688	1140	998	618	204	193	488	331	225	688
AllHarvAcre	09Ioak	NG	475	L 438	343	183	42		280		173	219	438	376	530	227	16	245	35	173	203	438	392
AllHarvAcre	09Ioak	NM	86124	3921	7214	2168	4509	2179	6201	82	4753	4797	5154	6870	5254	273	4427	6342	1093	3386	4471	5483	7547
AllHarvAcre	09Ioak	NS	4184		591	943	168			4		4	256		1534		164		4			260	
AllHarvAcre	09loak	PL	28970				218	3416	944	249 727	760	983 1248	1355	2579	2518	678 766	126	3834	526	835	998	1374	2560
AllHarvAcre Burning	09loak 09loak	UM BK	26573 19463	383 383 3 13383	88 14004		739	4003	2498 9695	737 9695	756 9695	1248 8346	400 8346	748 8346	1952 8346	766 8346	8346	4993 8346	1984 8346	292 8346	1923 8346	433 8346	765 8346
Burning	09loak	BM		2 25731																			
Burning	09Ioak	EE	26151	5 18140	19128	19128	19128	13279	12814	12814	12814	11202	11188	11188	11188	11188	11188	11188	11188	11188	11188	11188	11188
Burning	09Ioak	FL	33523	3 2538	2758	2758	2758	1537	1433	1433	1433	1409	1406	1406	1406	1406	1406	1406	1406	1406	1406	1406	1406
Burning	09Ioak	GB		23803																			
Burning	09loak	HD		3 21404																			
Burning	09loak	HI NG	48218 96670									2106 4103	2084 4094		2084 4094	2084 4094	2084 4094	2084 4094	2084 4094	2084 4094	2084 4094	2084 4094	2084 4094
Burning Burning	09Ioak 09Ioak	NG NM) 37924																			
Burning	09Ioak	NS		5 1115								836	836	836	836	836	836	836	836	836	836	836	836
Burning	09Ioak	PL		2 11014										8553		8553	8553	8553		8553	8553	8553	8553
Burning	09Ioak	UM		5 19906	21842				12337					11630	11630						11630	11630	
Disturbance	09loak	BK BM	742		22	27 27	150	140 280	1	7	12 7	20 1	111 225		3	11	68 139	27 57	66	34		107	40 187
Disturbance Disturbance	09Ioak 09Ioak	BM EE	153) 50]		22	21	42 37	280 155	T	/	8	1 11	235		3 11		123	57			52	407	187 202
Disturbance	09loak	FL	55			7	4	100			0	11			9				2	31	52		-02
Disturbance	09Ioak	Forest	5713							346	194	475	1054	247	373	212	587	871	183	410	239	522	
Disturbance	09Ioak	GB	57			13						15			52		72						
Disturbance			31:	L 90	178		8		_	3	. .	2	30			-							
D' · ·	09loak	HD	-			. –					41	8											
Disturbance	09Ioak	ні	108	3	174	15	24	15 32	2	4	. –	0	10			3		02	-		174		31
Disturbance	09loak 09loak	HI NG	472	3 2	124 177			32		1 202		_	10 12	10	194	-		93 14	7	112	174 2		31
	09Ioak	ні	-	3 2 9	124 177 2	15 310 4	24 214 4	-	2 201	1 202 51	41 4	12 88	10 12 22	10 3	194 42	3 62		93 14 122	7 7	112	174 2		31 774
Disturbance Disturbance	09loak 09loak 09loak	HI NG NM	472 2209	3 2 9 3 3	177	310	214	32 639		202	41	12	12			-	20	14		112		3	
Disturbance Disturbance Disturbance	09Ioak 09Ioak 09Ioak 09Ioak	HI NG NM PL	472 2209 1233	3 2 3 3 3 3 3 2 82	177 2	310 4	214 4	32 639 114	201 215 105	202 51	41 4	12 88	12 22	3	42	62	123	14 122	7 91 106	112 106		3 117	774
Disturbance Disturbance Disturbance Disturbance Gaps Gaps	09loak 09loak 09loak 09loak 09loak 09loak 09loak	HI NG NM PL UM BK BM	477 2209 1233 1790 2309 1512	3 2 3 3 3 3 0 82 9 123 2 85	177 2 83 121 79	310 4 64 119 79	214 4 25 121 80	32 639 114 53 116 86	201 215 105 70	202 51 14 106 67	41 4 50 109 63	12 88 362 120 79	12 22 3 117 81	3 51 119 74	42 8 119 74	62 115 121 75	123 86	14 122 354 112 74	7 91 106 70	106 67	2 114 75	117 78	774 197 115 70
Disturbance Disturbance Disturbance Disturbance Gaps Gaps Gaps	09loak 09loak 09loak 09loak 09loak 09loak 09loak	HI NG PL UM BK BM EE	472 2209 1233 1790 2309 1512 1772	3 2 3 3 3 3 2 82 9 123 2 85 2 71	177 2 83 121 79 70	310 4 64 119 79 64	214 4 25 121 80 92	32 639 114 53 116 86 93	201 215 105 70 98	202 51 14 106 67 112	41 4 50 109 63 109	12 88 362 120 79 110	12 22 3 117 81 68	3 51 119 74 69	42 8 119 74 62	62 115 121 75 103	123 86 92	14 122 354 112 74 101	7 91 106 70 100	106 67 113	2 114 75 109	117 78 69	774 197 115 70 67
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL	472 2209 1233 1790 2309 1512 1777 318	3 2 3 3 3 82 9 123 2 85 2 71 3 23	177 2 83 121 79 70 14	310 4 64 119 79 64 11	214 4 25 121 80 92 7	32 639 114 53 116 86 93 16	201 215 105 70 98 16	202 51 14 106 67 112 19	41 4 50 109 63 109 19	12 88 362 120 79 110 19	12 22 3 117 81 68 20	3 51 119 74 69 15	42 8 119 74 62 14	62 115 121 75 103 11	123 86 92 12	14 122 354 112 74 101 16	7 91 106 70 100 15	106 67 113 19	2 114 75 109 17	117 78 69 20	774 197 115 70 67 15
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB	47: 2209 1233 1790 2309 1512 1772 314 2655	3 2 3 3 3 3 3 3 2 3 2 3 3 2 3 2 3 3 2 3 3 2 3	177 2 83 121 79 70 14 142	310 4 64 119 79 64 11 97	214 4 25 121 80 92 7 89	32 639 114 53 116 86 93 16 124	201 215 105 70 98 16 124	202 51 14 106 67 112 19 141	41 4 50 109 63 109 19 132	12 88 362 120 79 110 19 176	12 22 3 117 81 68 20 167	3 51 119 74 69 15 129	42 8 119 74 62 14 85	62 115 121 75 103 11 96	123 86 92 12 124	14 122 354 112 74 101 16 146	7 91 106 70 100 15 122	106 67 113 19 141	2 114 75 109 17 154	117 78 69 20 167	774 197 115 70 67 15 120
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL	472 2209 1233 1790 2309 1512 1777 318	3 2 3 3 3 3 3 3 2 3 3 2 3 2 3 2 3 2 3 2	177 2 83 121 79 70 14	310 4 64 119 79 64 11	214 4 25 121 80 92 7 89	32 639 114 53 116 86 93 16	201 215 105 70 98 16	202 51 14 106 67 112 19	41 4 50 109 63 109 19	12 88 362 120 79 110 19	12 22 3 117 81 68 20	3 51 119 74 69 15	42 8 119 74 62 14	62 115 121 75 103 11	123 86 92 12	14 122 354 112 74 101 16	7 91 106 70 100 15	106 67 113 19	2 114 75 109 17	117 78 69 20	774 197 115 70 67 15
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD	47: 2209 1233 1790 2309 1513 1777 318 2655 2550	3 3 3 3 3 3 4 123 2 85 2 71 3 23 2 176 3 155 3 24	177 2 83 121 79 70 14 142 153	310 4 64 119 79 64 11 97 136	214 4 25 121 80 92 7 89 125	32 639 114 53 116 86 93 16 124 83	201 215 105 70 98 16 124 93	202 51 14 106 67 112 19 141 101	41 4 50 109 63 109 19 132 142	12 88 362 120 79 110 19 176 145	12 22 3 117 81 68 20 167 148	3 51 119 74 69 15 129 146	42 8 119 74 62 14 85 147	62 115 121 75 103 11 96 119	123 86 92 12 124 125	14 122 354 112 74 101 16 146 96	7 91 106 70 100 15 122 108	106 67 113 19 141 102	2 114 75 109 17 154 134	117 78 69 20 167 146	774 197 115 70 67 15 120 146
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD HI NG NM	47: 2209 1233 1790 2309 1512 1772 318 2655 2550 378	3 3 3 3 3 82 9 123 2 85 2 71 3 23 2 176 3 24 3 155 3 325	1777 2 833 1211 799 700 144 1422 1533 244 133 2777	310 4 64 119 79 64 11 97 136 13 12 280	214 4 25 121 80 92 7 89 125 10 15 276	32 639 114 53 116 86 93 16 124 83 10	201 215 105 70 98 16 124 93 21 18 295	202 51 14 106 67 112 19 141 101 24 18 325	41 4 50 109 63 109 19 132 142 24 18 316	12 88 362 120 79 110 19 176 145 23 17 308	12 22 3 117 81 68 20 167 148 23	3 51 119 74 69 15 129 146 20 13 268	42 8 119 74 62 14 85 147 13 11 279	62 115 121 75 103 11 96 119 11 14 306	123 86 92 12 124 125 10 15 305	14 122 354 112 74 101 16 146 96 18 18 305	7 91 106 70 100 15 122 108 20 18 301	106 67 113 19 141 102 24 18 325	2 114 75 109 17 154 134 23 17 317	117 78 69 20 167 146 23 14 283	774 197 115 70 67 15 120 146 20 13 260
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD HI NG NM NS	472 2209 1233 1790 2309 1512 1777 316 2652 2556 376 306 5955 355	3 3 3 3 3 82 9 123 2 85 2 71 3 23 2 176 3 24 3 155 3 24 3 325 3 20	177 2 83 121 79 70 14 142 153 24 13 277 16	310 4 64 119 79 64 11 97 136 13 12 280 10	214 4 25 121 80 92 7 89 125 10 15 276 11	32 639 114 53 116 86 93 16 124 83 10 17 320 15	201 215 105 70 98 16 124 93 21 18 295 21	202 51 14 106 67 112 19 141 101 24 18 325 22	41 4 50 109 63 109 19 132 142 24 18 316 22	12 88 362 120 79 110 19 176 145 23 17 308 22	12 22 3 117 81 68 20 167 148 23 14 282 20	3 51 119 74 69 15 129 146 20 13 268 20	42 8 119 74 62 14 85 147 13 11 279 10	62 115 121 75 103 11 96 119 11 14 306 12	123 86 92 12 124 125 10 15 305 11	14 122 354 112 74 101 16 146 96 18 18 305 21	7 91 106 70 100 15 122 108 20 18 301 21	106 67 113 19 141 102 24 18 325 22	2 114 75 109 17 154 134 23 17 317 22	117 78 69 20 167 146 23 14 283 20	774 197 115 70 67 15 120 146 20 13 260 20
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD HI NG NM NS PL	47: 2209 1233 1790 2309 1512 1772 314 2652 2550 374 300 5953 354 1862	3 3 3 3 3 82 4 123 2 85 2 71 3 23 2 176 3 155 3 24 3 155 3 25 3 20 1 107	177 2 83 121 79 70 14 142 153 24 13 277 16 99	310 4 64 119 79 64 11 97 136 13 12 280 10 81	214 4 25 121 80 92 7 89 125 10 15 276 11 88	32 639 114 53 116 86 93 16 124 83 10 17 320 15 72	201 215 105 70 98 16 124 93 21 18 295 21 90	202 51 14 106 67 112 19 141 101 24 18 325 22 90	41 4 50 109 63 109 19 132 142 24 18 316 22 113	12 88 362 120 79 110 19 176 145 23 17 308 22 107	12 22 3 117 81 68 20 167 148 23 14 282 20 100	3 51 119 74 69 15 129 146 20 13 268 20 89	42 8 119 74 62 14 85 147 13 11 279 10 77	62 115 121 75 103 11 96 119 11 14 306 12 85	123 86 92 12 124 125 10 15 305 11 96	14 122 354 112 74 101 16 146 96 18 18 305 21 94	7 91 106 70 100 15 122 108 20 18 301 21 91	106 67 113 19 141 102 24 18 325 22 90	2 114 75 109 17 154 134 23 17 317 22 104	117 78 69 20 167 146 23 14 283 20 99	774 197 115 70 67 15 120 146 20 13 260 20 89
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD HI NG NM NS PL UM	47: 2209 1233 1790 2309 1512 1772 318 2652 2550 378 300 5953 358 1860 1738	3 3 3 3 3 82 4 123 2 85 2 71 3 23 2 176 3 24 3 155 3 24 3 155 3 20 1 107 3 107	177 2 83 121 79 70 14 142 153 24 13 277 16 99 106	310 4 64 119 79 64 11 97 136 13 12 280 10 81 93	214 4 25 121 80 92 7 89 125 10 15 276 11 88 92	32 639 114 53 116 86 93 16 124 83 10 17 320 17 320 5 72 65	201 215 105 70 98 16 124 93 21 18 295 21 90 68	202 51 14 106 67 112 19 141 101 24 18 325 22 90 65	41 4 50 109 63 109 19 132 142 24 18 316 22 113 88	12 88 362 120 79 110 19 176 145 23 17 308 22 107 93	12 22 3 117 81 68 20 167 148 23 14 282 20 100 97	3 51 119 74 69 15 129 146 20 13 268 20 89 102	42 8 119 74 62 14 85 147 13 11 279 10 77 93	62 115 121 75 103 11 96 119 11 14 306 12 85 92	123 86 92 12 124 125 10 15 305 11 96 92	14 122 354 112 74 101 16 146 96 18 18 305 21 94 78	7 91 106 70 100 15 122 108 20 18 301 21 91 67	106 67 113 19 141 102 24 18 325 22 90 65	2 114 75 109 17 154 134 23 17 317 22 104 83	117 78 69 20 167 146 23 14 283 20	774 197 115 70 67 15 120 146 20 13 260 20
Disturbance Disturbance Disturbance Gaps Gaps Gaps Gaps Gaps Gaps Gaps Gaps	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	HI NG PL UM BK BM EE FL GB HD HI NG NM NS PL	47: 2209 123: 1790 2309 151: 1777 318 265: 2556 378 300 5955 358 1866 1738 70790	3 3 3 3 3 82 4 123 2 85 2 71 3 23 2 176 3 155 3 24 3 155 3 25 3 20 1 107	177 2 83 121 79 70 14 142 153 24 13 277 16 99 106 20040	310 4 64 119 79 64 11 97 136 13 12 280 10 81 93 13534	214 4 25 121 80 92 7 89 125 10 15 276 11 88 92 6700	32 639 114 53 116 86 93 16 124 83 10 17 320 15 72 65 2256	201 215 105 70 98 16 124 93 21 18 295 21 90	202 51 14 106 67 112 19 141 101 24 18 325 22 90 65 1248	41 4 50 109 63 109 19 132 142 24 18 316 22 113	12 88 362 120 79 110 19 176 145 23 17 308 22 107	12 22 3 117 81 68 20 167 148 23 14 282 20 100	3 51 119 74 69 15 129 146 20 13 268 20 89	42 8 119 74 62 14 85 147 13 11 279 10 77	62 115 121 75 103 11 96 119 11 14 306 12 85	123 86 92 12 124 125 10 15 305 11 96	14 122 354 112 74 101 16 146 96 18 18 305 21 94	7 91 106 70 100 15 122 108 20 18 301 21 91	106 67 113 19 141 102 24 18 325 22 90	2 114 75 109 17 154 134 23 17 317 22 104	117 78 69 20 167 146 23 14 283 20 99	774 197 115 70 67 15 120 146 20 13 260 20 89

LateSerIClos	09loak	EE			17720 2767	8360		1327	817	839 425	285	281	270	131	47	1931 521	37	419 400	277	910	440 107	404	404 24
LateSerlClos LateSerlClos	09Ioak 09Ioak	FL Forest	12678 467	3500	2/6/	1288	677	708	413	435	474	28 210	28 90	608 8	480 13	521 19	11 17	409 19	16	14	197 21	34 19	34 21
LateSerlClos	09loak	GB		29746	26600	9511	7783	7423	2354	3086	1777	1664	1658	46	42	2774	14	3263	57	1264	15		
LateSerIClos	09Ioak	HD	111541					3760	2362	2026	1590	1021	958	435	2411	72	6453	2875	1077	737	1296	705	705
LateSerlClos LateSerlClos	09Ioak 09Ioak	HI NG	15050 15537	4605 5135		1365	423 887	397 706	499 612	769 419	716 335	491 224	488 214	39 384	390 37	633 25	15	40 35		22	22		
LateSerIClos	09loak	NM	163447						8133	6670	4581	347	326	3233	189	4595	1000	1524	1027	2394	2720	1158	1158
LateSerlClos	09Ioak	NS	8420	3564	2641	973	467	4	4					591		164			4	4	4		
LateSerIClos	09Ioak	PL			14845			933	1507	1781	1665	653	586	4	8	134	3424	511	249	174 725	159	140	140
LateSerlClos LateSerlOpen	09Ioak 09Ioak	UM BK	74008 10218	19249	19340	9602 4713		4621 1852	2305 275	1984 113	1022 112	121 96	41 29	165 17	86	85	4056	1516	261	725	50		
LateSerlOpen	09Ioak	BM	28549			10913		4391	351	382	373	366	237	191									
LateSerlOpen	09Ioak	EE	11718			6454	4328	522	161	75	72	62	39	5									
LateSerlOpen	09Ioak 09Ioak	FL	2600 12055			839 97	676 352	464 788	200 1383	120 1384	93 864	89 417	83 138	36 300	490	744	705	776	671	568	817	741	820
LateSerlOpen LateSerlOpen	09loak	Forest GB	21696			8357	6048	4524	892	688	627	245	193	122	490	/44	705	//0	071	508	017	/41	820
LateSerlOpen	09Ioak	HD	12222			6517	2829	1391	536	264	249	224	160	52									
LateSerlOpen	09Ioak	HI	2767			987	1087	236	4	101	108	108	108	28									
LateSerlOpen LateSerlOpen	09Ioak 09Ioak	NG NM	5679 18011			1772 5155	1968 4522	1553 2989	102 1094	97 1462	57 946	57 837	57 746	16 260									
LateSerlOpen	09loak	NS	882			336	380	158	2	2	2	2	740	200									
LateSerlOpen	09Ioak	PL	4025			1834	1179	297	105	151	151	151	114	43									
LateSerlOpen	09Ioak	UM	17772	2210	1005	6035	6146	2106	1125	770	486	464	441	199	4002	4247	2627	1047	1000	1210	2000	2000	2402
MidAgeClosed MidAgeClosed	09Ioak 09Ioak	BK BM	51808 56533	2210 4324	1805 3221	1478 2389	1539 2303	1210 2215	1210 1689	1133 1044	2142 981	4047 3214	3683 3636	4059 3317	4002 3337	4347 3386	3627 4923	1947 2654	1966 2183	1316 1688	2988 3363	3696 3846	3403 2820
MidAgeClosed	09Ioak	EE	132076	1762		1480	7380	7226	8016			10087	4184	4848	3862	7821	8047	8920		10147	9928	4130	4022
MidAgeClosed	09loak	FL	37582	1220	735	565	525	1743	1999	2347	2309	2765	2882	1596	1588	1102	1808	1925	2253	2760	2374	2896	2190
MidAgeClosed MidAgeClosed	09Ioak 09Ioak	Forest GB	10732 295041	8193	4622	4094	4117	210 8852	556 15073	546 16654	769 16553	1045 23115	600 21931	487 18147	375 11804	680 10584	1118 17244	548 17133	500 16805	418 18273	626 21470	-	1126 16887
MidAgeClosed	09loak	HD	164301	5170		2477	2827	2719	4461			13047					4843	4296	7721		11184		
MidAgeClosed	09Ioak	н	37575	1064	1042	1039	1182	1046	2233	2351	2351	2391	2323	2306	1015	592	1080	2180	2428	3024	2824	2796	2308
MidAgeClosed	09Ioak	NG	17642		600	508	892	1203	1136			999	603	260	280	634	807				1153	792	619
MidAgeClosed MidAgeClosed	09Ioak 09Ioak	NM NS	314153 23164	13997	10396	9010 4	260	847	14296		1954	1954	16373	11541	16214	260	260	1794	18435	20468 1954	18867	15483	1698
MidAgeClosed	09Ioak	PL	115769	2203	-	2382		4053	5677		8592		7568	6588	5049	6094	4414	6923		6718	8653	7897	
MidAgeClosed	09Ioak	UM	108038	6004	3884	2560		1926	2871	2484	6428	7900	8517	9092	7996	7853	3893	4327	3854	3129	6348	8212	8447
MidAgeOpen MidAgeOpen	09Ioak 09Ioak	BK BM	146 961			57 276	51 321	24 193	14 171														
MidAgeOpen	09loak	EE	72			32	22	193	1/1														
MidAgeOpen	09Ioak	FL	248			45	84	83	36														
MidAgeOpen	09Ioak	Forest	4815		143	280	156	41	122		138	216	268	528	437	248	234	320	583	421	237	260	305
MidAgeOpen MidAgeOpen	09Ioak 09Ioak	GB HD	1129 458			577 100	241 185	189 121	122 52														
MidAgeOpen	09Ioak	ні	70			3	23	23	21														
MidAgeOpen	09Ioak	NG	67			9	21	21	16														
MidAgeOpen MidAgeOpen	09Ioak 09Ioak	NM NS	2496 4			826 2	760 2	672	238														
MidAgeOpen	09loak	PL	258			52	115	81	10														
MidAgeOpen	09loak	UM	1558			454	464	441	199														
OldSerlClose OldSerlClose	09Ioak 09Ioak	BK	242470										13586	13541	13541	13536				42464	42464		13437
OldSerlClose					4800 4190								8808	8714	8712					13461 8642			
	09Ioak	BM EE	155419 112628	2704 2052 2587			6547	7420 7346		8200			8808 6015	8714 6015	8712 6042				8642	13461 8642 6051			
OldSerlClose	09Ioak 09Ioak	BM EE FL	155419 112628 1779	2052	4190	5088	6547	7420	9414	8200	8709	8944				8711 6004 98	8650 6014 101	8640 6014 108	8642 6051 111	8642 6051 93	8642 6020 93	8402 6020 93	8292 5901 93
OldSerlClose	09loak 09loak 09loak	BM EE FL Forest	155419 112628 1779 129	2052 2587 21	4190 3445 68	5088 2636 11	6547 4535 62	7420 7346 92	9414 7790 116	8200 6130 98	8709 6004 98	8944 6008 107	6015 107	6015 107	6042 102	8711 6004 98 2	8650 6014 101 6	8640 6014 108 8	8642 6051 111 13	8642 6051 93 21	8642 6020 93 23	8402 6020 93 27	8292 5901 93 29
	09Ioak 09Ioak	BM EE FL	155419 112628 1779 129	2052 2587	4190 3445 68 2943	5088 2636 11 2220	6547 4535 62 2404	7420 7346	9414 7790	8200 6130	8709 6004	8944 6008	6015	6015	6042	8711 6004 98	8650 6014 101	8640 6014 108	8642 6051 111	8642 6051 93	8642 6020 93	8402 6020 93	8292 5901 93
OldSerlClose OldSerlClose OldSerlClose OldSerlClose	09loak 09loak 09loak 09loak	BM EE FL Forest GB	155419 112628 1779 129 24646 133838 12661	2052 2587 21 1143 2935 115	4190 3445 68 2943 5463 641	5088 2636 11 2220 5239 530	6547 4535 62 2404 2921 565	7420 7346 92 2897 7233 732	9414 7790 116 1628 8247 887	8200 6130 98 751 7325 664	8709 6004 98 869 7269 648	8944 6008 107 869 7275 651	6015 107 869 7319 651	6015 107 869 7307 651	6042 102 838 7244 651	8711 6004 98 2 817 7250 649	8650 6014 101 6 803 7253 648	8640 6014 108 8 786 7253 663	8642 6051 111 13 788 7261 663	8642 6051 93 21 788 7261 663	8642 6020 93 23 788 7261 663	8402 6020 93 27 788 7261 663	8292 5901 93 29 788 7261 663
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	09loak 09loak 09loak 09loak 09loak 09loak 09loak	BM EE FL Forest GB HD HI NG	155419 112628 1779 24646 133838 12661 38713	2052 2587 21 1143 2935 115 1162	4190 3445 68 2943 5463 641 1634	5088 2636 11 2220 5239 530 995	6547 4535 62 2404 2921 565 1566	7420 7346 92 2897 7233 732 1759	9414 7790 116 1628 8247 887 2056	8200 6130 98 751 7325 664 2076	8709 6004 98 869 7269 648 2151	8944 6008 107 869 7275 651 2151	6015 107 869 7319 651 2155	6015 107 869 7307 651 2151	6042 102 838 7244 651 2151	8711 6004 98 2 817 7250 649 2151	8650 6014 101 6 803 7253 648 2176	8640 6014 108 8 786 7253 663 2121	8642 6051 111 13 788 7261 663 2117	8642 6051 93 21 788 7261 663 2117	8642 6020 93 23 788 7261 663 2014	8402 6020 93 27 788 7261 663 2014	8292 5901 93 29 788 7261 663 1996
OldSerlClose OldSerlClose OldSerlClose OldSerlClose	09loak 09loak 09loak 09loak 09loak 09loak	BM EE FL Forest GB HD HI	155419 112628 1779 129 24646 133838 12661	2052 2587 21 1143 2935 115 1162	4190 3445 68 2943 5463 641 1634	5088 2636 11 2220 5239 530 995	6547 4535 62 2404 2921 565 1566	7420 7346 92 2897 7233 732 1759 23985	9414 7790 116 1628 8247 887 2056 25169	8200 6130 98 751 7325 664 2076 24739	8709 6004 98 869 7269 648 2151 24826	8944 6008 107 869 7275 651 2151 24850	6015 107 869 7319 651 2155 24859	6015 107 869 7307 651 2151 24848	6042 102 838 7244 651 2151 24729	8711 6004 98 2 817 7250 649 2151 24636	8650 6014 101 6 803 7253 648 2176 24725	8640 6014 108 8 786 7253 663 2121 24729	8642 6051 111 13 788 7261 663 2117 24767	8642 6051 93 21 788 7261 663 2117	8642 6020 93 23 788 7261 663 2014 24700	8402 6020 93 27 788 7261 663 2014 24700	8292 5901 93 29 788 7261 663 1996 24700
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	09loak 09loak 09loak 09loak 09loak 09loak 09loak 09loak	BM EE FL Forest GB HD HI NG NM	155419 112628 1779 24646 133838 12661 38713 466872	2052 2587 21 1143 2935 115 1162 15612	4190 3445 68 2943 5463 641 1634 21514 467	5088 2636 11 2220 5239 530 995 13354	6547 4535 62 2404 2921 565 1566 20729 873	7420 7346 92 2897 7233 732 1759 23985	9414 7790 116 1628 8247 887 2056 25169	8200 6130 98 751 7325 664 2076 24739 1167	8709 6004 98 869 7269 648 2151 24826	8944 6008 107 869 7275 651 2151 24850 1167	6015 107 869 7319 651 2155 24859 1167	6015 107 869 7307 651 2151 24848	6042 102 838 7244 651 2151 24729 1167	8711 6004 98 2 817 7250 649 2151 24636 1167	8650 6014 101 6 803 7253 648 2176 24725	8640 6014 108 8 786 7253 663 2121 24729	8642 6051 111 13 788 7261 663 2117 24767 1167	8642 6051 93 21 788 7261 663 2117 24701	8642 6020 93 23 788 7261 663 2014 24700	8402 6020 93 27 788 7261 663 2014 24700 1167	8292 5901 93 29 788 7261 663 1996 24700
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose	09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak 09Ioak	BM EE FL Forest GB HD HI NG NM NS PL UM	155419 112628 1779 24646 133838 12661 38713 466872 21130 138879 119572	2052 2587 21 1143 2935 115 1162 15612 135 3470	4190 3445 68 2943 5463 641 1634 21514 467 6851	5088 2636 11 2220 5239 530 995 13354 637 4603 4795	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595	6015 107 869 7319 651 2155 24859 1167 7157 6528	6015 107 869 7307 651 2151 24848 1167 7146 6497	6042 102 838 7244 651 2151 24729 1167 7120 6471	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357	8640 6014 108 8 7253 663 2121 24729 1167 7035 6210	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046
OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlClose OldSerlOpen	09loak 09loak 09loak 09loak 09loak 09loak 09loak 09loak 09loak 09loak	BM EE FL Forest GB HD HI NG NM NS PL UM BK	155419 112628 1779 24646 133838 12661 38713 466872 21130 138879 119572 134162	2052 2587 21 1143 2935 115 1162 15612 135 3470	4190 3445 68 2943 5463 641 1634 21514 467 6851	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346	8640 6014 108 8 7253 663 2121 24729 1167 7035 6210 8346	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346
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OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB	155419 112628 1779 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998	2052 2587 21 1143 2935 115 1162 15612 135 3470 3422 96 40 343 2169	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1867 1697	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4316 128 4316 128 4316 208 138 271	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 834 834 8396 10850 32 165 138 271	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11146 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 3 2755	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 888 287 517	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 377 22169	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 11183 1370 2125 12835 12675 2056 4078 23086 836 836 836 836 8510 11431 67 747 226 3 1624	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 11188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 1167 2363 12957 12727 2084 4094 23346 8353 11630 128 400 383 138 271	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 11188 1406 2578 12957 12727 2084 4094 23346 836 8553	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 1167 2630 12957 12727 2084 4094 23346 8353 11630 2441 2199 500 341 5335	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 1168 1406 2563 12957 12727 2084 4094 23346 836 8553 11630 81 42 138 286	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 11188 1406 2043 12957 12727 2084 4094 23346 8356 8353 11630 67 747 226 3 1624 949	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 11630 12957 12727 2084 4094 23346 8553 11630 574 502 500 265 1627	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 1168 1406 1076 12957 12727 2084 4094 23346 8353 11630 145 40 379 15	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 836 8553 11630 81 747 499 25 1630
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OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen OldSerIOpe	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM HD HI NG NM NS PL UM BK S S M HD HI NG NM NM NS PL UM BK S M HD HI NG NM NM NS PL UM BK BM HD HI NG NM NM NS PL UM BK S M HD HI NG NM NM NS PL UM NM NS PL UM BK BM EE FL FL FO E FL FO E FL FO E FL FO E FL FO E FL FO E FL FO E FL FO E FL FO E FL NG NM NM NS NM NM NS PL UM BK BM EE FL FO E FL FO E FL FO E FL FO E FL FO E FL FO E FL NM NM NS NM NM NS NM NM NS NM NM NS NM NM NS S FL FL FO E FL FO E FL FO E FL FO E FL FO E FL NM NM NM NS NM NM NS NM NM NS NM NM NS NM NM NS NM NM NS NM NM NM NS NM NM NM NM NM NS NM NM NM NM NM NM NM NM NM NM NM NM NM	155419 112628 1779 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998 17574 3384 1762 24900 16	2052 2587 21 1143 2935 115 1162 15612 135 3470 3422 96 40 343 2169 4 42	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1697 76 3708	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 2394 135 42 82 4	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131 573 22	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219 80 200 203 4719	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 8346 10850 32 165 138 225 131	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11146 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 3 2755 1522 510 173 1424	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 88 8402 11166 110 22 88 287 517 143 200 219 2551	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 377 2169 42	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 11183 1370 2125 12835 12675 2056 4078 23086 8360 8360 8360 8360 8360 8510 11431 67 747 226 3 1624 949 488 173 191	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 1188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714 63	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 1167 2084 4094 2363 12957 12727 2084 4094 23346 8353 11630 128 40 383 138 271 2230 135 42 82	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 11188 1406 2578 12957 12727 2084 4094 23346 836 8553	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 1167 2630 12957 12727 2084 4094 23346 8353 11630 2441 2199 500 341 5335 80 200 203 5396	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 1168 1406 2563 12957 12727 2084 4094 23346 8353 11630 81 42 138 286 93 153 638 4	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 11188 1406 2043 12957 12727 2084 4094 23346 8356 8553 11630 67 747 226 3 1624 949 488 173 191	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 11630 12957 12727 2084 4094 23346 8353 11630 574 502 500 265 1627 80 200 203 3228	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 11630 1456 8353 11630 145 4094 23346 8553 11630 145 400 379 15 2201 26 42 556 4	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 8353 11630 81 747 499 25 1630 1654 488 189 191
OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen OldSerIOP	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG SPL UM BK BM EE FL GB HD HI NG NM NS PL UM HI NG NM NG NM NG NM NG NM NG NM NG NM NG NM NG NM NG NM NG NM NM NG NM NM NG NM NM NG NM NM NM NM NM NM NM NM NM NM NM NM NM	155419 112628 1779 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998 17574 3384 17574	2052 2587 21 1143 2935 115 1162 15612 135 3470 3422 96 40 343 2169 4	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1697 76 3708	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4316 128 4316 128 4316 128 4316 128 4316 128 4317 281 4317 281 4317 281 4317 281 4317 281 4317 281 4316 128 4316 128 4317 281 4317 281 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 2394 4316 2394 4316 2394 4317 2394 4317 2394 4317 2394 2394 2394 2394 2394 2394 2394 2394	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131 573 22	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219 80 200 203	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 834 8396 10850 32 165 138 271 225 131	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11116 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 32755 1522 510 173	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 88 287 517 143 200 219	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 377 22169 4	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 1183 1370 2125 12675 2056 4078 23086 836 836 836 8510 11431 67 747 226 3 1624 949 488 173	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 1188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714 63	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 1167 2084 400 8346 2363 12957 12727 2084 4094 23346 8353 11630 8353 11630 8353 11630 8253 11630 8353 138 271 2230 383 135 42	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 11188 1406 2578 12957 12727 2084 4094 23346 836 8553	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 1167 2084 4094 23346 8353 11630 2441 2199 500 341 5335 80 200 203	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 1188 1406 2563 12957 12727 2084 4094 23346 8353 11630 81 42 138 286 93 153 638	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 11188 1406 2043 12957 12727 2084 4094 23346 8353 11630 67 747 226 3 1624 949 488 173	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 1188 1406 1450 12957 12727 2084 4094 23346 8355 11630 574 502 500 265 1627 80 200 203	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 1168 1406 1076 12957 12727 2084 4094 23346 8356 8353 11630 145 400 379 15 2201 26 42 556	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 835 8553 11630 81 747 499 25 1630 1654 488 189
OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen OldSerIOpe	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM SM PL UM BK BM EE FL UM BK BM BM EE FL UM S PL UM BK BM BM BK BM BM BK BM BK BM BM BK BM BK BM BM BK BK BM BK BK BM BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BK BK BK BM BK BK BK BK BK BK BK BK BK BK BK BK BK	155419 112628 1779 129 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998 17574 3384 17574 3384 17574 3384 1762 24900 16 6176 6299 10636	2052 2587 21 1143 2935 115 1162 135 3470 3422 96 40 343 2169 4 263 42 92 263 441	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534 2534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1697 76 3708 2168	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 2394 135 42 82 4 92	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131 573 22 1233	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219 80 200 203 4719 843 727 155	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 834 834 8396 10850 32 165 138 271 225 131 82 476 45	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11116 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 8402 11144 594 1227 788 3 2755 1522 510 173 1424 586 43 1990	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 88 8402 11166 110 22 88 287 517 143 200 219 2551 843	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 377 22600 837 22600 836 8439 11189 96 40 377	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 11183 1370 2125 12835 12675 2056 4078 23086 8360 8360 8360 8360 11431 67 747 226 836 8510 11431 67 747 226 31624 949 488 173 191 5866 267	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 11188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714 63 16 2168	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 11630 2363 12957 12727 2084 4094 23346 8353 11630 128 8353 11630 128 8353 11630 128 8353 11630 128 8353 11630 128 8553 11630 128 8553 11630 128 8553 11630 128 8553 11630 128 8553 11630 8553 11757 12757 2084 8553 11630 8553 11630 8553 11757 1277 2084 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 12727 2084 8553 11758 12727 2084 80 128 80 128 80 128 80 128 80 128 80 128 80 12727 12727 12727 12727 12727 12739 12727 1273 12727 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 127277 12727 12727 127277 127277 12727 127277 127277 12727	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 11188 1406 2578 12957 12727 2084 4094 23346 836 8553	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 11188 1406 2630 12957 12727 2084 4094 23346 8353 11630 2441 2199 500 341 5335 80 200 203 5396 824 744 96	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 11188 1406 2563 12957 12727 2084 4094 23346 835 836 8553 11630 81 42 138 286 93 153 638 4 19 476 1117	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 11188 1406 2043 12957 12727 2084 4094 23346 8356 8553 11630 67 747 2266 3 1624 949 488 173 191 5866 26 1912	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 11188 1406 1450 12957 12727 2084 4094 23346 8353 11630 574 502 500 265 1627 80 200 203 3228 824 739 155	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 11188 1406 1076 12957 12727 2084 4094 23346 8356 8353 11630 145 409 379 15 2201 26 42 556 4 111 26 42 556 4 111 263 540	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 8353 11630 811 747 4094 25 1630 1654 488 189 191 586 26 845
OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen OldSerIOPEN OldSerIOPE	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM BK BM EE FL UM BK BM EE FL UM BK BM EE FL UM BK BM EE FL UM BK BM EE FL UM BK BM BM EE FL UM BK BM BM BK BM BM BK BM BM BK BM BM BK BM BK BM BM BK BM BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BK BK BK BM BK BK BK BK BK BK BK BK BK BK BK BK BK	155419 112628 1779 129 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998 17574 3384 17574 3384 17574 3384 17574 3384 1762 24900 16 6176 6299 10636 10058	2052 2587 21 1143 2935 115 1162 15612 135 3470 3422 96 40 343 2169 4 2263 441 89	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534 2534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1697 76 3708 2168 2168	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 2394 135 42 82 4 92 739	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131 573 22 1233	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219 80 200 203 4719 88 341 4219 80 200 203 4719	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 834 8396 10850 3988 21884 834 8396 10850 32 165 138 271 225 131 82 4 476 45 511	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11116 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 32755 1522 510 173 1424 586 43 1990 1712	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 88 287 517 143 200 219 2551 843 722 131	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 3777 2169 40 3777 2169 4 2169 4 2169 4 2263 968 569	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 11183 1370 2125 12675 2056 4078 23086 8310 11431 67 747 226 836 8510 11431 67 747 226 31624 949 488 173 191 586 26 367 812	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 11188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714 63 162 168 2168	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 1188 1406 2363 12957 12727 2084 4094 23346 8353 11630 128 409 383 138 271 2230 135 42 82 92 739 67 747	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 1188 1406 2578 12957 12727 2084 4094 23346 8353 11630	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 1167 2084 4094 23346 8353 11630 2441 2199 500 341 5335 80 200 2441 2199 500 341 5335 80 200 203 5396 824 744 96 40	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 11188 1406 2563 12957 12727 2084 4094 23346 835 836 8553 11630 81 42 138 286 93 153 638 4 19 476 1117 572	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 1188 1406 2043 12957 12727 2084 4094 23346 8353 11630 67 747 226 3 1624 949 488 173 191 586 26 1912 2208	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 11188 1406 1450 12957 12727 2084 4094 23346 8356 8553 11630 574 502 500 265 1627 80 200 203 3228 824 739 155 15	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 1188 1406 1076 12957 12727 2084 4094 23346 8353 11630 4094 23346 8553 11630 145 400 379 15 2201 26 42 556 4111 263 540 89	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 835 11630 81 747 4099 25 1630 1654 488 189 191 586 26 845 1292
OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIClose OldSerIOpen OldSerIOpe	0910ak 0910ak	BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL Forest GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL GB HD HI NG NM NS PL UM BK BM EE FL UM SM PL UM BK BM EE FL UM BK BM BM EE FL UM S PL UM BK BM BM BK BM BM BK BM BK BM BM BK BM BK BM BM BK BK BM BK BK BM BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BM BK BK BK BK BK BM BK BK BK BK BK BK BK BK BK BK BK BK BK	155419 112628 1779 129 24646 133838 12661 38713 466872 21130 138879 119572 134162 247150 182585 22239 24451 206280 211083 32873 66378 384097 13364 140167 186214 10878 11984 5674 1994 28998 17574 3384 17574 3384 17574 3384 1762 24900 16 6176 6299 10636	2052 2587 21 1143 2935 115 1162 15612 135 3470 3422 96 40 343 2169 4 42 263 441 89 6186	4190 3445 68 2943 5463 641 1634 21514 467 6851 5534 2534	5088 2636 11 2220 5239 530 995 13354 637 4603 4795 1918 1676 2582 385 2962 4088 404 1663 12982 219 3622 3467 1867 1697 76 3708 2168	6547 4535 62 2404 2921 565 1566 20729 873 7016 4733 3936 2285 5213 619 5658 8621 611 1802 14317 281 5108 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 128 4316 2394 135 42 82 4 92 739	7420 7346 92 2897 7233 732 1759 23985 1340 8938 5341 5122 9367 9023 832 7234 10123 1462 2217 15938 505 6024 8379 527 480 562 1131 573 22 1233	9414 7790 116 1628 8247 887 2056 25169 1340 9203 6911 6709 13429 9402 1143 18 10933 11047 1696 3673 18267 661 6287 9602 1963 1719 88 341 4219 80 200 203 4719 843 727 155	8200 6130 98 751 7325 664 2076 24739 1167 7112 6418 8233 15471 11099 1283 184 12239 12438 1960 3988 21884 834 834 8396 10850 32 165 138 271 225 131 82 476 45	8709 6004 98 869 7269 648 2151 24826 1167 7145 6660 8234 15480 11116 1313 819 12330 12478 1976 4037 22400 834 8402 11144 594 1227 788 8402 11144 594 1227 788 3 2755 1522 510 173 1424 586 43 1990	8944 6008 107 869 7275 651 2151 24850 1167 7139 6595 8250 15487 11126 1317 1333 12712 12503 1976 4037 22509 834 8402 11166 110 22 888 287 517 143 200 219 2551 843 722	6015 107 869 7319 651 2155 24859 1167 7157 6528 8317 15616 11149 1323 1957 12764 12567 1976 4037 22600 836 8439 11189 96 40 377 22600 837 22600 836 8439 11189 96 40 377	6015 107 869 7307 651 2151 24848 1167 7146 6497 8329 15662 11183 1370 2125 12835 12675 2056 4078 23086 8360 8360 8360 8360 8360 8360 11431 67 747 226 31624 949 488 173 191 5866 267	6042 102 838 7244 651 2151 24729 1167 7120 6471 8346 15853 11188 1406 2151 12957 12727 2084 4094 23346 8353 11630 1881 1697 98 3714 63 16 2168	8711 6004 98 2 817 7250 649 2151 24636 1167 7103 6400 8346 15853 11630 2363 12957 12727 2084 4094 23346 8353 11630 128 8353 11630 128 8353 11630 128 8353 11630 128 8353 11630 128 8553 11630 128 8553 11630 128 8553 11630 128 8553 11630 128 8553 11630 8553 11757 12757 2084 8553 11630 8553 11630 8553 11757 1277 2084 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 8553 11758 12727 2084 8553 11758 12727 2084 80 128 80 128 80 128 80 128 80 128 80 128 80 12727 12727 12727 12727 12727 12739 12727 1273 12727 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 12727 1273 127277 12727 12727 127277 127277 12727 127277 127277 12727	8650 6014 101 6 803 7253 648 2176 24725 1167 7103 6357 8346 15853 1167 2578 12957 12727 2084 4094 23346 8353 11630	8640 6014 108 8 786 7253 663 2121 24729 1167 7035 6210 8346 15853 11188 1406 2630 12957 12727 2084 4094 23346 8353 11630 2441 2199 500 341 5335 80 200 203 5396 824 744 96	8642 6051 111 13 788 7261 663 2117 24767 1167 7039 6164 8346 15853 11188 1406 2563 12957 12727 2084 4094 23346 835 836 8553 11630 81 42 138 286 93 153 638 4 19 476 1117	8642 6051 93 21 788 7261 663 2117 24701 1167 7039 6164 8346 15853 11188 1406 2043 12957 12727 2084 4094 23346 8356 8553 11630 67 747 2266 3 1624 949 488 173 191 5866 26 1912	8642 6020 93 23 788 7261 663 2014 24700 1167 7039 6164 8346 15853 11188 1406 1450 12957 12727 2084 4094 23346 8353 11630 574 502 500 265 1627 80 200 203 3228 824 739 155	8402 6020 93 27 788 7261 663 2014 24700 1167 7039 6162 8346 15853 11188 1406 1076 12957 12727 2084 4094 23346 8353 11630 145 400 379 15 2201 26 42 556 4 111 263 540	8292 5901 93 29 788 7261 663 1996 24700 1167 6582 6046 8346 15853 11188 1406 1161 12957 12727 2084 4094 23346 8353 11630 811 747 4094 25 1630 1654 488 189 191 586 26 845

RegenAcre	09loak	GB HD	58571	1512 508	5036 426	6852 2394	2732 61	6445	3261 3205	57 913	3841	271 784	2643 1081	5547 80	6852 426	1624 3343	2738 124	6783	3261 2867	3765 913	404 61	1512 1067	6663 80
RegenAcre RegenAcre	091oak 091oak	HI	31561 6123	199	420	1491	618	0445	5205 44	915		131	221	200	420 1140	863	618	0785 4	40	912	131	1007	200
RegenAcre	09Ioak	NG	2989	396	343	183			77			_	396	203	514	185	16	42	35		-	396	203
RegenAcre	09Ioak	NM	61224	3921	7214		4427	946	1482		3329	2246	5154	6679	3086	191	4427	946	455	3195	1243	4927	7356
RegenAcre	09Ioak	NS	4168	256	591	943	164	2446		240	474	4	256	1000	1534	500	164	2010	507	2.40		256	4074
RegenAcre RegenAcre	091oak 091oak	PL UM	22800 20274	1263 120	1150 88	2518 1860	126	3416 3986	101 1771	249 261	174 713	140 526	1263 137	1993 722	2518 1947	586 27	126	3010 4249	507 1508	249 266	174 1184	1263 170	1974 739
Volume	09loak	BK	31744	1257	778	1360	146	2592	3224	149	4749	424	2069	944	1055	251	25	2606	2623	3258	1067	1416	1751
Volume	09Ioak	BM	31435	281	2215	618	60	140	4075	1175	4385	29	1088	3055	416	1433		2284	1316	4212	674	231	3748
Volume	09Ioak	EE	74016		199	3298	4867	166	1525	531	1270		16501	468	3106	876	4333	773	896	329		15521	1236
Volume	09Ioak	FL	18620		3148	1097	1211	257	1122	196	148	1078	53	2231		1112	1207	159	1103	129	559		2205
Volume Volume	091oak 091oak	GB HD	161711 83200	4480 2238	13060 979	20496 5509	6371 3440	357 15029	13171 6654	515 2421	9691 1198	1214 1836	5844 2960	15721 1479	17962	3046 9953	6294 266	4973 14277	7838 6680	6761 2331	2819 201	3781 3126	1/31/ 1547
Volume	09loak	HI	17320	597	56	4151	1465	7	160	176	188	506	539	1050	2833	1806	1422	57	260	120	466	527	934
Volume	09Ioak	NG	8276	1039	789	508	64		225		54	287	994	609	1237	397	29	120	80	42	250	994	558
Volume	09Ioak	NM	162633	11505	18923		10207	2559	7460	116	8769	8518	11998	15021	7631	372	10181	5653	1292	6053	6837	12779	15992
Volume	09Ioak	NS	10582		1360	2737	379	7050		5	500	7	636	5202	3706	4407	378	7000	1	74.0		641	10.65
Volume Volume	091oak 091oak	PL UM	60213 51576	3574 455	3227 203	7380 5410	434 564	7856 9173	464 4236	574 1271	586 1667	1482 1997	3164 391	5203 1339	6262 4830	1197 489	290	7068 9797	1170 4055	718 613	1411 3335	3188 476	4965 1275
Young Mgmt	09loak	BK	31102	531	733	944	599	1386	3080	3061	2653	922	1286	974	1025	680	342		3016	3061	1891	-	1624
Young Mgmt	09Ioak	BM	29389	190	915	879	830	40	2309	2780	3275	1028	606	1648	1626	1577	40	1737	2269	2780	1600	1117	2143
Young Mgmt	09Ioak	EE	80496	6505	6502	7441	3482	3395	2609	665	1416	1253	7156	6631	7667	1858	3516	2261	2272	506	1195	7029	7137
Young Mgmt	09Ioak	FL	20774	88	1325		2252	973	988	619	619	600	483	1189	1325	1770	1571	1049	1126	619	808	449	1155
Young Mgmt Young Mgmt	091oak 091oak	GB HD	166700 94890	2022 692		13400 3328		9584 11069	9701 9711	7297 8619	8561 2747	2103 2350	3287 1720	8683 2096	15030 1946	13518 6001	9590 5113	6440 9238	9972 7603	7297 8455	5349 3921	3344 2092	9947 2128
Young Mgmt	09loak	HI	18702	199	223	1714	2137	2113	662	171	193	353	421	887	1940	2007	2137	9238 997	789	171	371	421	909
Young Mgmt	09loak	NG	8928	488	831	922	568	225	77	35	35	203	599		1099	757	584	54	35	35	238	599	772
Young Mgmt	09Ioak	NM	173347	4947	11664	11135	11641	5373	9023	4678	6126	7191	11030	12955	11326	7405	7513	7541	8078	4678	5953	10899	14191
Young Mgmt	09Ioak	NS	12256	256	847	1790	1698	1107	164	4	4	4	256	256	1790	1534	1698	164	164			260	260
Young Mgmt	09Ioak	PL	65619	1402			3886	6152	3643	3674	432	1406	2420	3982	5517	4346	2736	3136	3551	3674	1754	2529	4016
Young Mgmt	09loak	UM	60810	211	249	2068	2211	6109	5762	6236	2975	2234	1617	918	2093	2237 7	2211	4255	5975	6236	3692	1878	1643
Young Patch Young Patch	091oak 091oak	BK BM	448 919	17 72	13	17 26	97 26	83 165	1	4	7 4	12 1	65 139		2	/	40 82	16 34	39	20		240	24 110
Young Patch	09loak	EE	316	19	15	20	37	91	1	-	5	7	155		7		02	54			31	240	119
Young Patch	09Ioak	FL	35			7	4								5				1	18			
Young Patch	09Ioak	Forest	26003		210	556	750	1015	1513	1770	1578	1112	1794	1816	1861	1589	1178	1685	1777	1883	1605	1140	1171
Young Patch	09Ioak	GB	345			13	250					9			31		42						
Young Patch	09loak	HD	187	53	105	45	8	0	4	2	24	1	18			2							
Young Patch Young Patch	091oak 091oak	HI NG	70 280		73	15	14	9 20	1	1	24	5	6			2		55	4		103		18
Young Patch	09loak	NM	1327		104	188	144	378	119	119	24	7	7	6	115	37		8	4	66	105		10
Young Patch	09Ioak	PL	732	2	1	4	4	68		30	2	52	13	2	25	-		72					457
Young Patch	09Ioak	UM	1087	49	49	63	18	32	127	8	29	214	2	30	5	68	12	209	54			2	116
AllHarvAcre	10CvHw	ВК	27710	473	472		597	1620	1881	2184	1057	1373	1518	2714	862	1373	1640	2031	668	1110	1140	2018	265
AllHarvAcre	10CvHw	BM	45030	2519	3486	349	3705	1076	3690	787	3097	2444	4181	2083	2768	1976	3773	786	2723	289	3052	2246	2200
AllHarvAcre AllHarvAcre	10CvHw 10CvHw	EE FL	37612 15661	1748 42	3275 536	1482 216	39 1173	977 1222	2438 79	183 1399	1744 450	2604 1222	2051 8	159 1315	2347	4851 3072	3673 81	278 1363	2308	1911 1363	2892 464	344 1656	2308
AllHarvAcre	10CvHw	GB	16660	84	2036	4	11/5	2156	520	828	430 127	766	2128	654		690	520	690		724	3788	945	
AllHarvAcre	10CvHw	HD	30667	2613	337	2259	498	3356	367	2676	1308	2893	436	2383	765	2826	715	2508	278	2339	1519	313	278
AllHarvAcre	10CvHw	н	5021	34	29	430	29	825	424	34	284	186	59	412	29	69	42	51	29	51	820	1184	
AllHarvAcre	10CvHw	NG	2859	208	54	585	10	46		38	41	229	80	534	10	60	87	36		219	73	549	
AllHarvAcre	10CvHw	NM	54664	1461	991	879	3407	2236	991	5261	3731	4577	1490	3582	1426	4985	2972	3838	966	3628	4053	4190	407
AllHarvAcre AllHarvAcre	10CvHw 10CvHw	NS PL	5406 27657	667 2119	77 861	32 3226	913 2035	110 805	77 1443	32 1317	51 863	110 805	783 2318	32 1114	178 538	324 1656	852 5052	32 1359	152 8	32 273	152 333	673 1532	127
AllHarvAcre	10CvHw	UM	33397	1037	864	3220	1324	2740	4161	872	1639	1857	1554	216	2000	3149	2664	374	0 1290	451	4957	637	1221
Disturbance	10CvHw	ВК	338	73	20	7		140	12	9	10			15								27	25
Disturbance	10CvHw	BM	278	24	2	14	4		9			37			142			20			20	4	2
Disturbance	10CvHw	EE	503	34	49	91		49	13	83			44		88						3	34	15
Disturbance	10CvHw	FL	69	5		15	15	8	7	3			100	125		210	24	277	00	100	125	4	12
Disturbance Disturbance	10CvHw 10CvHw	Forest GB	1467 68		22		27		47	91			196	125		210	24 5	277	86	188	125	98	14
Disturbance	10CvHw	HD	164	37		6	27	14		15							5				7	29	56
Disturbance	10CvHw	н	51	3	7	3	10				20										3	3	2
Disturbance	10CvHw	NG	39	1					3													8	27
Disturbance	10CvHw	NM	238	3		18	38	7	5	20	~~			5			125	3				6	8
Disturbance Disturbance	10CvHw 10CvHw	NS PL	132 400	25	10 34	6 99	2 17	23	29		35 64	90					10	30	8		21	8 2	19
Disturbance	10CvHw 10CvHw	UM	400 547	25 10	54 10	22	89		86		64 2	90 170		25			10	30	8 70		37	26	22
Gaps	10CvHw	ВК	2492	137	136	129	124	122	125	121	122	124	126	122	122	122	126	125	125	126	124	117	117
Gaps	10CvHw	BM	2955	158	159	143	151	151	150	152	150	143	142	133	141	140	150	147	152	153	154	143	143
Gaps	10CvHw	EE	2292	125	111	103	113	127	133	126	124	116	115	118	128	99	96	96	119	111	108	107	117
Gaps	10CvHw	FL	385	27	25	25	18	21	15	22	20	20	20	21	21	11	11	11	21	21	19	18	18
Gaps Gaps	10CvHw 10CvHw	GB HD	1038 742	65 53	53 39	53 40	53 39	56 38	49 38	47 34	55 34	57 34	47 35	48 38	49 38	61 39	58 37	58 36	58 36	61 38	38 32	36 32	36 32
Gaps	10CvHw	HI	194	13	13	40	11	6	6	6	10	11	11	10	11	11	13	13	13	13	8	2	2
Gaps	10CvHw	NG	427	22	22	19	20	20	23	23	23	22	22	19	20	20	23	23	23	22	22	19	20
Gaps	10CvHw	NM	5386	296	294	292	281	276	276	278	255	251	258	269	273	271	259	258	263	275	259	251	251
Gaps	10CvHw	NS	750	37	37	37	36	36	36	41	41	41	37	37	37	39	35	35	36	40	40	36	36
Gaps	10CvHw	PL	2811	146	140	128	127	132	142	149	147	150	144	146	146	149	124	122	127	152	152	144	144
Gaps	10CvHw	UM	4273	224	226	225	224	217	203 7522	199 4272	205 2782	219	222	222	224 652	213	210	210	218	220	199 264	196	197
LateSerlClos LateSerlClos	10CvHw 10CvHw	BK BM	79232 88116					11532 17168	7523 8760	4372 2102		3089 1584	1633 1392	1300 1309	652 373	32 124	32 87	4	247	488	364 2	2	164
LateSerIClos	10CVHW 10CvHw	EE	62808					6695	1863				1268	1309	373 164	124	87 112	4	142	142	2 142	Z	104
LateSerlClos	10CvHw	FL	10485	472						699	231	175	170	51	42	42	41	15	_ 1 _	79	148		
LateSerlClos	10CvHw	Forest	155									81	34	2	2	13	2	3	3	4	4	3	4
LateSerlClos	10CvHw	GB	31751		2894			5867	4507		225	11		21	48	48	48	27	1540				
LateSerIClos	10CvHw	HD	25204	1134			4813	4299			1183	933	617	85	16 20	349	12		530	530	200		11
LateSerIClos	10000	HI	10218	724		1642		1108	510	363	212	70	47	58	39	21	21	10	791	1173	382		
1 STOL OF LOS	10CvHw	NG	12770	075	1755	2050	Juno	2520	1700	105	10	20	າດ	าา	าา	17	17						
LateSerlClos LateSerlClos	10CvHw	NG NM	13278 164685		1755 14358			2570 36158		195 9692	19 2477	20 1549	20 1270	22 767	22 220	12 179	12 158	38			79		
LateSeriClos LateSeriClos LateSeriClos		NG NM NS	13278 164685 23226	2942	14358	30941	36715	2570 36158 4502	27142	195 9692 364	19 2477 133	20 1549 134	20 1270 134	22 767 83	22 220 23	12 179 8	12 158 8	38 2			79		

	100.11		00000	0566	10040	10000	45400	12121	4200	1101	1102	20.42	4000	1202	4425	4 4 7	4 4 7	47			22		
LateSerlClos LateSerlClos	10CvHw 10CvHw	PL UM	86965 143297		18049 12298					1181 7383	1192 4706	2042 4395	1869 3691	1202 1808	1135 523	147 235	147 166	17 89		2684	23 26	26	26
LateSerlOpen	10CvHw	Forest	2957		12230	20101	87	149	246	312	277	287	55	87	87	82	107	159	190	203	210	198	221
MidAgeClosed	10CvHw	ВК	66540	16334	11133	6477	4204	4634	2969	2370	2085	1758	1953	1098	1098	1921	1799	1659	1534	1433	1085	262	734
MidAgeClosed	10CvHw	BM		21619		9025	6887	6450	6988	6339	5399	4319	3916		4117	4993	4706	5108	5415	5912	5581	3624	3791
MidAgeClosed MidAgeClosed	10CvHw 10CvHw	EE FL	122652 45541	10663 4403		4865	7070 1426	8413 1458	7644 2593	7197 2367	6569 2006	4703 2183	5287 2630	6884 2511	7013 2504	3104 888	2588 807	6425 2516	6847 2597	5162 2518	4578 1985	6287 1798	6871 2262
MidAgeClosed	10CvHw	Forest	3272		2221	2552	1420	1438	191	118	2000	144	2030	210	2304	274	327	2510	226	202	150	237	2202
MidAgeClosed	10CvHw	GB	75722		5364	4467	3421	2586	2448	3877	4424	4486	2485	2576	4677	4715	4195	4195	3175	3141	893	672	4460
MidAgeClosed	10CvHw	HD	44126	6595	5833	3155	2583	2288	1952	1719	1038	1360	1903	1914	2072	1779	1679	1510	1417	1586	875	819	2049
MidAgeClosed	10CvHw	HI	27888			1115	548	944	888	1537	1651		1858	1621	1641	2001	1988	2006	1228	846	846	61	852
MidAgeClosed MidAgeClosed	10CvHw 10CvHw	NG NM	17503	3248 43762		476	354 8032	930 6001	927 7355	915 6708	884 4326	693 5454	644 7239	317 7629	397 8090	881 7340	794 5359	808 6021	895 8002	712 8212	639 5046	309 3684	382 6771
MidAgeClosed	10CvHw	NS	30450				927	913	1702	1651	4320 1591		870	864	1568	1354	706	920	1568		1568	927	927
MidAgeClosed	10CvHw	PL	132884	17456		4820	5551	7652	8326	7385	7518	6796		5528	6911	6188	2054	2597	6731		6626	5182	5507
MidAgeClosed	10CvHw	UM	162672	33885	26941	14736	6744	5973	5388	4524	5676	5908	6009	6068	6090	4897	4318	5588	6167	3406	2397	2145	5812
MidAgeOpen	10CvHw	Forest	1178		87	149	62			19	55	36		46	96	50	73	31	111	76	94	104	89
MixedAge MixedAge	10CvHw	BK BM	25058 44881					279	682 2723	1513 3011	1513 3011			1778 3011	1778 3011	1778 3011	1778 3011	1778 3011	1778 3011		1778 3012	1778 3012	1778 3012
MixedAge	10CvHw 10CvHw	EE	19904						2725	47	47	47	1168	1228	1228	1228	1228	1228			2510	2510	2510
MixedAge	10CvHw	FL	15396					42	42	42	42		1222	1222	1222	1222	1222	1222		1363	1363	1363	1363
MixedAge	10CvHw	GB	7696							4	4	616	616	616	616	616	616	616	616	690	690	690	690
MixedAge	10CvHw	HD	39808					2082	2082	2259	2259	2339	2617	2617	2617	2617	2617	2617	2617	2617	2617	2617	2617
MixedAge	10CvHw	HI	1047 432					34	63	63	63	63 36	63 36	63 36	63 36	63 26	63 26	63 26	63 36	80	80 36	80	80 36
MixedAge MixedAge	10CvHw 10CvHw	NG NM	432 55036					879	1845	1845	1845	36 1845	36 1845	36 4426	36 4426	36 4426	36 4426	36 4426	36 4426	36 4594	36 4594	36 4594	36 4594
MixedAge	10CvHw	NS	1458					075	25	57	57	57	57	57	57	57	57	57	184	184	184	184	184
MixedAge	10CvHw	PL	3708					208	216	216	216	216	216	216	216	216	216	216	216	281	281	281	281
MixedAge	10CvHw	UM	12610					66	135	135	135	135	714	714	714	714	714	714	1356	1591	1591	1591	1591
OldSerlClose	10CvHw	BK	294680		841	1557					17116												
OldSerlClose OldSerlClose	10CvHw 10CvHw	BM EE	318993 217562		381 186	722 210	944 1246				20360 13236												
OldSerlClose	10CvHw	FL	33698		12	210	1240	391			2162						2388	2414		2429	2429	2427	
OldSerlClose	10CvHw	Forest	24													1	2	2	2	3	4	5	5
OldSerlClose	10CvHw	GB	77345	2	2	2	11	378	1356	2355	5410	5624	5635	5635	5635	5635	5632	5651	5678	5678	5678	5678	5670
OldSerlClose	10CvHw	HD	81158		231	270	552	823						5735		5808	5808	5820	5820	5820	5816	5799	5766
OldSerlClose	10CvHw	HI	18914		129	153	266	453	712	1004	1179	1179	1202	1202	1231	1249	1249	1260	1270	1270	1268	1266	1265
OldSerlClose OldSerlClose	10CvHw 10CvHw	NG NM	69667 558862		973 321	1113 910	1341 1349	1778	2641		4339 37192				4358		4368	4380			4380	4375	4359
OldSerlClose	10CvHw	NS	81675		153	165	577	908			5410									5552			
OldSerlClose	10CvHw	PL	309315		477	616					18817												
OldSerlClose	10CvHw	UM	471620	390	834	1865	2533	4813	12413	24814	28864	29362	30067	32012	33376	33664	33733	33810	33858	33830	33809	33793	33780
OldSerlOpen	10CvHw	Forest	7163								87	149	535	553	571	714	750	807	828	829	817	246	277
OthrHarvAcre	10CvHw	ВК	15737		403	1110	403	1110	668	1110	668	1110	668	1110	668	1110	668	1110	668	1110	668	831	265
OthrHarvAcre	10CvHw	BM	27103		2723	288	2723	288	2723	288	2723	288		288	2723	289	2723	289	2723	289	2723	289	2200
OthrHarvAcre OthrHarvAcre	10CvHw 10CvHw	EE FL	16126 10382			47 42		47 1222	1121	107 1222	1121	107 1222	1121	107 1222	2308	202 1363	2308	202 1363	2308	202 1363	2308	202 1321	2308
OthrHarvAcre	10CvHw	GB	5228			42		616		616		616		616		690		690		690		690	
OthrHarvAcre	10CvHw	HD	23195			2259		2339	278	2339	278	2339	278	2339	278	2339	278	2339	278	2339	278	257	278
OthrHarvAcre	10CvHw	HI	635	34	29	34	29	34	29	34	29	34	29	34	29	51	29	51	29	51	29	17	
OthrHarvAcre	10CvHw	NG	288					36		36		36		36		36		36		36		36	
OthrHarvAcre	10CvHw	NM	35344		966	879	966	879	966	3460	966	3460	966	3460	966	3628	966	3628	966	3628	966	2749	407
OthrHarvAcre OthrHarvAcre	10CvHw 10CvHw	NS PL	1148 2204		25 8	32 208	25 8	32 208	25 8	32 208	25 8	32 208	25 8	32 208	152 8	32 273	152 8	32 273	152 8	32 273	152 8	32 65	127
OthrHarvAcre	10CvHw	UM	9997		69	66	69	66	648	66	648	66	648	66	1290	301	1290	301	1290	301	1290	235	1221
RegenAcre	10CvHw	BK	4665			823		247	363	293	195			823			122	140			472	1187	
RegenAcre	10CvHw	BM	12411	2474	20	61	937		224	499	329	1368	715	1795		899	307	497			329	1957	
RegenAcre	10CvHw	EE	15606		2526	1383		142	516	24	584	1709	129			3861	564	24		1709	584	142	
RegenAcre	10CvHw	FL	5279		536	174	1173	1 - 40	79 520	177	450	150	8	93		1709	81			24	464	335	
RegenAcre RegenAcre	10CvHw 10CvHw	GB HD	11432 4063		2036 337		11	1540 530	520 89	212 337	127 543	150 67	2128 158	38 44			520 437	169		34	3788 1241	255 56	
RegenAcre	10CvHw	HI	4005		557	396	11	791	395	557	255	152	30	378		18	437 13	105			791	1167	
RegenAcre	10CvHw	NG	2501		54	585				2	31	183	80	498		14	87			183	73	513	
RegenAcre	10CvHw	NM	15925				1981	872		1801	2305	632	499	122		872	1981	210			3087	1441	
RegenAcre	10CvHw	NS	3712			o	862			a	a = -		706			214	648	A			a	641	
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ThinAcre	10CvHw 10CvHw	BK	7308		69	324 781	545 194	263	2718 850	806 781	281 194	286	850	781	194	263	850	73 781		120	5007	402	
ThinAcre	10CvHw	BM	5516		743		45	788	743		45	788	743		45	788	743						
ThinAcre	10CvHw	EE	5880		749	52	39	788	801	52	39	788	801	52	39	788	801	52					
ThinAcre	10CvHw	HD	3409				487	487			487	487			487	487							
ThinAcre	10CvHw	NG	70		25		10	10	25		10	10	25		10	10	25						
ThinAcre ThinAcre	10CvHw 10CvHw	NM NS	3395 546		25 52		460 26	485 78	25 52		460 26	485 78	25 52		460 26	485 78	25 52						
ThinAcre	10CvHw 10CvHw	NS PL	10080	-	52 67	843	26 530	78 597	52 910	843	26 530	78 597	910	843	26 530	78 597	910	843					
ThinAcre	10CvHw	UM	10535		795		710	1505	795		710	1505	795		710	1505	795						
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Volume	10CvHw	HI	13428		333	2309 1444	29	2225	1133	3475	734	456	113	1228	480 29	106	1521 71	2873 51	278	2339 51	2220	3395	270
Volume	10CvHw	NG	8405		172	2012	6	52		44	112	615	250	1606	5	77	241	36	-	612	241	1661	
Volume	10CvHw	NM	85227		1242	879		4239	978	9493	8074	5362		3917	1162	6524	6455	4291	966		10420	6739	
Volume	10CvHw	NS		2319	52	41		75	51	32	37	64	2522	32	199		1957	32	152	32	152	2334	127
Volume	10CvHw	PL	53571			6604		504	2278	1497	1337	402		662 540	234		12026	1202	8 1200	273		5283	1774
Volume Young Mgmt	10CvHw 10CvHw	UM BK	52734 14541		389 133	1082 1188	1992 956	5062 612	8752 831	2357 1021	1844 709	1496 560	1258 221	540 1188	1772 1044	5010 365	3058 343	533 627	1290 361	774 365	11610 693	1472 1933	
Young Mgmt Young Mgmt	10CvHw 10CvHw	вк ВМ	33901		3393	1188		1032		818			2982		1044 2694	365 994	343 2105	899	1396	365 95	1228	2381	
Young Mgmt	10CvHw	EE	36668		4235		1383	158	1028	576	978	2329	2208	165	762	3928	5187	655		1776	3055	793	904
Young Mgmt	10CvHw	FL	14103	137	536	724	1347	1576	79	659	627	853	8	504	93	2158	1790	530		449	464	1234	335

Young Mgmt	10CvHw	GB	24695	185	2120	2038		1744	2060	936	339	481	2278	2370	38	228	520	748		262	3822	4271	255
Young Mgmt	10CvHw	HD	15910	866	381	1082	11	1312	711	1197	972	1381	317	973	136	771	529	1377	261	771	1333	1381	148
Young Mgmt	10CvHw	н	9023	49	10	407	406	802	1196	406	265	418	192	419	388	35	41	30	10	17	801	1964	1167
Young Mgmt	10CvHw	NG	5135	235	252	639	585	12		14	33	226	263	590	498	26	101	99		195	256	598	513
Young Mgmt	10CvHw	NM	44361	1254	441	290	2300	3143	1191	2943	4425	4079	1450	1763	441	2070	3172	3389	529	1198	3406	5436	1441
Young Mgmt	10CvHw	NS	7796	641	649	10	870	872	8	10	8	10	714	716	50	224	912	658	50	10	50	651	683
Young Mgmt	10CvHw	PL	31705	1681	2170	3029	3675	1565	528	859	594	393	1403	1531	66	876	4923	4467	246	90	328	1814	1467
Young Mgmt	10CvHw	UM	29348	596	284	346	892	1736	4101	3546	1301	589	611	283	576	1443	2348	752	499	250	4243	4147	805
Young Patch	10CvHw	ВК	204	44	12	7		83	7	5	6			9								16	15
Young Patch	10CvHw	BM	172	15	1	14	4		5			22			84			12			12	2	1
Young Patch	10CvHw	EE	335	20	29	91		29	8	49			26		52						2	20	9
Young Patch	10CvHw	FL	53	3		15	15	5	4	2												2	7
Young Patch	10CvHw	Forest	6881		128	219	219	91	171	322	398	331	497	466	416	501	374	521	469	502	478	394	384
Young Patch	10CvHw	GB	51		13		27										3						8
Young Patch	10CvHw	HD	99	22		6		8		9											4	17	33
Young Patch	10CvHw	HI	36	2	4	3	10				12										2	2	1
Young Patch	10CvHw	NG	24	1					2													5	16
Young Patch	10CvHw	NM	165	2		18	38	4	3	12				3			74	2				4	5
Young Patch	10CvHw	NS	82		6	6	2	14	17		21											5	11
Young Patch	10CvHw	PL	285	15	20	99	17				38	53					6	18	5		13	1	
Young Patch	10CvHw	UM	359	6	6		89		51		1	100		15					41		21	16	13

Attachment 11

Climate Change: Atmospheric Carbon Dioxide

Climate Change: Atmospheric Carbon Dioxide

 ⊕ BY REBECCA LINDSEY | REVIEWED BY ED DLUGOKENCKY

 ⊞ PUBLISHED AUGUST 14, 2020 |
 ⊞ UPDATED OCTOBER 7, 2021

HIGHLIGHTS

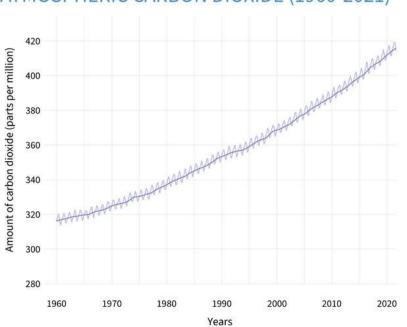
- · Human activities have increased the concentration of carbon dioxide in our atmosphere, amplifying Earth's natural greenhouse effect.
- Despite the global pandemic, the global average amount of carbon dioxide hit a new record high in 2020: 412.5 parts per million.
- The annual rate of increase in atmospheric carbon dioxide over the past 60 years is about 100 times faster than previous natural increases, such as those that occurred at the end of the last ice age 11,000-17,000 years ago.
- The ocean has absorbed enough carbon dioxide to lower its pH by 0.1 units, a 30% increase in acidity.

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Based on preliminary analysis, the global average atmospheric carbon dioxide in 2020 was 412.5 parts per million (ppm for short), setting a new record high amount despite the economic slowdown due to the COVID-19 pandemic. In fact, the jump of 2.6 ppm over 2019 levels was the fifth-highest annual increase in NOAA's 63-year record. Since 2000, the global atmospheric carbon dioxide amount has grown by 43.5 ppm, an increase of 12 percent.

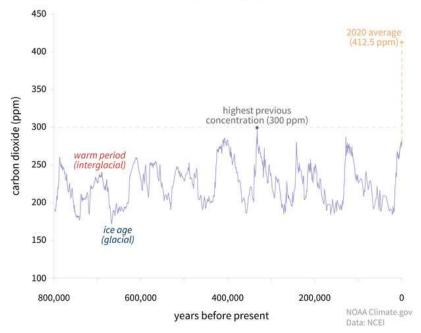


ATMOSPHERIC CARBON DIOXIDE (1960-2021)

The modern record of atmospheric carbon dioxide levels began with observations recorded at Mauna Loa Observatory in Hawaii. This graph shows the station's monthly average carbon dioxide measurements since 1960 in parts per million (ppm). The seasonal cycle of highs and lows (small peaks and valleys) is driven by summertime growth and winter decay of Northern Hemisphere vegetation. The long-term trend of rising carbon dioxide levels is driven by human activities. NOAA Climate.gov image, based on data from NOAA Global Monitoring Lab.

Carbon dioxide levels today are higher than at any point in at least the past 800,000 years. In fact, the last time the atmospheric CO₂ amounts were this high was more than 3 million years ago, during the Mid-Pliocene Warm Period, when temperature was 2°–3°C (3.6°–5.4°F) higher than during the pre-industrial era, and sea level was 15–25 meters (50–80 feet) higher than today.

CARBON DIOXIDE OVER 800,000 YEARS



Global atmospheric carbon dioxide concentrations (CO₂) in parts per million (ppm) for the past 800,000 years. The peaks and valleys track ice ages (low CO₂) and warmer interglacials (higher CO₂). During these cycles, CO₂ was never higher than 300 ppm. On the geologic time scale, the increase (orange dashed line) looks virtually instantaneous. Graph by NOAA Climate.gov based on data from Lüthi, et al., 2008, via NOAA NCEI Paleoclimatology Program. [Correction: August 20, 2020. An earlier version of this image had an error in the time scaling on the X axis. This affected the apparent duration and timing of the most recent ice ages, but did not affect the modern or paleoclimate carbon dioxide values.]

Carbon dioxide concentrations are rising mostly because of the fossil fuels that people are burning for energy. Fossil fuels like coal and oil contain carbon that plants pulled out of the atmosphere through photosynthesis over many millions of years; we are returning that carbon to the atmosphere in just a few hundred years. According to *State of the Climate in 2019* from NOAA and the American Meteorological Society,

From 1850 to 2018, 440 \pm 20 Pg C (1 Pg C = 10¹⁵ g C) were emitted as CO₂ from fossil fuel burning (Friedlingstein et al. 2019). For 2018 alone, global fossil fuel emissions reached 10 \pm 0.5 Pg C yr-1 for the first time in history (Friedlingstein et al. 2019). About half of the CO₂ emitted since 1850 remains in the atmosphere. The rest of it has partially dissolved in the world's oceans... While the terrestrial biosphere is currently also a sink for fossil fuel CO₂, the cumulative emissions of CO₂ from land use changes such as deforestation cancel terrestrial uptake over the 1850–2018 period (Friedlingstein et al. 2019).

Each year we put more carbon dioxide into the atmosphere than natural processes can remove, which means the net global amount of carbon dioxide rises. The more we overshoot what natural processes remove, the faster the annual growth rate. In the 1960s, the global growth rate of atmospheric carbon dioxide was roughly 0.6 ± 0.1 ppm per year. Between 2009-18, however, the growth rate has been 2.3 ppm per year. [These statistics, along with the final global average for the prior year, are updated each year in the American Meteorological Society's *State of the Climate Report*, which comes out in late summer]. The annual rate of increase in atmospheric carbon dioxide over the past 60 years is about 100 times faster than previous natural increases, such as those that occurred at the end of the last ice age 11,000-17,000 years ago.

Why carbon dioxide matters

Carbon dioxide is a greenhouse gas: a gas that absorbs and radiates heat. Warmed by sunlight, Earth's land and ocean surfaces continuously radiate thermal infrared energy (heat). Unlike oxygen or nitrogen (which make up most of our atmosphere), greenhouse gases absorb that heat and release it gradually over time, like bricks in a fireplace after the fire goes out. Without this natural greenhouse effect, Earth's average annual temperature would be below freezing instead of close to 60°F. But increases in greenhouse gases have tipped the Earth's energy budget out of balance, trapping additional heat and raising Earth's average temperature.

Carbon dioxide is the most important of Earth's long-lived greenhouse gases. It absorbs less heat per molecule than the greenhouse gases methane or nitrous oxide, but it's more abundant, and it stays in the atmosphere much longer. Increases in atmospheric carbon dioxide are responsible for about two-thirds of the total energy imbalance that is causing Earth's temperature to rise.

Another reason carbon dioxide is important in the Earth system is that it dissolves into the ocean like the fizz in a can of soda. It reacts with water molecules, producing carbonic acid and lowering the ocean's pH (raising its acidity). Since the start of the Industrial Revolution, the pH of the ocean's surface waters has dropped from 8.21 to 8.10. This drop in pH is called *ocean acidification*.

A drop of 0.1 may not seem like a lot, but the pH scale is logarithmic; a 1-unit drop in pH means a tenfold increase in acidity. A change of 0.1 means a roughly 30% increase in acidity. Increasing acidity interferes with the ability of marine life to extract calcium from the water to build their shells and skeletons



(left) A healthy ocean snail has a transparent shell with smoothly contoured ridges. (right) A shell exposed to more acidic, corrosive waters is cloudy, ragged, and pockmarked with 'kinks' and weak spots. Photos courtesy Nina Bednarsek, NOAA PMEL.

Past and future carbon dioxide

Natural increases in carbon dioxide concentrations have periodically warmed Earth's temperature during ice age cycles over the past million years or more. The warm episodes (interglacials) began with a small increase in sunlight due to a tiny wobble in Earth's axis of rotation or in the path of its orbit around the Sun.

That little bit of extra sunlight caused a little bit of warming. As the oceans warmed, they outgassed carbon dioxide—like a can of soda going flat in the heat of a summer day. The extra carbon dioxide in the atmosphere amplified the initial warming.

Based on air bubbles trapped in mile-thick ice cores (and other paleoclimate evidence), we know that during the ice age cycles of the past million years or so, carbon dioxide never exceeded 300 ppm. Before the Industrial Revolution started in the mid-1700s, the global average amount of carbon dioxide was about 280 ppm.

(parts g vear NOAA Climate.gov Data: NOAA, ETHZ, Our World in Data

Carbon dioxide emissions and atmospheric concentration (1750-2020)

The amount of carbon dioxide in the atmosphere (blue line) has increased along with human emissions (gray line) since the start of the Industrial Revolution in 1750. Emissions rose slowly to about 5 billion tons per year in the mid-20th century before skyrocketing to more than 35 billion tons per year by the end of the century. NOAA Climate.gov graph, adapted from original by Dr. Howard Diamond (NOAA ARL). Atmospheric CO₂ data from NOAA and ETHZ. CO₂ emissions data from Our World in Data and the Global Carbon Project.

By the time continuous observations began at Mauna Loa Volcanic Observatory in 1958, global atmospheric carbon dioxide was already 315 ppm. On May 9, 2013, the daily average carbon dioxide measured at Mauna Loa surpassed 400 ppm for the first time on record. Less than two years later, in 2015, the global amount went over 400 ppm for the first time. If global energy demand continues to grow and to be met mostly with fossil fuels, atmospheric carbon dioxide is projected to exceed 900 ppm by the end of this century.

More on carbon dioxide

NOAA carbon dioxide observations

Carbon cycle factsheet

Carbon dioxide emissions by country over time

Comparing greenhouse gases by their global warming potential

References

Collins, M., R. Knutti, J. Arblaster, J.-L. Dufresne, T. Fichefet, P. Friedlingstein, X. Gao, W.J. Gutowski, T. Johns, G. Krinner, M. Shongwe, C. Tebaldi, A.J. Weaver and M. Wehner, 2013: Long-term Climate Change: Projections, Commitments and Irreversibility. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

X. Lan, B. D. Hall, G. Dutton, J. Mühle, and J. W. Elkins. (2020). Atmospheric composition [in *State of the Climate in 2018, Chapter 2: Global Climate*]. Special Online Supplement to the Bulletin of the American Meteorological Society, Vol.101, No. 8, August, 2020.

Lüthi, D., M. Le Floch, B. Bereiter, T. Blunier, J.-M. Barnola, U. Siegenthaler, D. Raynaud, J. Jouzel, H. Fischer, K. Kawamura, and T.F. Stocker. (2008). High-resolution carbon dioxide concentration record 650,000-800,000 years before present. *Nature*, Vol. 453, pp. 379-382. doi:10.1038/nature06949.

Woods Hole Oceanographic Institution. (2015). Introduction to ocean acidification. Accessed October 4, 2017.

Lindsey, R. (2009). Climate and Earth's energy budget. Accessed October 4, 2017.

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Attachment 12

Federally listed species and SCC spreadsheets

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and and show of \$5000	- John Sager							IC: grass baids or fields amid remote and extensive forests in other mountains, near valid/had impoundments or lance lates in				, ready more same	Unais Mountains, east of NC 197, to include Unais Mountain. Coordinates are for the dear carcase/camera also, located about 15 wile. SSM/-Phone & Phone Content about 15 wile.	The January-February 2013 period. The species has been photographed at deer carcasses p out for explose at this sile, during Jan - March in 2013 and 2014.		Kelly, Chris, 2014. Unsublished Golden				
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6 1576 21349 Alaunidorta raenellana	70 Appalachian Eilitoe	2018-10-31 2018-10-31 15	995-13-15 Curnett A	3-Median & E	51 51 G1	G1 AquaticAnimal Fresh	water Bialva M	: Ternessee drainages	16784 N	Y 1128.36	-1	-1 FBR Nolichucky River Subbasin	North Toe rivers downshream to Cane Bottom near the N TN state line; the North Toe River	C. Refer to source features for detailed information pertaining to this occurrence.	9 Wide riparke buffers needed (Ratciffe 2007).	Biglit, D.A. Tolo, NU, NU, Papica Antma Sarwy Forms, Mag, Jaon, 2014 Reservations and the Star Care Reservation of the Star Care Reservation of the International Care Star United Reservations (Star Star Careline Middle Reservation) Careline Middle Reservation C. Wildle Reservation	2019-08-09 2019-10	-07 828752-586	49152094.5	Carolina Northern Flying Squimel 2
															Dorsen Miller, USFS; Lixedord;	N.C. Widthe Hascurces Commission 2007. Annual Program Royat, 2005-2006 – Widdle Disersity Program, N.C. Widdle Resources Commission. 2014. Bit data prodectog Gabrielle Granier (NCWPC),				
7 5406 32162 Myolis septentrionalis	44 Northern Long-eared Bat	2005-07-27 2005-07-27 20	005-07-27 Current E	3-Medium T T	52 52 G1G2	G1 Upland Animal Mamm	nal ci	IPC: roots in holiowinees and buildings (warmer months), in ases and mines (winter); mainlyin the mountains	18218 N	N 123.41	-1	-1 Llopd Coxe	Ligyd Cow - east mist net location uninown (NCWRC 2014).	2005 2 bats (1 adult resis, 1 juansile resis) mist network Miller, Ledford, and McClaw on 27 July 2005. Also mist- netiad was one Eastern Small-boted Myolis (NCWRC 2014, NCWRC 2008).	Richard McClure; Soit Borwork, NCMRC	proxided by Gabrielle Graeter (NCINRC), Rainigh Date submitted August 1, 2014. Mason MOLLUSCA SURVEY: CHEDAN RMED	2014-11-06 2019-10	07 8232.366964	5375775.771	indana Bat B
													LTN Cheah Rier: This occurrence is located in			prosedoj vaznana cinamer (NCURICA) Ralingh, Dala Monthed August 1, 2014. Mason MOLLUSCA SURVEY: CHEDAH RIVER, GRAVANA COUNTY, NORTH CARCUNA JULY 2000, FOR NORMANDEAU ASSOCIATES, INC. BY				
													northwestern Graham County and consists of the Checklin River from the Santeetish Dam downstream to	Rafer to source features for detailed information pertainin to this occurrence. Impoundments: yes, Checkh Dam (Tv) downshream on Little Tennessee and Santeetish Dam userbeam	G USE Scala provide acquisition of optimits buffers and glands along to Mana, Cohorner, and an Real Scalar Scalar Scalar Scalar Scalar Scalar Scalar Real Descriptions at Scientific scalar Patential by emotional to insprove habita.	NORMANDERU ASSOCIATES, INC. IIV PENNINGTON AND ASSOCIATES, INC: NC WRC Aquitos Database. Queriad in February 2005; NC WRC Aquatica				
8 7542 21007 Alasmidonta rasensilana	20 Appalachian Elitor	2018-11-26 2018-11-26 20	000-07-07 Curnett CD	r >Medium E E	SI SI GI	G1 AquaticAtimal Fresh	water Eksive M	Tennessee drainages	16704 N	Y 60.54	-1	-1 LTNIC heath River	approximately 1 km above its confluence with Meadow Branch.	coversitream on Little Tennessee and Santeetiah Dam upstream	River. Dare operations at Sameetah could potentially be modified to improve habite.	Database Annue manemance update (Hannon Boartino Allen 1991 NCWRC Working	2019-06-11 2019-10	-07 90728.72249	2037138.505	Data Sensitive Record - contact the NCNH 10
													Great CraggyMountains and BlackMountains: This occurrence is located in Yanoay, Buncombe, and McDou counties, NC and consists of habitat adjacent to the Blace	a1		Observation Form; Contributed Field forms or similar data contributed to the NC				
9 BIZ2 1223H Gaucome subrinue coloratus	2 Gardina Northern Fivino Soutrei	2017-03-09 2017-03-09 10	941-08-19 Current E	2Hat E E	52 52 G572	T2 Upland Animal Mamm	nal M	high elevation forests, mainly soruce-fir	1716N	N 2925	5000	-1 Great Crappy Mountains and Black Mountains	counties, NC and consists of habitat adjacent to the Blue Ridge Parkeey from Snowball Mountain to Pinnacle Spri EO 0455ED ID 39257 is adjacent to	rg. Refer to Source Features for detailed information pertaining to this occurrence.	Chris Mely, NCWRC REGISTERED AREAS	here opperation or organizations counce the program. Headley Jr. Co. 1923. A new fying squirel from the southern Appalachian Moun Miscellaneous. Information obtained from	2010-01-09 2019-10	-07 40412,25097	1711297.947	Rock Grame Lichen 1
							Ĩ													
								I: rooth in hollow trees or under loose bark and stags (warmer					Sites in upper Santeetish Creekvatershed, including aid	See source features for addition details. 2012: One female captured by D'Keefe on 16 June 2012 on FSR-81C at Joh Branch (NCWRC 2014). 2010: Two bats, one male and or g female, captured in misi-nets and one male bat tracked to restricter Monte View.	ns Varway (Tenr. Tech); Jog O'Keele, ns Indiana Ealab Urivensity Roat McClanetana Ealab Baroeth (MRC) -	Inits, nearpaper articles, exitormetal assessment-reports or other, N.C. Widdle Resources Commission. 2008. Annual Program Report: 2007-2008. NC WISC				
10 8000 15740 Myolis socialis	5 Indiana Bat	2012-06-12 2012-06-12 15	999-07 Current BC	2High E E	\$152 \$1 G2	G2 Upland Animal Mamm	nal pr	(: roots in hollow trees or under loose bark and snags (werner softw), in caves (winter)	15401 N	N 38.34	3200	4150 SANTEETLAH CREEK	Whigg Branch and John Branch.	ng female, captured in mini-nels and one male bat tracked to roost tree by Cl'Keele in Ju	McClamber (Soti Baworh (WRC) - 2008, Tory Bowerh, vilutier - 2008 UNDER BARK OF LARGE TREES	Width Diversity Prog Mason Boyton, Alen. 1991. NCWRC Width Observation Error: Contributed Eald	2015-12-15 2019-10	-07 8824.940409	1670273.174	Daid Eagle 6
													Shining Rook and Middle Prong Wilderness areas: This occurrence is located in Hayecod, Jackson, and			Cesar also in John Commission 1 Head forms or similar data contributed to the NC NHP bypersons or organizations cutilide the program; Kelly, C. 2017. Records of				
11 9002 12746 Gaucomys sabrinus colorabus 12 9785 34230 Data Sensitive Record - contact the NONHP	8 Carolina Northern Flying Squitrei	2017-02-28 2017-02-28 15 2003-02-07	989-07-23 Current E	2-High E E	52 52 6572	T2 Upland Animal Mamm	nai M	high elevation forests, mainly spruce-fir	17146 N	N 2545	-1	-1 Shining Rock and Middle Prong Wilderness area	occurrence is located in Haywood, Jackeon, and Transphania counties, NC and consists of habitat at multiple sites in the Shining Rock and Middle Prong as Wilderness areas of Plagah National Forest, BD 04	Refer to individual source features for detailed information	NEET TOOLES BOILD BE PROVIDED ALONG THE PARKWA Lafarad 1987)	western North Mason	2019-07-02 2019-10	-07 36586.10364	1540073.571 1343858.067	Vegisia Spirana 1
12 9785 34230 Data Sensitive Record - contact the NCNHP	0 Data Sensitive Record - contact the NCNHP	2003-02-07	Current D7	p-Medium T		Animal			0 Y	6	0	0				N.C. Wildlife Resources Commission. 2014. Bat data provided by Gabrielle	2013-10	-07 4116.200501	1343858.067	(Gray Bat 2
													Trimont Ridge: Roosting and Matheet Matheet and roosting locations along the ridgeline and north- and soc	Misti-net captures: 2007. 15 individuals total captured by O'Kawla and/or NC-WRC at stocifferent nist-net location et-in May and July 2007, see source features for details (O'Keels 2002, NC/WRC 2004), 2001: 14 individuals total captured by O'Keels and/or NC/W		N.C. Wildlik Resources Commission 2014 Bird das proteide by Galinnile Grawter (NCWRC), Rolegh Data Isabetta A Agust (2014, O'Nealh, J. 2007. Northern lings-area data road 2007. Scholler, J. 2014, O'Nealh, J. 2007. Scholler, 2017. Scall spreadmett, O'Keels, Joy 2012. Bat mini Mason				
13 10000 22075 Myc8s septentionalis 14 11073 22419 Data Sensitive Record - contact the NCNHP 15 11581 5200 Data Sensitive Record - contact the NCNHP	60 Northern Long-eared Eat 0 Data Senaltie Record - contact the NCNHP	2007-07-11 2007-07-11 20 2003-06-17 2015-10-19	004-05-17 Current E Current C	2-High T T 3-Medum T	52 52 6162	G1 Upland Animal Mamm Animal	mai co	IPC: roosts in holiow trees and buildings (warmer months), in axes and mines (winter); mainly in the mountains	18218 N 0/Y	N 29.96	-1	-1 Trimont Ridge: Roosting and Mist-net 0	facing slopes of Trimont Ridge from Locust Tree Gap to near Wiles Knob. See source features for details.	(O'Keele 2012, NCWRC 2014). 2008: 14 individuals total captured by O'Keele and/or NCW		locations from 2004-2007 - Excel spreadsheet; O'Keele, Joy 2012. Bat mist Mason	2015-12-28 2013-10 2019-10 2019-10	-07 29826.11962 -07 6897.896362	1336233.422	Total 90
15 11581 5200 Data Senaitive Record - contact the NCNHP	0 Data Sensitive Record - contact the NCNHP	2015-10-19	Current A	3-Medum T		Animal			0 Y		ò	0				N.C. Wildlife Resources Commission. 2014. Bat data provided by Gabrielle	2013-13	-07 2568 780992	807133.0842	
													Upper Burningtown Creek Watershed, Mist-net capture locations and roast trees in the upper Burtingtown Creek autershed, specificality's Left Prove Rev Revers	Mint-net captures: 2011: 1 adult male caputed by Shuet an Pyle at Ray Branch-3 mist net alte on 29 Jaly/2011 (NCWRC 2014). 2010: 4 bats (1 adult female, 3 adult	nd hedy Pylic Dotta Broar, NCINRC; Hunter Raun; Ayd O'Koella, Indiana	V.C. Wildlife Resources Commission. 2014 Bird das provided by Cabrielle Comter (NCMPRC), Relietgh Data submitted August 1, 2014; O'Neels, J 2027. Northern Iong-enroll Autorati Sociation 1: http://dc.2027. Social				
16 12700 22004 Myola septentrionalia	97 Northern Long-eared Bat	2011-07-29 2011-07-29 20	004-05-21 Curnent E	2High T T	52 52 G1G2	G1 Upland Animal Mamm	nal ci	IPC: roosts in holiow trees and buildings (warmer months), in ases and mines (winter); mainly in the mountains	18218 N	N 14	-1	-1 Upper Burningtown Creek Watershed	Prong Ray Branch, and Deliliese Branch drainages. Se source features for details.	Pyle at Ray Branch-3 mit net tale on 29 July 2011 (NCWRC 2014) 2012: 4 bats (1 adult temás, 3 adult e missi) captured by Brown and Pasik on 07 June 2010 at Ray Branch-3 mit-net site (NCWRC 201	State University Rabin Peels, UNCA darm	locations from 2004-2017 - Excel spreadsheet, O'Keele, Joy 2012. But mist Mason N.C. Wildlife Resources Commission	2015-12-29 2019-15	-07 14236.68917	610024.875	
																location ton 2004-2007 - Scall prodehuse, C/Kenk, Joy 2012 Jainniel Mason N. C. Weldis Resources Correlations 2014 Bird das prodeido by Gabriele Grawler (NCWRC), Relaigh, Dala humbrish Aguat, 2014; O'Nesh, J. 2027. Northernitorg-arend barroad locations from 2006-2007 - Scall spreadhest, C/Keels, Joy 2012. Barriel Mason				
	and Manahara Lange 177							IPC: roots in holiow trees and buildings (warmer months), in see and mines (winter), mainly in the mountains					Trimont Ridge - Waltpen Gap. Mist net and roast locatio on Trimont Ridge, on the north- and south-facing alopes membrane Can.	roading data todar win todaray and opperator manu, roading data from 2004-2007 but specific year of na desarution not reported in dataset, captures occurred in 2006 and 2007 (C) Neels 2007, C) Kaels 2012, NCWRC 2014). See source features for datals.		Inserting August 1, 2014; O'Keelle, J. 2007: Northernlong-eared bat roast locations from 2004-2007 - Easel				
17 54100 22000 Myolis septentrionalis 18 15586 5862 Data Sensitive Record - contact the NCNHP	93 Northern Long-eared Bat 6 Data Sensitive Record - contact the NCNHP	2007 2007 20 2005-06-10	Current E Current D	2-High T T 3-Medium T	52 52 G1G2	G1 Upland Animal Mamm Plant	nal ca	ass and mines (winter); mainly in the mountains	18218 N 0 Y	N 8.94	-1	-1 Trimont Ridge - Waltpen Gap 0			Joy O'Kleele, Indiana State University		2015-12-22 2019-10 2019-10	-07 8105.253628 -07 2058.091763	389535.5749 335985.9854	
														2014: 1 individual mist netted by Libby on 30 June 2014 (NCWRC 2016): 2012: 2 balls (1 grid formula: 1 art 11 minut	ug	2007. Annual Program Report, 2005-2006 - Widdle Diversity Program, N.C. Wildlin Resources Correlation. 2014. Bit data provided by Gabrielle Granter (NCWRC),				
19 15000 32160 Mode exclentional-	45 Northern Long-sared Bat	2014-05-30 2014-06-70	005-05-22	3-Medium T T	52 52 OVO	G1 Upland Asieved Ar		IPC: roosts in holiow/trees and buildings (earmer months), in ases and mines (winter), mainlyin the mountains	10210 N	N 7.71		-1 Regah Education Center	NC WRC Plegah Education Center, located along the south side of FSR 475, about 15 miles week of 10 ^{-7 miles}	2014: 1 individual minit netted by Libby on 20 June 2014 (NCVRPC 2016), 2012; 2 bats (1 adult female, 1 adult mail water mill-outlod by Grander and 14 others on 20 July 2012 (NCVRPC 2014), 2010: 10 bats water mini-testad in 2010 b Grander and 15 others in 2	2 Cabrielle Graeter, NCWRC; Gary	Resources Commander, 2014, une data provided by Gabrielle Graater (NCWRC), Railegh: Data submitted August 1, 2014; N.C. Wildlife Re. Mason	2017-08-29 3040 40	-07 2058 1300	220001.4176	
19 15080 32140 Mydis septentrionalis 20 17144 2322 Data Sensible Record - contact the NCNHP	45 Northern Long-eared Bat 0 Data Senaltise Record - contact the NCNHP	1998	Current F	3-Medum T	pandd	G1 Upland Animal Mamm Plant		our process growing on the read laters	YO	4	0	0					2017-08-29 2019-10 2019-10	-07 2058.09834	205968.136	+
														2008: One adult male, non-reproductive, caught in a mist ret, on 03 June 2008; observers included Rob Currie	Hand Sector (NYDAT), Marcine	contributed by NCDOT staff or NCDOT consultants in 2015; N.C. Department of				
21 19582 26221 Myolis socialis 22 19870 17748 Data Sensitive Record - contact the NCNHP	B induna Bat	2008-06-03 2008-06-03 20	008-06-03 Curnett E	3-Medium E E	5152 51 62	G2 Upland Animal Mamm Animal	NA 10	I: roosts in hollow trees or under loose bark and snags (warmer softs), in caves (winter)	15401 N	N 645	2000	2100 Grassy Branch of Bear Creek	Grassy Branch (of Bear Creek), at FR 62, at a hunter's shelter.	2008: One adult male, non-reproductive, caught in a triat net, on 03 Jane 2000; observers included Reb Currie (USEWS) and reary others. Banded with band number NCDOT 1003 and fitted with bandmitter, then released (Miller 2008, NCWRC 2008).	Mary-Foraer (NCDOT): Marylay Clark (NCMRC): Malinsa Miller NCDOT) birth, and diging herricok	N.C. Department of Independent, 2015. Faild survey forms and valided documents contributed by NCDOT staff or NCDOT consultantia in 2515 N.C. Department of Transportation. Faild survey forms and related document contributed by NCDOT staff or NCDOT co. Mason	2015-04-29 2019-10 2019-10	-07 1881.914022	280925.5586	
44 THEVE 17740 Data Sensitive Record - contact the NCNHP	of Lasta Sensitive Record - contact the NCNHP	2007-06-26	Current CD	p-Medum T		Animal	T		0/Y		0	4					2019-13		162799.7373	
														Schwartzman observed population intact in 6 locations on	INCODEST 45 ACCESS SOUTH TO NOTEST 45 ACCESS SOUTH TO NOTEST 45 ACCESS AND ACCESS ACCESS ACCESS CONSTRUCTION ACCESS AND ACCESS ACCESS CONSTRUCTION ACCESS ACCESS ACCESS ACCESS INCODEST ACCESSATION ACCESS ACCESS ACCESS INCODEST ACCESSATION ACCESS ACCESS ACCESS ACCESS INCODEST ACCESSATION ACCESSATION ACCESSATION ACCESSATION ACCESSATION ACCESSATION ACCESSA					
													ABOUT 0.25 MILE EAST OF FOREST SERVICE ROA #4620 ON NORTHWESTERNMOST REGE OF 504	T300 (Schwetzman 200), SUBPOPULATIONS D OBSERVED ON SERIES OF ROCK OUTCROPS LY SEPARATED BY AT LEAST 400 METERS FROM THE LOWERMOST TO THE UPPERMOST INDIVIDUALS.	MICHAUD, DROSERA ROTUNDICULA (HYSERICUM BUCHEN), CUMARROSENS					
23 20160 10450 Gymoderma lineare	51 Rock Grome Lichen	2008-07-03 2008-07-03 15	997-09-09 Curnett A	>Medun & E	sa sa ca	G3 Upland Plant Lichen	n M	t high elevation rock outcrops, outcrops in humid gorges	17866 N	N 3.95	4370	4450 ScalyMountain	MOUNTAIN, INANTAHALA NF, HIGHLANDS RD, COMPARTMENT 701	LOWERINGST TO THE UPPERMOST INDIVIDUALS. GVEN INACCESSIBLE PORTIONS TOTAL COV	Ed Schwetzman (NHP): Gary CONDCTATA AND SELACINELLA Auditman (USES) TORTIPLA SURROUNDING NOT IN SUITABLE TIMER BASE	GARY KAUFFMAN, SEPTEMBER 1997. (USFS SURVEY, DISKFLE). Schwartzman N.C. Wildle Resources Commission.	2009-04-14 2019-10	-07 1770.730343	172210.4659	
														2012: One main captured in mist nets by O'Keele on 28 M 2012/O'Keele 2012, 2011: Four individuals fore-isvenile	»	2014. Bat data provided by Gabrielle Granter (NCWRC), Raleigh: Data submitted August 1.2144 (Washin 1				
24 29070 32777 Hards	55 Monthans Long	2012.05.05	004.07.22	2.4675		61 June 1		IPC: roots in holiow trees and buildings (warmer months), in see and mines (winter), mainlyin the mountains	guile			Nantahala National Forest: FSR-82-1 at Elbow	Nantahala National Forest, FSR-82-1. FSR-82-1 at Elico Creek and slope to the west (O'Keele 2009, 2012) Elicoretine heavedfinite	2012 (Officiale 2012). 2011 Four Individualis (ore-journie) 2012 (Officiale 2012). 2011 Four Individualis (ore-journie) w main, 1 adult femain, 2 journie females) captured in mist nets by O'Kaells on 10 July 2011 (O'Kaele 2012, NCWRC 2014). 2012 Four Individu	Jay (7) Kanh, Indana Stata University. Mala Jahoka Ematem Directof (7) menan	CARY MULTRIAN, GDTEMBER 1937. USFS SULVYC, IOSFAE), Schweitmen N.C. Wildlin Resources Commission. 2045. Barl dang prodectory Gamma Carater (NUWC), Reliegh Dual Idontinia Aquari (254), O'Neal, J 2005. Northern Togo-enclature (2014) 2005. Northern Togo-enclature (2014) 2007. Northern (2014) 2007. Status (2014) 200	2047 43 45		134000 4-00	
200-70 22772 Myolis septentrionalis	w Normern Long-eared Bat	2012-05-28 2012-05-28 20	008-07-22 Current E	2High T T	au 52 G1G2	var jugland Animal Mamm	••• c	ees a simmes (sener), mainlyin be mountaine	16218JN	. 2.1	-1	-1 (LT66K			INTELECON, LANCES LEDOS CLIMINES	Converte, Joy 2012 and mint net Mason Eco-Tech, Inc. 2001. Tapozo Project Rane, Threadment and Endangered	2/15-12-15 2019-13	-07 2170.494124	134820.4267	
													Upper Santaetlah Lake/Snowbird Creak - mist net areas. Mati-net locations: siong Snowbird Creak, near Wate Buffaio Cemetery, along an unnemed tributery of Long Hungry/Brach, along Barler Branch, near West Buffaio Creak am of Santaetlah Lake, and near Co	ptri2 13 Individuals tobil mist-redied at sixolites over in August 2012 in conjunction with TIP No. R-28228 INCODT 2015, NCWRC 2018), 2007: 1 adult male		Ruo, Thouland, and Endonreget – Rave, Thouland, and Endongened Spacial Investory Indiana Bat survey. The Nature Conservancy, N.C. Department of Transportation. 2015. Field surveyforms				
25 20785 34790 Myotis septentrionalis	204 Northern Long-eared Bat	2012-08-15 2012-08-15 2	000-08-15 Curnent E	2High T T	52 52 G1G2	G1 Upland Animal Mamm	mai ci	IPC: roosts in holiow trees and buildings (warmer months), in axes and mines (winter); mainly in the mountains	18218 N	N 2.96	-1	NCDOT TIP No. R-28228 ; Upper Sartisetah -1 LakeSnowbird Creek - mist net areas			EcsTechinc; Jay O'Neele, Indena Zanie Uniemsty: Stamic Existignin	Ind related documents controlled by NCDOT staff or NCDOT Mason	2015-03-11 2019-13	-07 2009.550575	129007.3442	
													Upper Santeetlah Creekvatershed Mat net sites at several locations in the upper Santeetlah Creek vatershe	2014: 1 adult female captured in a mist net by Libby on 20 d June 2014 along John's Branch (NCWRC 2016), 2012; 2		2014. Bit data protection Contractor 2014. Bit data protection Contractor Grater (NCURC), Raleigh, Data submitted August 1, 2014; N.C. Wildlife Resources Commission, 2015, Documents containing data contributed by NCWRC				
26 20150 32754 Myolis septentrionalis	76 Northern Long-eared Bat	2014-05-20 2014-05-30 30	000-05-23 Current F	2High T T	52 52 G109	G1 Upland Animal Mamm	na Pi	IPC: roosts in holiow trees and buildings (werner months), in ass and mines (winter); mainly in the mountains	10210 N	N 94	-1	-1 Upper Santaetlah Creek valerahed - mint wet we	Including along and near Santeelah Creek, John's Branc Wrigg Branch, Bob Branch, and on Doc Stewart Ridge are source features for details.	2014. 1 adult fermile captured in a mistnet by Libbyon 20 d. Jane 2014 along John's Tearnch (NCLWRC 2016), 2012. Immilies captured in a mitt net by Orlifedio on 31, Jane 201 dang Wilsigg Branch (O'Kaelle 2012, NCLWRC 2014), 201 3 individuals total captured in	2 SaryLibly, JoyO'Keels, Indana State b: University, Ros McClandato, USPS; South Bowerth, NCMRC	Resources Commission. 2015. Documents containing data contributed by NCWRC staff in 2010, O'Keefe, Joy 2012 Mason	2015-12-14 2019-10	-07 35493010947	125310-0525	
Black and an and a second seco					, and parad		10	Conception and Mills				and a second second a second second a second s	Graham #1 - Santastiah: This overseases is located in	2015 active motion deadlace wind rock 2010 resultion room		etaffin 2010; O'Keels, Joy 2012 Mason Allen, D. H. 2007: Bald Eagle Neat Locations for 2007: N.C. Wildle Resources Commission; Allen, D. H.		and a second		
													Graham County, NC and consists of a next in a dead accelet calcor the south shore of Santeetiah Lake, about 0 interaction of the south shore of Santeetiah Lake, about 0	2015 active read in dead scarlet calk. 2012 re-data 2011: reat scales, outcome unincen. 2012 teo young fieldged 12 (Alian 2012). 2012 reat active, no further data 2008 one in joung fieldged. 2008 next active, but no young fieldged 2007 teo young fieldge						
27 2050 25170 Hallaeetus leucocephalus	137 Baid Eagle	2015-02 2015-02 20	007 Current E	3-Medium T BGPA	A SOB,SON SOB,SON GS	GS WetlancAnimal Bird	10 10	IPCT: makes forests near large bodies of water (westing); wrs. lakes, and sounds (foraging) [breeding exidence only]	20537 N	N 2.87	-1	-1 Graham #1 - Sanleetiah	-we east or where West Buffalo Creek armenters the ma part of the late.		Chris Kelly (MRC) - 2020 Dorsen Jallier (USPS), Das Allen (MRC) Nest in pine Itee	Aller, Maller, Marken Control and Aller N.C. Wildlink Resources Controlsion; Aller, D. H. 2008, Bald Engle Neat Locations for 2008. N.C. Wildle Radolfle Miller, Mellena 2010. N.C. NHP Special	2015-01-20 2019-10	-07 1254/814015	124056.7776	
																Animal Survey Forms.; N.C. Department of Transportation. 2015. Field survey forms and related documents costs/th define				
28 2055 2865 Myole sodalis	11 Indiana Bat	2005-06-07 2005-06-07 20	005-06-07 Curnett E	3-Median E E	5152 51 62	G2 Upland Animal Mamm	nai na	I: roosts in hollow trees or under loose bark and snags (warmer anths), in cases (winter)	15401 N	N 2.87	1700	Checah River at SR 1146/SR 1134 ; NCDOT TI 1800 No. 8-3335	P Just southwest of the intersection of SR 1134 and SR 11- just east of the Checaly River.	2005 1 adult maie captured by luace et al. on 07 June 20 66, at site B-3335; banded with band #KY A10048 and release (Miller 2010; NCDOT 2015).	no di Chris Issae, Tranis Love, Pranklin Colyer lardecod tonet naar rher	NCDOT staff or NCDOT consultants in 2015, N.C. Wildlife Resources Commission 2016 Field surv Mason N.C. Wildlife Resources Commission	2017-10-18 2019-10	-07 1254.66531	124005.5408	
																N.C. Wildle Resources Commission 2014. Bat data provided by Cabrielle Grater (NCI/RC), Ralegh, Data submitted August 1, 2014; N.C. Wildle Resources Commission, 2018. Field survey				
								IPC: roots in follow trees and buildings (warmer months). In					Consult Branch/Long Branch - mist net areas. Mist net elses along Con Sik Branch, the unnamed tributary between Cornelik Branch and Long Branch, and Hone Iv	2011: 6 individuals total captured at two different mist net altes by Apogee biologists in July 2011: 1 adult male, 1 paentie male at Cornelik Housing Site 2 on 22 July 2011; rg adult females at Cornelik Housing Site 2 on 21 July 2011;	Devery Apagee Consulting: Joy 2 (Wateh, Indexe State University Mary 1 France, NCDT) Watehans Miller,					
29 21125 32792 Myola septentrionalia	74 Northern Long-eared Bat	2011-07-20 2011-07-20 20	007-06-20 Curnent E	2-High T T	52 52 G1G2	G1 Upland Animal Mamm	nai G	IPC: roosts in hallow trees and buildings (warmer months), in ases and mines (winter); mainlyin the mountains	18218/N	N 2.63	-1	-1 Cornelik@ranchiLong Branch - mist net areas	servech.	adult nertaes at	NCD31	Domain and statutes download by MARCs a Mason N.C. Wildlife Resources Cormission. 2046. Bit data provided by Gamelia Granter (NCINRC), Ratiogh Data Labertinish August 1, 2014; N.C. Wildlife Resources Cormission. 2015. Documents containing data contributed by NCMRC	2017-10-17 2019-10	-07 2858.598722	1140103542	
													North Shoal Creek Mist net sites in the upper North Sho Creek drainage including between Ceder Cliff Lane and North Shoal Creek, accrosingely 51 marketic acceleration	al 2010: 1 adult female captured in mist nets by Caldwell on 2 June 2016 along North Sheal Creak (NCWRC 2010b), of 2014: 4 individuals total captured in mist nets by Libby in	28 Andrew Pyle, NCWRC; Gary Libby: Joy O'Kanle, Indiana State Libberrily	Granter (NCWRC), Raleigh Data submitted August 1, 2014; N.C. Wildlife Resources Commission. 2015, Documente				
20 21521 22780 Myole septentionals	62 Northern Long-eared Bat	2015-05-28 2015-08-28 20	008-07-02 Current E	2-Hgh T T	52 52 G1G2	G1 Upland Animal Mamm	nal ci	IPC: roots in holiow/trees and buildings (warmer months), in axes and mines (winter); mainly in the mountains	18218 N	N 2.17	-1	-1 North Shoal Creek - mist net areas	the SR-1325 (Burnell Mountain Road) intersection (O'Weele 2012) and another 0.45	a) 2711 1 adult termine captured in mist helis by Cadeward on Juane 2016 along North Stand Creek (NOVWPC 2016b) of 2014 4 individuals total captured in mist in heli by Libbyin 2014 along North Stoal Creek 1 adult female and 1 juant female on 07 July 2014;	le Natherine Caldwell, NCWRC; Kendica Week, NCWRC		2017-11-13 2019-13	-07 1342:019641	94741.8002	
														See source features for additional details. 2015. 1 adult	Andrew Pyler, Chernie Southwick, Joy Normer - Andrew Farm University	N.C. Wildle Resources Commission 2008. Annual Program Report 2007-2008. NC WRC Wildle Diwrnity Program. Can be obbined from http://www.ncwildle.org/Conserving.Progr Mill.deford.com				
								roosts in hollow trees or under loose bark and snags (warmer				North Shoal Creek/Shuler Creek - roost and mint	t net Anumber of mist net siles in the vicinity of North Shoal	See source features for additional details. 2015: 1 adult female captured in a mist net by Caldwell et al. at North Strokis CreeFS-480 inits on 17 July 2015 (NCVNRC 2016) 2013: 3 adult females captures by Pylest al. on 13 August 2013 ad North Strokes site	U romm, sosse udle Uniteritigi J. Marvins Glavel, NCMRC; Mandida Week; Minshu Deng; Rod	http://www.ncwiddle.org/Conserving.Progr antwildlisDiversityProgramWDPQuarte				
21 21740 27985 Myolis sodalis	ru indana ilat	2015-07-17 2015-07-17 20	cus-05-28 Curnett E	2-High E E	5152 51 62	G2 Upland Animal Mamm	194 P	xontha), in caves (virilar)	15401 N	N 1.95	1500	zzul/allas	Creek and Shuler Creek			http://www.iceasite.og/contenting-Hogp informativeBitEclinaries/ForgamWCPGate inforgamentalagia Alam, D. H. 2006. BitE Equila Net Location for 2000; N.C. WIG: tableaux, Alam, D. H. 2007. BitE Equila Net Location for 2007; N.C. Widdle Resources Correlation, Y.A.III, D. H. 2008. BitE Stagle Net Location for 2007; N.C. Widdle Resources Correlation, P. Ala 2008. BitE Stagle Net Location for 2007; N.C. Widdle Resources Correlation, P. Ala 2008. BitE Stagle Net Location for 2007; N.C. Widdle Resources Correlation Resources Correlation Resources Correlation Resources Correlation for 2008.	2015-12-15 2019-10	-0/ 3013.234964	84922.57026	+
													Seals #1 - Fontana Lake: This occurrence is located in Seals County, NC and consists of a next on the east side a namow perimula jutting northward into Fontan+1 view	2015. Active next in live pine. Fledged 2 young (Kelly 2015 of 2012 no date. 2011: next active, outcome unknown (Allen 2012). 2010 next active; no further date. 2020; three wave	9- a	Aller, D. H. 2007. Bald Eagle Next Locations for 2007. N.C. Wildlife Resources Commission; Aller, D. H.				
32 22117 22242 Haliasetas leucocaphalas	119 EnidEagle	2015-02 2015-02 20	005 Current E	2-Hgh T BGPA	A SOB,SON SOB,SON GS	GS WetlancAnimal Bird	M P	IPCT: makes forests near large bodies of valar (nesting); wrs, lakes, and sounds (foraging) (breeding exidence only)	20537 N	N 1.90	-1	-1 Swain #1 - Fontana Lake	about 0.57 air role west-northwest of where Glady Branci emples into the Tuckaseg Macon #1 - Nartahala Laka - Caren Serviceeiv Thi-	2015 Active next in live pins. Findged 2 young (Kelly2015 of 2012 no data. 2011: next active, automa wintexer, (Alen 2012). 2010: next active, no three data. 2000: three young findged. 2000: three young findged 2000: two young findged. 2000: next a	Chris Kally (NRC) - 2010, Paul Super (NPS - GSMVP), Daw Alien (NRC) . Next in pine tree.	2008. Baid Eagle Next Locations for 2008. N.C. Wildlife Resources Commission Ratcliffe Allen, D.H. 2012. Baid Eacle Next	2015-01-25 2019-10	-07 1029.02894	83960.71524	
								IPCT: makes forests near large bodies of value (neation)					occurrence is located in Macon County N C and consist habitet on the east side of the tale, about 0.25 miles north northwest of Camp Sequovals. Next thes located new	of 2012 no data. 2011: nest active, outcome unincern (Alien 2012). 2012 no information on nest outcome; adult seen perched nest to nest; seen on June 12, 2010 and July 20, 2010.		N.C. Wildle Resources Commission Reddiffe Aller, D.H. 2012, Baild Eagle Neet Locations for 2005-2012; N.C. Wildle Resources Contesion; Kelly, Chris, 2013, New manifelin ED records, sert to NHP-Va				
33 22407 29171 Haliaeetas kuczoophakas	176 Bald Engle	2011 2011 20	010 Curnett E	2-High T BGPA	A SOB,SON SOB,SON GS	GS WetlancAnimal Bird	1	IPCT: makes forests near large bodies of valier (nesting); wrs, lakes, and sounds (foraging) (breeding exidence only)	20537 N	N 1.90	3200	-1 Macon #1 - Nantahala Lake - Camp Sequojah				Aller D. M. 2007. Reld Fanis Mark	2018-06-10 2019-10	-07 1029-058896	83996.0005	
													Cherolee #1 - Notely River: This occurrence is located Cherolee County, NC and consists of habitat along the sentence show of the Motor of the sentence of the	in 2011-2012: no data. 2010: two young fiedged. (Allen 2012) 2010: met active; no further data. 2009: two young fiedged 2009: these young fiedged. 2009: two young fiedged	5 Crim Kidy (MRC) - 2010 Mark A. Next in a dead with pine true, Progr	Location to 2007. N.C. Wildle Resources Convision; Alex, D. H. 2008. Bald Engle Next Locations for 2008. N.C. Wildle Resources Commission :				
34 22459 24771 Halaeetas leucocaptalas	130 Enid Engle	2010 2010 20	007-04-17 Curnett E	2-Hgh T BGPA	A SOB,SON SOB,SON GS	G5 WetlancAnimal Bird	M ri	IPCT: makes forests near large bodies of vester (nesting); wrs, lakes, and sounds (foraging) [breeding exidence only]	20537 N	N 1.90	155	1600 Cherokes #1 - Notlely River	eastern shore of the NotelyRiver arm of Hisassee Lake, about 0.75 river miles from the main stern of the lake. New tree located near 25:082	2000 three young fieldged 2007 teo young fieldged (Alien 2007). Cantrell observed the next on April 17, 2007, with one adult in atten	1 Chris Kelly (WRC) - 2010, Mark A. Nest in a dead while pine tree, though Cardrell (FWS), Dave Allen (WRC) several line, large trees are nearby		2018-04-10 2019-10	-07 1029.069563	84000.3544	
							Τ						Pigeon River neur Hurricane Ridge. Four mini-net		de Andrew Pyler, Chris Kally, NCINRC;	Alian, D. N. 2008. Bald Eligie Neut Locations for 2000 AC: V. Wildlife N.C. Wildlife Resources Commission 2007 Annual Program Root? 2005–2006– Wildlife Diamsky-Program. N.C. Wildlife Producty Galfrielle Grawler (NCWRC), Rasiley, Drais advertield Aquet 1, 2014, Webster, David. Mason				
								IPC: roots in hollow trees and buildings (warmer months), in see and mines (winter); mainly in the mountains					rocations: 1) Along the northisast side of Pigeon River, ji downstream of Cold Spings Creek (NCWRC 2014) (directions derived from coordinate location), 2) Along	 Destruction of Coll-Spring L Unice 2007. 1 South Two minite-heating by Dissourch and Kelly on 13 June 2007. (NCWRC 2014). 2) Downstream of FSR-2018 bridge: 201 1 adult female mini-related by Pyle on 16 July 2011. (NCWRC 2014). 2017. 3 Individuals minite-net 	Juannina uranan, Nu-WRC; Bary Hi: Libby Jaff Schwingham, NL/WRC; Bash McCard, Bash	roseources Commission. 2014. Bat data proxided by Gabrielle Graeter (NCINRC), Raieigh: Data submitted August 1, 2014;				
35 22080 32164 Myotis septentrionalis	46 Northern Long-eared Bat	2011-07-16 2011-07-16 15	994-Post Curnent E	2-High T T	52 52 G1G2	G1 Upland Animal Mamm	nal ci	ass and mines (winter); mainly in the mountains	18218 N	N 1.93	-1	-1 Hurricane Ridge: Rigeon River				Webster, David. Mason N.C. Department of Transportation. 2015.	2014-11-18 2013-10	-07 2058-295512	84013.12142	+
													Stecosh Creek Stecosh Creek Mist nel locations along Stecosh Creek SR-1226 (Locast Cree Drawlin ST	2017: 1 adult female mist captured by Caldwell on 21 June 2017 at Site N (NCWRC 2017), 2544-1 while female	Gregory NEDOT: Orive Undersond, NEDOT: Dia Originy Datie Brown, NEURIC: Catherine Grawin, NEVRIC: GrayLible, Control, Hander	N.C. Department of Transportation. 2015. Field survey forms and related documents contributed by NCDOT shall or NCDOT consultants in 2015. N.C. Wildle				
36. 2020 34(2) ¹⁴	195 Northern Lover	2012-05 24		2.4675	60 m	61 June 1		IPC: roots in holiow trees and buildings (warmer months), in see and mines (winter); mainly in the mountains				d Strongh Capity minimum	2611FSR-404 from approximately 0.25 to 0.75 roadmile south of the SR-1227 (CodyBranch Road) intersection tox DDT 2015, Michaele 1	2017. 1 adult flemale mist captured by Caldwell on 21 June 2017 at Sian V (NZ-VRC2 2017). 2014. 1 adult famile misi mister by Lithys on 13 July 2014 at Sian V (NZ-VRC2 2016). 2013. 2 bats (1 adult male, 1 Juantie male) captured by Py and 4 others on 22 July See source families for details. 2012. One adult female	Parvinger, NCDOT, Katherine de Caldead, NCUROZ, May Franze, NCHOTT, Malano Mile, NCHOT, Nad	contributed by NCDOT staff or NCDOT consultants in 2015; N.C. Wildlife Resources Commission, 2014, Bat data provided by Gatrielle Graeter (NCWRC), Rateigh, Data submitted Mason	2018-08-15 2019-10			
Access Active Myota separationalia		2017-06-21 2017-06-21 20		Arrage 1 T	52 52 0102		0			1.61	-1	a parantary to refit - third net areas	All deal from these Tory Tory Street in the based on c	See source features for details, 2012. One adult female tracked to a root tree along Staccah CreekbyO'Keels or the stack of the second track of the second stack of the second state of th	2		ATR-08-15 (2019-13	201/079858	1432/1152	
37 22273 32452 Myolis socialis	14 induna lint	2012-07-20 2012-07-20 20	015-05-05 Curnett E	2High E E	\$152 \$1 G2	G2 Upland Animal Mamm	nai na	I roosts in hollow trees or under loose bark and snags (warmer control), in cases (winter)	15401 N	N 5.45	-1	-1 Wildcat Gap Area	versions Gap Area. Roost trees and mist-net captures alo Stecosh Creek and Little Laurel Branch, east of Wildow Gap and SR-1236 (Lower Stecosh Road).	See exacts features for details. 2012: One addit ferrale tractied to a root tracking Staccard Creakby O'Nelle or 20 July 2012 (O'Nelle 2013). 2011: The ferrales total captured by miximation of 0.5 June and 0.5 July 2011 and one featured by miximations to miximations. 2012 (States State) black this for facines. 2012 (States States States State)	Jay O'Naele, Indawa State University	o weeks, Joy 2012 and mist netling and roosting surveyresults 2004-2012 Indiana State University Mason	2013-08-23 2019-10	-07 1543.721634	63009-04105	
													Shooting Creek-Area: Wayah Rain Springs-2 and -4, Wayah Tuni Creek-1. Three mist net capture siles: Wayah	Wayah Rain Springs-2 (Rainbow Springs-Roaring Fork). Two adult makes captured in a mist net by O'Keele on 26 June 2004 (O'Keele 2012, NCWRC 2014). Wayah Rain		CYlaels, Joy. 2012. Bat mint neting and rooming surveyresults 2004-2012; Indama Safau University. Maanon N.C. Wildlifs Resources Commission. 2014. Bat data proside hyd Safariale Granter (NCINRC), Rollegh, Duals Lambratish Aguat, 1 2014; O'Neals, J.				
38 22289 22923 Myola septentrionalia	102 Northern Long-eared Bat	2004-08-09 2004-08-70 7	006-05-25 Current F	2High T T	52 52 G109	G1 Upland Animal Mamm	na Pa	IPC: roosts in holiow trees and buildings (werner months), in ass and mines (winter); mainly in the mountains	10210 N	N 545	-1	Shooling Creek Area: Wayah Rain Springs-2 are -1 4, Wayah Tuzi Creek-1	Rain Springs-2 (Rainbox Springs/Roaring Fork). Along d- Roaring Creek, about 250 feet from Rainbox Springs Ro (O'Keels 2012) [Directions based on coo	June 2004 (O'Keele 2012, NCWRC 2014), Wajah Rain ad Spring = 4 (Rainbow Spring Li Huckeberry Krist). Two ad maies captured in a mist net by O'Keele	ut by CYGefs, Indiana Stata Unix	submitted August 1, 2014; O'Meele, J. 2013: Conservation of Habitat for Virginia Big-eared Bats in Western North Carolina; Mason	2014-10-31 2019-10	-07 1543,721614	63009-04105	
	, the second second with the second		and the second s			- parts vertile Marrie	6	Contract (and a contract of the contract of t		1.45	-1	r a respect and balance i	Laurel Branch/Stecosh Creek, 1) Stecosh Creek Matrix	Electah Chek 2011 One adult male capazed in a mist n by O'Keels on 00 Jawa 2011 (O'Keel- 2015, 2007)		Dets. Constructed on Values for Velghan Dets. Constructed on Velghan N. C. Welden Resources Commission 2044. Back days producted by Gabriele Grawfer (NCWRC), Reliegh Colas Inschritter August (2044; CV) And 2045. Back and product by Gabriele Question (2044; CV) And Department of Transportation. 2016. No. Department of Transportation. 2016.	arrenarat (2019-10	1040/23034		
10 2100 1270 Martin material	77 Northern Long	2015-05-04		2.4675	60 m	61 June 1		IPC: roosts in holice-trees and buildings (warmer months), in sees and mines (winter), mainlyin the mountains	grade.			d I and Brand Provide Con-	In Particular in annual Urans, 6881 of 349-1226 (Lower Stectah Road) (O'Keels 2012) Directions based on coordinate location?, 2) Laurel Branch: Matinet site of DSD, 2017 water 64, month.	d Saccah-Creak 2011: One adult male captured in a mint n by O'Keele on 66 June 2011 (O'Keele 2012). 2001: 2 bats adult fermie, 1 adult mail: captured by Socsach and 4 (dems on 03 June 2008) (NOMR) 2014). Laurel Branch: 2008: 3 bats (1 adult fermie).	Christ McGrash, NCINRC, Jay CYKesh, Indiana Stashu Urivernity Scott Downerthe MYMCO	submitted August 1, 2014; O'Keels, Joy. 2012. Bat mist netling and rooming survey parallel 2014; 2012.	2014-11-07 2019-10			
		2011-08-08 20	area putrient E	1 [52 52 G1G2		la	and a contract process, concerptor the mountaine	ment N	545	-1	, John M M HILLING MICHAEL				N.C. Department of Transportation. 2018. Geospatial files and related occurrents, includes files department occurrents.	avre-11-07 (2019-10		1007 2008	
												Character With an annual State	 Senath How Hoodpart: Base sites 1-6. Population occurs in three areas between river miles 5 and 7 on the Checkin River in the NCDOT right-of-wayof US-129. 	Serve 180-2004 Compt observed by Sheats and Blacket Boaze (2000) sites 5-4 and 6 on 13-June 2018 (see source features for details) no plants roled at site 5 (Black 2018 Composition)	SEEPS ON THE OPPOSITE SIDE BE CLEARED OF VEGETATION F	Geospatial files and related documents, including field observations, substitutionally Orice Black, North State Engineering, for R INCOOT's Project ATLAS Candidation R INCOOT's Project ATLAS Candidation				
40 22596 54334 Spiraes virginiana	25 Vrginia Spiraea	2018-06-13 2018-06-13 20	000-05-15 Curnett BC	2Hgh T T	52 52 62	G2 Wetland Plant Valicul	dar Plart M	l: riverbanks	17050 N	Y 5.11	1500	Checkh River Floodplain: Boare sites 1-6(river 1700 miles 5-7) (Sub EO of EO 057)	Boare (2000) Sites 1-3 are approximately 0.35 mile southleast of Gold Mine Branch confluence;	F18DOTOSNCUS). 2007: Presence only - Kauffman relocated Spiraea virginiana in Bo	Christoniae birclaade North Sale CA The ROME AND REVEALED A LO II no with a beaclaad of Regimined The With and the ROME RAY TO Engineering: Gary Keufman, USFS FREQUENT ASSOCIATE. Heritage Area (Vaquez 2025). STUDY (KAUFFMAN 2005).	Judea, Rhue micha Judea, Rhue micha Macon	2018-12-12 2019-10	-07 2428 066257	48300-20001	
														2018: 27 Indeiduals (7 adult males, 2 adult formales, 12 Juantile males, 6 Juantile formales) captured in milet water fo	One Muchain MacTens Kelly (MIC); Date Borow, Karlannic Labert, Kellow Lawy France (Kellow Labert) (Kellow Lawy France (Kellow Labert) (Kellow Labert) (Kel	Animal Guran, Carlin, 2000, NC, Ner Ary Sphan Animal Gurany Form, N.C. Wildlife Program Report, 2002, 2008 - Wildlife Downtily Program, N.C. Wildlife Resources Cormission, 2014, Bist data				
41 23040 21700 Myola grisssoans	2 Graytini	2018-07-16 2018-07-14 9	005-07-12 Current F	1-VeyHigh E E	S1 S1 G4	G4 Upland Animal Marrow	101 N	t roosts in caver; forages mainlycaer open water	20829 N	N 0 ^{QM}	1800	2300 Rgeon Ford Rare Species Habitat - mist net are	Pigeon River, along FR 208 (Twelve Mile Road), just an of I–40 Exit 7.	Caldwell on 16 July 2018 at Pigeon River/Twelve Mile site ath (NCWRC 2018), 2017: 3 individuals (2 adult males, 1 juantile male) captured in	NCHRC; MaryFrazar (NCDOT); Malian Miller (NCDOT); Mile Laoie Over a small nier/creakin a partly (ZDCI); Soci Boards (servind area, but airing a road.	Diversity Program, N.C. Wildlife Resources Commission. 2014. Bat data provided by Gabrielle Graeter (NCWRC). Mason	2018-08-07 2019-10	-07 1029.147754	42006-50071	
		2 ()												Sin E. 1 adult non-convolutive female carb and by		Previded by Gabrielle Granter (NCWRC). Maxon N.C. Department of Transportation. 2015. Field survey forms and related documents contributed by NCDOT traffic or NCDOT				
													Big Snowbird Creek Mist ret sites along Big Snowbird Creek from Little Snowbird Creek confluence to Polecat Dreek Michael	Site 5:1 shall non-repolucitie female captured by EcoTexhinal and explansion 00 August 2002 (NCDOT 2015, NCMR 2014), Site 1:1 shall male captured by als EcoTexhinal and 4 others on 00 August 2002 (NCDOT 2015, NCMRC 2014).		contributed by NCDOT staff or NCDOT consultants in 2015; N.C. Wildlife Resources Commission. 2014 Bit data provided by Gabrielle Granter (NCWRC),				
42 22037 34187 Myolis septentrionalis	128 Northern Long-eared Bat	2002-08-08 2002-08-08 20	002-08-05 Curnett E	2-High T T	52 52 G1G2	G1 Upland Animal Mamm	nal ci	IPC: roats in holice trees and buildings (earner months), in ass and mines (einter); mainlyin the mountains	18218 N	N 0.96	-1	-1 Big Snowbird Creek			Kofechine	N C Department of Transportation, 2015	2014-11-05 2013-10	-07 1029.147756	42005.50071	
													Bear Creek Mist net locations the clearing along Jane Branch just upstream from the Sugar Cove Branch	2011: 11 bats (4 adult males and 7 adult females) captures in a mist net by O'Keefe on 23 May 2011 (O'Keefe 2012).	d	Field survey forms and related documents contributed by NCDOT staff or NCDOT commutants in 2915; N.C. Wildle Resources Commission, 2014; Bat data				
43 24077 32788 Myola septentrionalia	70 Northern Long-eared Eat	2011-05-23 2011-05-23 20	008-06-03 Curnent E	2High T T	52 52 G1G2	G1 Upland Animal Mamm	mai co	IPC: roots in holiow/new and buildings (warmer months), in aws and mines (winter); mainlyin the mountains	18218/N	N 0.96		-1 Bear Creek	confluence (O'Keele 2012) [directions derived from coordinate location] and along FSR-62 at Sugar Cove Branch-crossing (NCWRC 2014) [directions derived	2011 11 batis (4 adult males and 7 adult fermine) captures in a mist net by O'Keels on 23 May2011 (O'Keels 2012). 2016 5 bats (3 program dault fermine, 2 adult males) captured by ACDOT biologistic and 3 athens on 63 June 2006 (NCDOT 2015, NCWRC 2014).	Nanhar Romingar, NCDOT, Joy O'Yani, Joshan Satai, Usiannik, Mary Fazar, NCDOT, Mail Neavy, NCDOT	Resources Contribution. 2014. Bat data provided by Gabrielle Graeter (NCWRC), Raikigh: Data subnitted Mason	2015-04-29 2019-13	-07 1029.0716	42000.33596	
													Chestro & Knob: Wasab Wine Strings, 1 and Wasab Wine	Wheely Wine Strainers 1 (Wildlife Organize): One activit		preserves Contraston. 2014 use data producibly Catheline Craster (NUCKC), Ralagin Data submitted No. 1. Weld Resources Contraston. 2014. But data prosted by Catheline Cathel (NUCKC), Resigh, Data submitted Aquat 1, 2014; O'Neelh, Joy 2012. Bat rist netting and roading survey				
44 2006 32522 Martin surface in and	101 Northern Lang-wwwi line	2004-06-10 2004-06-10 20	00+05-05	2Hab T	g 6	G1 Universities of the		IPC: roosts in holice-trees and buildings (warmer months), in sees and mines (winter), mainlyin the mountains	goun	N		Cheathat Kndz: Wayah Wine Springs-1 and Way -1 Wire Springs-3	the west slope of Chestrast Arob, on FSR-7200 1.6 road ah relies from FSR-7200 intersection (O'Keele 2012) IDirections based on rowschesis (on Semile captured in a mist net by O'Keelle on 10 June 2004 (O'Keelle 2012, NCWRC 2014). Waysh Wine Springs-3: One adult male captured in a mist net by O'Keelle on 05 June 2004 (O'Keelle 2012, NCWRC 2014).		Graen (WCNHC), Iosaegn Data submitted August 1, 2014; O'Mella, Joy 2012: Bar mist netling androsoting survey yresults 2004-2012: Indiana State University Mason	2016-12-7	-07 1029.147756	42006.58071	
44 24096 32922 Myolis septentrionalis	and a second	(2001-00-10)Z	and a second sec	wante it it	,-st jan 54192	ото роднико (Алатан) Манти	(c)	and a second process to example the mountains	mere (N		-1	· / we as a fear of a constraint of	and the second s	para a store (or reasonante de NOVIRCO 2014).		Contractory and many additionary (Match	(aver: 12-31 (2019-10			

		-					_			0.1-1	-										- ANJ
	A B C D		F	G)		1 ×	L	MN	O P	Q R S	т	U	V W	X	Y Z	AA AD	AC Fires CreekLeatherwood Branch - mist reit areas. Mist ne	AD 2010: 3 bats (2 adult males, 1 juxenil female) captured by	NE.	NF KG	AH N.C. Wildlife Resources Commission. 2644, Bit data productly Gabrielle Granter (NCWRC), Rolegin Data
	45. SUTET STREEMedia service-in-	50 Northern I onn-arrest Ent	2010-07 **	2040.07.**		E					Mammal	C: roosts in holiow trees and buildings (werner months), in	10240			d Diras Crashi ashay methoda a ta'	sites near Leafherwood Fails and at trail crossing of Leafherwood Branch. Also, "Clay County" – noiscation given (Websiter 2004) [This data also copied to EDs 085, 097, and 008 horsave the characteristics."	McClanahan et al. on 11 July 2010 at the trail crossing (NCWRC 2016) 2000: 3 beix (1 adult female, 1 adult null 1 juanile female) captured in a mist net by O'Keele and NCDOT Networks on 11 J	Joy O'Keele, Indana State University, Mary Franer, NCDOT; Melissa Miller NCDOT; Rod McClanahar; Virgil Brack	r,	submitted August (. 2014; N.C. Wedfle Resources Commission, 2015; Feld survey forms and valided documents or
Image:	45 24797 32797 Myota septentrionalia	60 Northern Long-eared Bat	2010-07-11	2010-07-11 2004-F	he Current	E 2-Hgt	5 T	T 92	52 (3162 (1 Upland Animal M	Mammal caw	es and mines (winter); mainlyin the mountains	16218 N N		0.6 -1	-1 Fires CreekLeathenwood Branch - mist net areas		2012 d and different a contract in California on Ob Laws 2017			
Image:											мР	C: roots in holiowiness and buildings (warmer months), in					Nantshala River Bile Path. Mist net locations on and near bile path along Nantshala River and at Winding Stairs Road bridge, northeast of Beecherbare (NCWRC 2014)	(NCWRC 2017). 2014: 1 adult male mist netled byLibby or 00 July 2014 (NCWRC 2016). 2011: 1 adult male captured byLibbyon 27 July 2011 (NCWRC 2014). 2010: 7 bats	BHE; Chris McGrath, NCWRC; Doll		consultants in 2015; N.C. Wilddle Resources Commission. 2014 (Bid data productory Gathridle Carater (NCWRC),
		25 Northern Long-eared Bat	2017-06-08	2017-05-08 2002-0	7-29 Current	E 2Hgt	5 T	T 52	52 G1G2 (11 Upland Animal M			10210 N N		0.56 -1	-1 Nartshela River Bike Path					Rakigh Data aubritist N.C. Wildfe Resources Commission 2014. Bat data provided by Gabriellis Construction (2018) CO. Register Data
A A	47 25100 34300 Myolis septentrionalis 1	80 Northern Long-eared Bat	2011-08-02	2011-08-02 2011-0	6-02 Current	E 2Hgt	т	T 52	52 G1G2 0	21 Upland Animal M	Mammai caw	es and mines (winter); mainly in the mountains	18218 N N	_	0.48 -1	-1 Simmons RidgeDison Springs	Jocatori,	and 9 others on 02 August 2011 (NCWRC 2014).			Oramin (NCHYCL) Orange Oran Individual Aquat (2014) N.C. Wildlik Resources Commission. 2046. But data produktly Gabrielle
A A																	Little Buck Creek. On south side of Deep Gap Road, approximately 1 road mile south of US-64E (O'Keele 2012) [Directions based on coordinate location]. Also, "Clay	2008: 1 adult mais captured in a mist net by O'Heele on 03 Jane 2009 (O'Heele 2012). 2008: 5 bats (2 adult females, 2 adult males, 1 juanile) captured by O'Heele and Brown on			Grawter (NCWRC), Reliefsh. Data sub-triting Acquist, 12044, O'Noeth, Joy 2012. Bat relat netting and recording survey
A A	48 25115 32785 Myola septentrionalia	67 Northern Long-eared Bat	2009-06-03	2009-05-03 2004-F	ne Current	E 2-Hgt	т	т 52	52 G1G2 (1 Upland Animal M	MP Mammai cau	C: roats in holiow trees and buildings (warrer months), in as and mines (winter); mainlyin the mountains	18218 N N	_	0.48 -1	-1 Little Buck Creek	County" - nolocation given (Webster 2004) [This data als copied to EDs 000, 068, and 089 Plegah National Forest Sugar Cose Road. Mist-net locations DSD-1189 (Sunar Cose Road) list helma the	20 July 2008 (NCWRC 2014). 2004 pre: Species reported from this country by king	Dotie Browr, Joy O'Keele, Indiana State University, Vrgil Brack		Venuts 2004-2012 Indiana State University (Website: Ruisd 2004) N.C. Wildlife Resources Commission. 2016 Bencarces Commission.
I A A A A	45 25153 34330 Myola septentrionalia 1	77 Northern Long-eared Bat	2011-08-01	2011-08-01 2011-0	0-01 Current	E 2-Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammai Caw	C roots in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 Regah National Forest Sugar Cove Road	gate (NCWRC 2014) [directions derived from coordinate locations].	2 bals (1 adult female, 1 adult male) mist-redied by Carter and 9 others on 01 August 2011 (NCWRC 2014).	Tim Carter		Granter (NCHRC), Raleigh Data submitted Aquat 1, 2014. N.C. Wildlik Resources Commission.
N N																					2014. Bit data provided by Gabrielle Granter (NCUNRC), Resign Data submitted August 1, 2014; O'Xeele, Joy
N N	50 25190 32700 Myolis septentrionalis	53 Northern Long-eared Bat	2009-06-03	2009-05-03 2009-0	6-03 Current	E 2Hgt	т	т 52	52 G1G2 C	1 Upland Animal M	Mammal caw	C: roats in failow trees and buildings (warren montes), in es and mines (winter); mainlyin the mountains	18218 N N		0.48 -1	-1 Allen Gap	location] Northeast of Table Rock Mountain, Mist-rel location northeast of Table Rock Mountain surmit, on the hill set t	2012).	Joy O'Keele, Indiana State University		N.C. Widde Resources Commission
N N	51 25500 34286 Myola septentrionalia 1	72 Northern Long-eared Bat	2015-08-03	2011-08-03 2011-0	6-03 Current	E 2-Hgt	т	T 52	52 G1G2 G	1 Upland Animal M	MP Mammai caw	C: roots in holiowhees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 Northeast of Table Rock Mountain - mist ret area	the east of the intersection of FSR-Hild and FSR-210 and south of the Mountains to See Trail (NCWRC 2014) a [directions derived from coordinate	2 Juanile mains mist-netted by Ameion and B others on 03 August 2011 (NCWRC 2014).	Sybil Ameion		2014. Bat data provided by Gabrielle Granier (NCHRC), Raleigh, Data submitted August 1, 2014. I
N N <th< td=""><td>SU 2008 3412 Usa Sensitie Hectro- caread the NCRHP</td><td>U Lites Sensitive Hectro - Contect the NCHIPP</td><td></td><td>2014-02-01</td><td>Current</td><td>C pregn</td><td></td><td></td><td></td><td>Anna</td><td></td><td></td><td>01</td><td></td><td>-</td><td></td><td>RockCreek Mist-ret location slong RockCreek, at Intersection of SR-1159(RockCreek Rd) and FSR-5521</td><td>2011 1 adult male mist-neted by Monix and 7 others on 0 August 2011 (NCWRC 2014), 1994 one: Seeimen broud</td><td></td><td></td><td>N.C. Wildlife Resources Commission. 2014. Bit data provided by Gabrielle Grader (NCWRC). Reliciol. Data</td></th<>	SU 2008 3412 Usa Sensitie Hectro- caread the NCRHP	U Lites Sensitive Hectro - Contect the NCHIPP		2014-02-01	Current	C pregn				Anna			01		-		RockCreek Mist-ret location slong RockCreek, at Intersection of SR-1159(RockCreek Rd) and FSR-5521	2011 1 adult male mist-neted by Monix and 7 others on 0 August 2011 (NCWRC 2014), 1994 one: Seeimen broud			N.C. Wildlife Resources Commission. 2014. Bit data provided by Gabrielle Grader (NCWRC). Reliciol. Data
N N <th< td=""><td>53 25651 32127 Myolis septentrionalis</td><td>34 Northern Long-eared Bat</td><td>2011-08-03</td><td>2011-08-03 1994-F</td><td>oat Current</td><td>E 2Hgt</td><td>т</td><td>т 52</td><td>52 G1G2 0</td><td>1 Upland Animal M</td><td>Mammai Caw</td><td>C: roots in holiowiness and buildings (warmer months), in as and mines (winter); mainly in the mountains</td><td>18218 N N</td><td></td><td>0.48 -1</td><td>-1 Rock Creek</td><td>(NCWRC 2014) [directions derived from coordinate location]. Also included in this ED is the following: "Yance County" — no location given (Webster 2</td><td>In by unleasen person to a lab in the county and tested for rables. Specimen now deposited at UNC-W (Webster 2004).</td><td>Trina Morris; Ede Dave Webster</td><td></td><td>vubreitind August 1, 2014; Webster, David. 2004. "Some new bat records", e-mail to NC NHP, dade 20 Nov 2004. I</td></th<>	53 25651 32127 Myolis septentrionalis	34 Northern Long-eared Bat	2011-08-03	2011-08-03 1994-F	oat Current	E 2Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammai Caw	C: roots in holiowiness and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 Rock Creek	(NCWRC 2014) [directions derived from coordinate location]. Also included in this ED is the following: "Yance County" — no location given (Webster 2	In by unleasen person to a lab in the county and tested for rables. Specimen now deposited at UNC-W (Webster 2004).	Trina Morris; Ede Dave Webster		vubreitind August 1, 2014; Webster, David. 2004. "Some new bat records", e-mail to NC NHP, dade 20 Nov 2004. I
N N <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>N.C. Department of Insergerised Joint Field survey forms and related documents (ontribused by NCDDT staff or NCDDT consultants in 2015). NCC Wild file</td></th<>																					N.C. Department of Insergerised Joint Field survey forms and related documents (ontribused by NCDDT staff or NCDDT consultants in 2015). NCC Wild file
N N	54 25730 35257 Myolis grissscans	5 Grap Bat	2018-06-28	2018-05-28 2014-0	6-30 Current	E 2Hgt		E 51	51 G4 G	54 Upland Animal M	Mammai M.:	roosts in caves; forages mainly-ser open water	20829 N N		0.48 -1	Davidson River: Pingah Education Center - mist -1 site	net Davidson River: Pisgah Education Center. Mist net site near Pisgah Education Center.	2018: 2 adult males captued by Caldwell on 28 June 2018 (NCWRC 2018): 2014: 1 adult male captured on 30 June 2014 (NCWRC 2016). NCDOT 2015).	GaryLibby, Katherine Caldwell, NCWRC		Resources Commission. 2016. Documents containing data contributed by NCWRC Istaffin 2016; N.C. WBC
																	the Original Design and the difference of the				N.C. Wildlife Resources: Commission. 2014. But data provided by Gabrielle Granter (NCWRC), Rateigh. Data and the forest of 2004 Children but
	55 25014 32778 Myolis septentrionalis	60 Northern Long-eared Bat	2009-06-03	2009-05-03 2009-0	6-03 Current	E 2-Hgt	т	т 52	52 G1G2 (1 Upland Animal M	MP Mammai cau	C: roots in holiowiness and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218/N N		0.48 -1	-1 Little Dwl Creek	Warch Hoad) approximately 1.4 mean from set-1.01 (Hanging Dog Road) (D'Heele 2012). [Directions based on coordinate location]	2009: One female captured in a mist net by O'Keele on 03 June 2009 (O'Keele 2012).	Joy O'Keele, Indiana State University		2012 Barrist netting and recently a ways 2012 Barrist netting and recosting survey years 2004-2012 Indiana State University I N.C. Wildle Researce Commission
																	Nantahala National Forest, Rattler Ford Campground. Northeast of Santeetlah Gap, between SR-1127 (Rattler	2011 1 adult male captured by Pyle on 27 July 2011 (NCWRC 2014). 2010: 2 adult males: captured by Brown and Weeks on 17 June 2010 (NCWRC 2014). 2008: 2 adul	Dottie Brown, NCWRC; Jef Schwierjohann, NCWRC; Joy O'Keele		2014. Bit data provided by-Gabrielle Grawter (NCURRC), Roleigh. Data subritted August 1, 2014, N.C. Wildfle
	56 25040 34211 Myola septentrionalia 1	40 Northern Long-eared Bat	2011-07-27	2011-07-27 2006-0	7-25 Current	E 2Hgt	т	т 52	52 G1G2 C	11 Upland Animal M	Mammai caw	C: roosts in holiowtrees and buildings (warmer months), in es and mines (winter); mainly in the mountains	18218/N N	_	0.48 -1	Natohala National Forest: Ratter Ford -1 Campground	Ford Rd) and Santeetish Creek, at campground (NCWRC 2014) [directions derived from coordinate location]	Remains captured by/Ruppell and 2 others on 02 June 2008 (NCWRC 2014), 2007: 2 bats (1 adult fem	Indiana State Univ; Kendrick Weeks, NCWRC; Matina Ruppell, UNCG		Resources Contributed by NCWRC II Containing data contributed by NCWRC II N.C. Wildlike Resources Commission. 2016 Birt des manafectures Catholises
																	Fina's Creek At the first downsheam unnamed tributary or the north side of Coldspring Branch below the Short Branc confluence (O'Keele 2012) [Directions based on coordinat	2009: One adult male captured in a mist net by O'Keefe on 03 June 2009 (O'Keefe 2012). 2008: 6 bats (1 adult female 1 adult male, 1 juentile female, 3 juentile males) captured			Granter (NCHRC), Ruleigh, Data submitted August 1, 2044, O'Neels, Joy 2012, Bart nist netling and and costing survey
	57 22826 32754 Myola septentrionalia	66 Northern Long-eared Bat	2009-06-03	2009-05-03 2004-F	tre Current	E 2Hgt	т	т 52	52 G1G2 0	21 Upland Animal M	MP Mammai caw	C: roots in holiowfrees and buildings (warmer months), in as and mines (winter); mainly/in the mountains	18218 N N		0.48 -1	-1 Firels Creek- capture location	location], Also, "Clay-County" no location given (Webster 2006) [This data WhiteoskGottome: Upper Nantanhai River; mist net locatio heidenscharte diverse Carolin divers (FPD, 604	r by O'Keele and Hurler on 52 August 2008 (NCWRC 2014 2004-pre: Species repor n	Joy-O'Keele, Indiana State University, Vingil Brack		Venuts 2004-2012. Indiana State University; Webster, David 2004 N.C. Wildlife Resources Convession. 2014. End-date meniated the Chabrielle.
	58 25910 34138 Myola septentrionalia 1	21 Northern Long-eared Bat	2001-06-30	2001-06-30 2001-0	6-30 Current	E 2-Hgt	т	т 52	sz G1G2 (1 Upland Animal M	MP Mammal caw	C: roots in holice trees and buildings (earner months), in as and mines (einter); mainly in the mountains	18218 N		0.48 -1	-1 Whitecak Ectores	(NCVIRC 2014) [directions derived from coordinate location]	1 indvidual captured byMcClanahan on 30 June 2001 (NCWRC 2014).	Rod McClanahan, USPS		Crime to the Double system of the Crime of t
N N																	Nantahala Lale: This occurrence is located in Macon County, NC and consists of a next in a large poplar tree				proposed site is already being heavily U.S. Forest Service. 2014. Rare species used unofficially, and even with the use, reports or other communications
	50 25945 33025 Haliaestas Inuccoophalas 3	11 Inid Engle	2013-09-26	2013-early 2013-e	arly Current	E 2-Hgt	т	8GPA 538,53	n saalsan ga in	25 Wetlanc Animal @	Bird rive	C 1: make torest ner arge coses of water (setting) rs, isles, and sounds (toraging) (breeding exidence only	20537 N N	_	0.48 3020	3130 Naribhala Lake	Lale south of dam.	joLe/Andra J. Smith 2013).	Le/Andra.J. Smith, USFS		Pen hair selle aucoseste (LA Addra.). Servito 2013) Servito personal in 2014. V N.C. Wildlife Resources Commission. 2016 Better mysiothylication Commission.
	60 2002 34380 Myola septentrionalia 1	87 Northern Long-eared Bat	2011-08-02	2011-08-02 2011-0	6-02 Current	E 2-Hgt	т	т 52	52 G1G2 C	1 Upland Animal M	Mammai Caw	C roots in holice trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 North Harper Creek		2 individuals (1 adult female, 1 adult male) mist-nettedb y Libby and 6 others on 02 August 2011 (NCWRC 2014).	GaryLibby, Eco Tech Inc.		Granter (NCHRC), Raleigh Data submitted Aquat 1, 2014. N.C. Wildfe Resources Commission.
	61 22023 34208 Myola septentrionalia 1 20 2029 Mitch Data Empirica Research - McCaliford	40 Northern Long-eared Bat	2008-06-03	2008-06-03 2008-0	6-03 Current	E 2Hgt	т	T 52	52 G1G2 G	1 Upland Animal M	MP Mammal caw	C: roots in holice trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218/N		0.40 -1	-1 Barler Creek	Barker Creek Mist net location near FSR-62 (Slick Rock Road) crossing of Barker Creek (NCWRC 2014) (directions based on coordinate location).	State (3 adult females, 2 adult males) captured by Clark, Curris, and Heas on 03 June 2008 (NCWRC 2014).	Ben Hess, NCSM; Bob Currie, USFWS; Mary Key Clark		2014. Bat data provided by Gabrielle Granter (NCUNPC), Resign, Data submitted August 1, 2014.
M M <td></td> <td>Contraction Process - Canada and Processor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>MP</td> <td>C: roots in holiowtrees and buildings (warmer months), in</td> <td></td> <td></td> <td></td> <td></td> <td>Santwellah Lake weetern side. Mist net location along FSI 407, which runs along Charlius Branch (NCWRC 2014)</td> <td>1 adult male captured by@ceworth on 22 June 2007</td> <td></td> <td></td> <td>N.C. Wildlife Resources Commission. 2014. Bat data provided by Gabrielle Granter (NCWRC), Resign Data</td>		Contraction Process - Canada and Processor									MP	C: roots in holiowtrees and buildings (warmer months), in					Santwellah Lake weetern side. Mist net location along FSI 407, which runs along Charlius Branch (NCWRC 2014)	1 adult male captured by@ceworth on 22 June 2007			N.C. Wildlife Resources Commission. 2014. Bat data provided by Gabrielle Granter (NCWRC), Resign Data
A A A A A	63 25980 34215 Myolis septentrionalis 1	45 Northern Long-eared Bat	2007-06-22	2007-06-22 2007-0	6-22 Current	E 2Hgt	h T	T 52	52 G1G2 C	21 Upland Animal M	Mammai caw	es and mines (winter); mainlyin the mountains	18218 N N		0.48 -1	-1 Santeetlah Lake: western side	[directions derived from coordinate location]. North Fork French Broad River-Indian Creek Vicinity: This occurrence is located in Transylveria County, NC and	(NCWRC 2014)	Scot Borworth, NCWRC		submitted August 1, 2014
A A A A A	64 26017 39072 Halaeetas isucoophalas 3	70 Beid Eagle	2019-01	2019-01 2019-0	f Current	E 2-Hgt	т	BGPA 538,53	n saalsan ga g	i5 WetlancAnimal @	Bird rive	CT: makes forests near large bodies of water (nesting); rs, takes, and sounds (foreging) (breading exidence only)	20537 N N		0.48 -1	North Fork French Broad River-Indian Creek -1 Vicinity	Consists of an active held in the access access the North Ho French Broad River on Pisgah National Forest, approximately 1 km northwest of the Piscole National Forest Baseer Dam Creek, Mist-net	2018: Christine Kelly (NCWRC) reported an active next in January 2018			Communication, kinter Apporting acuse base leagle react on Regah National Forest dated 2019-03-08. N.C. Wildfe Resources Commission
a a <td< td=""><td>65 20130 34285 Myolis septentrionalis 1</td><td>71 Northern Long-eared Bat</td><td>2005-06-14</td><td>2005-08-14 2005-0</td><td>6-14 Current</td><td>E 2Hgt</td><td>т</td><td>т 52</td><td>52 G1G2 0</td><td>1 Upland Animal M</td><td>MP Mammai caw</td><td>C: roosts in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains</td><td>18218 N N</td><td></td><td>0.48 -1</td><td>-1 Plegah National Forest Beaver Dam Creek</td><td>location along Beaver Dam Creek at the end of Bear Farm Road (NCWRC 2014) [directions derived from coordinate location]</td><td>9 bats (5 adult females, 4 adult males) mish-relied by McGrath and 2 others on 14 June 2005 (NCWRC 2014).</td><td>Chris McGrath, NCWRC</td><td></td><td>2014. Bit data provided by Gabrielle Grawier (NCHIRC), Releigh: Data submitted Acgust 1, 2014.</td></td<>	65 20130 34285 Myolis septentrionalis 1	71 Northern Long-eared Bat	2005-06-14	2005-08-14 2005-0	6-14 Current	E 2Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	MP Mammai caw	C: roosts in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 Plegah National Forest Beaver Dam Creek	location along Beaver Dam Creek at the end of Bear Farm Road (NCWRC 2014) [directions derived from coordinate location]	9 bats (5 adult females, 4 adult males) mish-relied by McGrath and 2 others on 14 June 2005 (NCWRC 2014).	Chris McGrath, NCWRC		2014. Bit data provided by Gabrielle Grawier (NCHIRC), Releigh: Data submitted Acgust 1, 2014.
	ALC: NUM AND AND ADDRESS OF	The second									MP	C: roots in holiow trees and buildings (warmer months), in				Antonia Mantala Rad Can antonia India	Park Gap (NCWRC 2014) Idirections derived from	5 indviduals captured by McClanahan on 30 June 2002			N.C. Wildlife Resources: Commission. 2014. But data provident Vocabrielle Granter (NCWRC), Raleigh: Data scientific forced, 2014.
		and the second second second	20202		our curer	L Prige									una -1	-) HIGH ROUTER (Part Cap - Capiter Router)	Persimon Creek, On east side of Persimon Creek,	2008: 1 adult female captured in a mistraet by O'Kaels on 0 June 2009 (O'Kaels 2012, NCWRC 2014). 2008: 4 bats	2		NC. Wildlife Resources Commission. 2014. But data provided by Gabrielle Granter (NCWRC), Resign Data
	67 20141 32781 Myola septentrionalia	63 Northern Long-eared Bat	2009-06-03	2009-06-03 2008-0	7-28 Current	E 2-Hgt	т	т 52	52 G1G2 G	11 Upland Animal M	MP Mammai caa	C: roots in holiowhees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 Pensiman Creek	approximately 0.8 aimsie west-southwest of Johnish High Top, along FSR-307 (C/Kaele 2012, NCWRC 2014). [Directions based on coordinate location].	captured by O'Keefe, Brown, and Hunder in 2008. 2 bats (adult male, 1 jutenile male) on 28 July 2008 and 2 adult females: on 01 August 2008 (Dotte Brown, Jessica Hunter; Joy O'Keels, Indiana State University		submitted August 1, 2014, Cl Vikelle, Joy. 2012. Bat mist netting and roosting survey results 2004-2012. Indiana State University II
a b <td< td=""><td>66 20157 34126 Myolis septentrionalis 1</td><td>13 Northern Long-eared Bat</td><td>2008-07-09</td><td>2008-07-09 2008-0</td><td>7-09 Current</td><td>E 2-Hgt</td><td>т</td><td>т 52</td><td>52 G1G2 (</td><td>1 Upland Animal M</td><td>MP Mammai caw</td><td>C: roots in holiowiness and buildings (warmer months), in as and mines (winter); mainly in the mountains</td><td>18218/N N</td><td></td><td>0.48 -1</td><td>-1 Grape Creek</td><td>proverlines controls of chape Unkey, Fore-onto at the powerline controlor (NCWRC 2014) [directions derived the coordinate location]. Grapp Prop Creek Mathmet location along FSR-981 an</td><td>1 juvenile male captured by Boseoth and Brown on 09 July 2006 (NCWRC 2014).</td><td></td><td></td><td>bi C. Whith Deserves Complete</td></td<>	66 20157 34126 Myolis septentrionalis 1	13 Northern Long-eared Bat	2008-07-09	2008-07-09 2008-0	7-09 Current	E 2-Hgt	т	т 52	52 G1G2 (1 Upland Animal M	MP Mammai caw	C: roots in holiowiness and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218/N N		0.48 -1	-1 Grape Creek	proverlines controls of chape Unkey, Fore-onto at the powerline controlor (NCWRC 2014) [directions derived the coordinate location]. Grapp Prop Creek Mathmet location along FSR-981 an	1 juvenile male captured by Boseoth and Brown on 09 July 2006 (NCWRC 2014).			bi C. Whith Deserves Complete
a b <td< td=""><td>66 26267 34371 Myola septentrionalia 1</td><td>86 Northern Long-eared Bat</td><td>2011-08-02</td><td>2011-08-02 2011-0</td><td>6-02 Current</td><td>E 2-Hgt</td><td>т</td><td>т 52</td><td>52 G1G2 (</td><td>1 Upland Animal M</td><td>MP Mammai caw</td><td>C: roots in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains</td><td>18218/N N</td><td></td><td>0.48 -1</td><td>-1 Gragg Prong Creek</td><td>Gragg Prong Creek, at first large U-band in the road southeast of Roseborough (NCWRC 2014) [directions derived from coordinate location].</td><td>Stats (1 adult female, 1 adult male, 2 juentile females, 1 juentile male) mist-nethed by Frazer and 6 others on 02 August 2011 (NCWRC 2014).</td><td>MaryFrazer, NCDOT</td><td></td><td>2014. Bat data provided by Gabrielle Granter (NCWRC), Roligh Data submitted August 1, 2014.</td></td<>	66 26267 34371 Myola septentrionalia 1	86 Northern Long-eared Bat	2011-08-02	2011-08-02 2011-0	6-02 Current	E 2-Hgt	т	т 52	52 G1G2 (1 Upland Animal M	MP Mammai caw	C: roots in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218/N N		0.48 -1	-1 Gragg Prong Creek	Gragg Prong Creek, at first large U-band in the road southeast of Roseborough (NCWRC 2014) [directions derived from coordinate location].	Stats (1 adult female, 1 adult male, 2 juentile females, 1 juentile male) mist-nethed by Frazer and 6 others on 02 August 2011 (NCWRC 2014).	MaryFrazer, NCDOT		2014. Bat data provided by Gabrielle Granter (NCWRC), Roligh Data submitted August 1, 2014.
N N	70 26417 34124 Mode extentionalis 1	11 Northern Long-eared Bat	2009-07-16	2008-07-16 2008-0	7-15 Current	E 2Hat		т 52	52 0102 0	1 Usland Animal M	MP Mammai caw	C: roots in holiow trees and buildings (warmer months), in as and mines (winter): mainly in the mountains	18218 N N		0.48 -1	-1 Naribhela National Forest, Jack Davis Branch	Nambrias National - Great, Jack Lises stratch, Acing Jac Davis Branch and SR-1300, approximately0.5 roadmile seet of FSR-307 interaction (NCWRC 2014) (directions derived from coordinate location).	2 bats (1 adult female, 1 juvenile male) captured by Research and Kelly on 15 July 2008 (NCWRC 2014).			N.C., Weidnei Ansaurcean, Commandian 2014, Bart datas providenti dy Gabrielle Graneter (NCURRC), Rakiegh, Data submitted Accust 1, 2014.
N N																					N.C. Wildlife Researces Correlation 2007. Annual Program Report, 2005-2006 - Wildlife Disensity Program, N.C. Wildlife
	To Destry Marke entertained	Chinesen i an and Sai									MP	C: roots in holiow trees and buildings (warmer months), in					Curtis CreekPaddys Branch area - Mat-net location on S 1227 (Curtis CreekRoad) at FSR-4027 (NCWRC 2007, 2014). Also included in this EO is: "McDowell County" - I function and Motor 2000.	Curtis CreekPaddys Branch area on 28 June 2006 (NCWRC 2007, 2014). 2004-Pre: Species reported from offic county by Chris McGrath, pers. comm. to David Mahates (2007)	Chick Marchine Room Reported 1980		Resources Convision, 2014 Bat data provided by Gatratelia Granter (NCINRC), Relating h. Data submitted August 1, 2014; Minister 2014
	71 Jacob John Hyper Separationals	Constraint Long-earled late	200-00-28	200-0-20 200+	re curer	a pringt		1 34	52 6162 6	1 jopand Anma je	danna ca	es and mines (winter); manity in the mountaine	16218/N N		U48 -1	-1 Curse Creeks-addyt aranch			Christ McGrain (Scot Bossonin (WHC	-)	N.C. Wildlife Resources Commission 2014 Bat dains provided by Gabrielle Graeter (NCWRC), Raleigh, Data
	72 26714 32451 Myota sodalia	10 Indiana Bat	2015-13-08	2011-10-08 2015-1	0-08 Current	E 2-Hgt		e 5152	si 62 6	2 Upland Animal M	Mammai mar	roosts in hollow trees or under loose back and snags (warmer sthe), in cases (winter)	15401 N N		0.48 -1	-1 Ratier Ford	Ratter Ford Mat-eeting location on east side of Santeetah Creek, along SR-1159 (Jopce Kliner Rd) approximately 1.3 miles north of NC-143 at Santeetah Gap	One adult male captured in a mist-net by O'Keele on 08 October 2011 (O'Keele 2012).	Joy O'Keele, Indiana State University		submitted August 1, 2014, Cl Viselle, Joy. 2012. Bat mist netting and roosting survey yeautic 2004-2012. Indiana State University II
	73 260-0 22796 Myolis septentrionalis	70 Northern Long-sared Eat	2012-07-18	2012-07-18 2012-0	7-18 Current	E 2-Hgt	т	т 52	52 0102 0	1 Upland Animal M	MP	C: roosts in holiow trees and buildings (warmer months), in	18218 N N		0.48 -1	-1 Lemmons Branch	coordinate rocation).	2012 (Chaelle 2012).	Joy O'Keele, Indiana State University		O'Nuels, Jay. 2012. But mist netting and roosting surveyreautio 2004-2012. Indana State University N.C. Wild Resources Commission.
	74 2000 34147 Myolis septentrionalis 1	24 Northern Long-eared Eat	2004-08-10	2004-08-10 2004-0	0-10 Current	E 2Hgt	т	т 52	52 G1G2 (1 Upland Animal M	MP Mammai caw	C: roots in holice trees and buildings (warmer months), in es and mines (winter); mainly in the mountains	18218/N N		0.48 -1	-1 Appletree Campground	Appletree Campground, Mist net location on Appletree Campground Road at Appletree Branch (NCWRC 2014) [directions derived from coordinate location].	7 bats (2)usersile fermines, 1 adult fermales, 3 adult makes, 1 individual) captured in a mist net by/Miller, O'Keefe, and Leoford on 10 August 2004 (NCWRC 2014).	C. Leford; Doreen Miller; Joy-O'Keele Indiana State Univ.		2014. Bat data provided by Gabrielle Granter (NCINRC), Raleigh. Data submitted August 1, 2014.
																					N.C. Wildlik Resources Commission. 2014. Bit data provided by Gabrielle Granter (NCINRC), Raleigh. Data submitted forward. 2016. (Disedu. by
	75 27080 32921 Myola septentrionalia 1	00 Northern Long-eared Bat	2004-06-04	2004-08-04 2004-0	6-04 Current	E 2-Hgt	т	т 52	52 G1G2 G	21 Upland Animal M	Mammal Caw	C: roosts in holiow trees and buildings (earmer months), in es and mines (winter); mainly in the mountains	18218 N N	_	0.48 -1	-1 Wine Spring Creek Site Waysh Wine Spring #-2	Weyth Wine Springs-2: Wine Spring Creek at FSR-711H (O'Neels 2012) [Directions based on coordinate location]	One or more captured in a mist net by O'Keele on 54 June 2004; number of captures and sexualicover.(O'Keele 2012)	Joy O'Keele, Indiana State University		2010 Earth and Pagean (1, 2014). Or Heam, dop 2010 Earth retiting and rooming survey yeaute 2004-2012, Indiana State University II N.C. Wildlike Resourcess Commission.
																	Little Fires Creak On east side of FSR-340, about 0.5 ml south of the FSR-3808 intersection (O'Keele 2012) Dispetitional transmission and the second	Two adult makes captured in a mist net by O'Keele on 03 Inter 2009 (O'Keele 2012 November 2014)			2014. Bat data provided by Gabrielle Granier (NCHRC), Rainigh, Data submitted August 1, 2014; O'Waelle, Joy
	26 27101 32788 Myolis septentrionalis	68 Northern Long-sared Eat	2009-06-03	2009-05-02 2004-F	re Current	E 2-Hgt	т	т 52	52 G1G2 G	1 Upland Animal M	Mammal cas	C: roots in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	10210 N		0.48 -1	-1 Little Fires Creak - capture location	Courty' - noise and a second state scattery, Alls, "Clay Courty' - noise and a second state and copied to ECIs 086, 867, and Nanthala National Forest, Waterville, Mist-ret =ite sizes	reported from this county by Virgil Brack, pers. comm. to David Webster (2004).	Joy O'Keele, Indiana State University, Virgil Brack		2012 Bat mist netting and roosting survey yeaute 2004-2012. Indiana State University: Websiter, David 2004 N.C. Wildlife Resources Commission.
	27 27174 34285 Myolis septentrionalis 1	52 Northern Long-sared Bat	2007-06-13	2007-06-13 2007-0	6-13 Current	E 2-Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammal Caw	C: roots in holiow trees and buildings (warmer months), in as and mines (winter); mainly in the mountains	18218/N N		0.48 -1	-1 Nambhala National Forest Waterville	SR-1332 (Waterville Rd.) and Big Creek just south of Waterville (NCWRC 2014) [desclicing denied from coordinate location]	2 bats (1 adult female, 1 adult male) mini-netited by Schwierjohann on 13 June 2007 (NCWRC 2014).	Julf Schwierjohann, NCWRC		204 Bit data provided by/Gabrielle Grater (NORIC), Ralejs Data submitted August 1, 2014
No No No No No <td></td> <td>kindle Kook Mist out site on ESP-454, anormized als 45</td> <td>2010: 2 individuals, 1 adult male and 3 adult females, cardy and is mist rate to Chilade on 26 May 2010 (Chilade</td> <td></td> <td></td> <td>Creater (NCMEC) Palainh Data</td>																	kindle Kook Mist out site on ESP-454, anormized als 45	2010: 2 individuals, 1 adult male and 3 adult females, cardy and is mist rate to Chilade on 26 May 2010 (Chilade			Creater (NCMEC) Palainh Data
	75 27177 32775 Myolis septentrionalis	57 Northern Long-eared Bat	2013-05-26	2010-05-26 2009-0	7-17 Current	E 2-Hgt	т	т 52	52 G1G2 0	i1 Upland Animal M	Mammai cau	C: roots in holiowhees and buildings (sermer months), in as and mines (writer); mainly in the mountains	10210 N		0.48 -1	-1 Halls Knob	Top (O'Heele 2012) (Directions based on coordinate location).	captured in a mint net by O'Heele on 03 June 2009 (O'Keel 2012), 2008: 10 bats (Joy O'Keefe, Indiana State University		Passentille Paglatt 1, 2019; U Patella, Joy 2010; Bar mist netling and rooding survey Pressita 2004-2010; Indexe State University II N.C. Wildlife Resources Commission.
	79 27138 34239 Myolis septentrionalis 1	41 Northern Long-eared Bat	2008-06-03	2008-06-03 2008-0	6-03 Current	E 2-Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammal cau	C: roosts in holiowhees and buildings (earmer months), in es and mines (winter); mainly in the mountains	18218 N N		0.48 -1	-1 FSR-815artselah Creek	FSR-81/Sarteelah Creek, Mist net location along FSR-81 and Santeetah Creek, below-Otadah Gap (NCWRC 2014 [directions derived from coordinate locations].	4 bats (1 adult female, 3 adult males) captured by Gateria and 2 others on 00 June 2008 (NCWPC 2014).	Lisa Galene, NCSM	Small rootices of this EC)h tate	2014 Bat data proded by Gabrielle Granter (NCWRC), Roleigh Data submitted August 1, 2014.
																	Buck Creek FSR-350A1 - capture location. Mist net location on FSR-350A1 (Lodge Road), approximately0.15 mile from FSR-350A (Buck Creek Road) interactive	2002 1 adult male captured by McGrath, Rupp, Miller, and Ladford on 28 July 2003 (NCWRC 2014). 2002 2	Chris McGrath, NCWRC: David Pres	university part 600% Of this Is U.F Hallon 1000 the Buck Creak Serpentinized Olivine Barren site Uthe Reite Buckmäryversit p. Intentionally designed to not include	
	a0 27322 34133 Myolis aptentrionalis 1	10 Northern Long-eared Bat	2003-07-28	2003-07-28 2002-0	6-30 Current	E 2Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammal Caw	C: roosts in holiow trees and buildings (earmer months), in as and mines (winter); mainlyin the mountains	10210 N	_	0.48 -1	-1 Back Creek FSR-20041 - cepture location	(NCWRC 2014) [directions derived from coordinate location]	Individuals captured by McClanahan on 30 June 2002 (NCWRC 2014)	Donen Miller, USFS; L. Ledord, USFS; Rod McClanehan, USFS	the entirity of these BOs (Knapp 2017).	Granter (NCURC), Raisigh Data submitted August 1, 2014. 1 N.C. Wildlife Resources Commission.
												C route in beling togs and build on a former and "									2014. Bat data provided by Gabrielle Granter (NCI/IRCC), Rateigh, Data submitted August 1, 2014; O'Viselle, Joy
	01 27340 32072 Myole septentionalis	85 Northern Long-eared Bat	2004-06-18	2004-05-18 2004-0	6-18 Current	E 2Hgt	n T	T 52	52 G1G2 G	1 Upland Animal M	Mammal cau	es and mines (winter); mainlyin the mountains	10218 N	-	0.48 -1	-1 Cosee Bale Creek(sic) (Band Creek?)	 	NCWRC 2014). 2011 Five individuals captured in mist rets by O'Keele in	Joy O'Keefe, Indiana State University		peute, saar mess neems, neems neems neems neems neems neems peuten peute
	27 7140 2779 Hada and 1		2014 05 77								MP	C roots in helice trees and buildings (sermer months), in	-				Shular Creek Along Shuler Creek and Evans Road, approximately 0.25 roadmile north of the Quinn Road Intersection (O'Neeke 2012) [Directions based on any details leaded)	2011 1 adult female, 1 adult male, 2)Joenile females, 1 Joenile male on 30 June 2011 (O'Keefe 2012, NCWRC 2014), 2012 Four individuale captured in mist nets by			Granter (NCWRC), Raleigh, Data submitted August 1, 2014; O'Nieele, Joy 2012 Bat mist netting and roosting survey
	w zrvtiti zzritu Myösis separatrionalis	au wa wa ta Lang-sarea sae	ant-06-30	pert1-08-30 2008-0	u current	au 12-High		. 52	ar G1G2 (- uppand Animal M	examuli Citi	en anorroet parter; manyon be mountains	16218/N N	-	ute -1		Puncheon Carro Branch. On south side of Appalachian	o roma ili 2012 2 altat table	yoy Jreen, indiana State University		Yesuita 2004-2012. Indiana State University (N.C.: Wildlife Resources Commission, 2014. Bat date provided by Gabrielle Granter (NCIWEC). Rabie: Provide Granter (NCIWEC). Rabie: Provide
	83 27452 22832 Myolis septentrionalis	12 Northern Long-saved Bat	2013-07-11	2010-07-11 2010-0	7-11 Current	E 2-Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammal Caw	C: roots in holiow/trees and buildings (warmer months), in as and mines (winter); mainlyin the mountains	18218 N N		0.48 -1	-1 Puncheon Camp Branch	Trail, approximately 0.55 trail mile east of Oldfield Gap	One adult female captured in a mist net by O'Keefe on 11 July 2019 (O'Keefe 2012, NCWRC 2014).			submitted August 1, 2014, C Waels, Joy 2012. Bat mist neiting and roosting survey results 2004-2012. Indiana State University II
	84 27471 25085 Data Sensitive Record - contact the NCNHP	0 Data Sensitive Record - contact the NCNHP		2007-06-24	Current	CD 3-Med	lun	T		Animal			0/Y		0 0	6					
	85 27640 37004 Myolis septentrionalis 3	30 Northern Long-eared Bat	2013-07-16	2010-07-16 2010-0	7-04 Current	E 2Hgt	т	т 52	52 G1G2 0	1 Upland Animal M	Mammal cau	C: roots in holiowhees and buildings (sermer months), in as and mines (writer); mainly in the mountains	10218 N	_	0.36 -1	-1 Upper Copper Creek - mist net areas	Copper Creek3 stal), or Affect Transmission (Upper Copper Creek3 stal), Groundhog Branch (Upper Copper Creek 4 stal), and Miler Branch (NCWRC 2016). Long Ridge: Marrow Gap Micinity. Mat net stales: along 15	2) Journie fermies on 07 July 2010 at Upper Cross alias (1 adult females of 1 advantage of 1 advantage of 1 advantage of 1 advantage 4 individuals total captured by NCDOT biologists in 2008 i	4 Rod McClanahan Anne Burroughs, NCDOT; Heather		contributed by NC WRC staff in 2016. If
			2008 OC								MP	C: roosts in holiow trees and buildings (warmer months), in	-			diam Ridar Marco	1326 (Jos Brown Hw) just west of Morrow Gap; at Morro CemeteryChape; along Burrell Mountain Road (SR-1325 In powerline corridor (NCDOT 2015) [directions derived how service derived in the	 conjunction with TIP No. A-0008: 1 juantile female on 12 August 2008 at Site B; 1 juantile female on 12 August 2008 at Site B; 1 adult post-lactating female, 1 adult male on 06 functed 2008 at 8 	Renninger, NCDOT; Janniler Harrod NCDOT; Lance Fontaine, NCDOT; Mary Franer, NCDOT; Melissa Miller NCDOT, Two Mill	к, к,	N.C. Department of Transportation. 2015. Field survey forms and related documents contributed by NCDOT staff or NCDOT
A A A A B		er ywardenn Long-eared Bat						. 52		. jupland Animal M	M	roosts in holiow trees or under loose bark and snace /warmer	10218/N N		aza -1	- I Long Holge: Morrow Gap Vicinity Nantahala National Forest: Miller Branch - mini	Nantahala National Forest: Miller Branch. Mist net site Jocaled along Miller Branch (Upper Copper Creek), at the				consultants in 2015
	87 28229 37037 Myolis sodalis	21 Indiana Bat	2010-07-04	2010-07-04 2010-0	7-04 Current	E 2-High	-	E 5152	S1 G2 0	22 Upland Animal M			15401 N N	-	0.12 -1	-1 area	Jocation]. Nantahala National Forest: Pensimmon Creek, Mait net all along FSR-635 on the west side of Pensimmon Creek,	al. on 64 July 2010 (NCWRC 2016).	Rod McClanahan		contributed by NCWRC staff in 2016. If
B ZZE 2001 (value spectrule ZUB + //	46 28241 37013 Myolis septentrionalis 5	21 Northern Long-eared Bat	2010-07-12	2010-07-12 2010-0	7-12 Current	E 2-Hgt	т	т 52	52 G1G2 0	21 Upland Animal M	Mammai caw	C: roots in holiow/trees and buildings (xermer months), in as and mines (winter); mainly in the mountains	18218 N N	-	0.12 -1	Narishala National Forest: Pensimmon Creek - n -1 net area	nist (about 0.25 simile north of Lake Cherokee picinic area (NCWRC 2016) (derived from coordinate location). State Creek-mist net area half that interests the port/weet 50, 1924 (Jun 41-1998).	2010 2 individuals (1 juanile female, 1 unspecified) mist retired by McClanahan on 12 July 2010 (NCWRC 2018).	Rod McClanahan		N.C. Wildle Resources Commission
	89 28055 37000 Myolis septentrionalis 2 90 28494 32131 Data Sensitive Record - contact the NCNHP	29 Northern Long-eared Bat 0 Data Sensitive Record - contact the NCNHP	2009-06-11	2009-05-11 2009-0 2006-01-13	6-11 Current Current	E 2-Higt D 2-Higt	т	T 52 T	52 G1G2 0	i1 Upland Animal M	Mammai cau	C: roots in holiowhees and buildings (sermer months), in as and mines (winter); mainly in the mountains	18218 N N	_	0.12 -1	-1 State Creek - mist ret area 0	Hwy) Inbetween Fiat Branch and Brushy Creek (NCWRC 2016) (derived from coordinate location).	2009: 1 adult female captured by McClanahan on 11 June 2009 (NCWRC 2010).	Rod McClanahan		contributed by NCWRC staff in 2016. If
		15, industa Bat						s 5152	s1 G2 G		Mammal mor	roosts in hollow trees or under loose back and snags (werner sha), in cases (winter)	15401 N N		a -1	-1)Cable Cole	Cable Court Road have located in Cable Cose, both show	pee source teatures for details, 2012. Three adult termines and one is service forming tracked to count traces by CTE and a			O'Keele, J. 2013. Conservation of Habitat for Virginia Big-sored Bats in Western North Candina; pdf page.

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Attachment 13

Quantifying the National Significance of Local Areas for Regional Conservation Planning: North Carolina's Mountain Treasures



Article



Quantifying the National Significance of Local Areas for Regional Conservation Planning: North Carolina's Mountain Treasures

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Academic Editor: Andrew Millington Received: 26 April 2017; Accepted: 26 May 2017; Published: 27 May 2017

Abstract: Conservation scientists recognize that additional protected areas are needed to maintain biological diversity and ecological processes. As regional conservation planners embark on recommending additional areas for protection in formal ecological reserves, it is important to evaluate candidate lands for their role in building a resilient protected areas system of the future. Here, we evaluate North Carolina's Mountain Treasures with respect to their (1) ecological integrity, (2) role in connecting existing core protected areas, (3) potential to diversify the ecosystem representation of reserves, and (4) role in maintaining hotspots of biologically-rich areas that are not well protected. Mountain Treasures represent a citizen inventory of roadless areas and serve as candidates for elevated levels of conservation protection on U.S. federal lands. We compared Mountain Treasures to other candidate lands throughout the country to evaluate their potential national significance. While the Mountain Treasures tended to be more impacted by human modifications than other roadless areas, they are as important as other roadless areas with respect to their role in connecting existing protected areas and diversifying representation of ecosystems in conservation reserves. However, Mountain Treasures tended to have a much higher biodiversity priority index than other roadless areas leading to an overall higher composite score compared to other roadless areas. Our analysis serves as an example of how using broad-scale datasets can help conservation planners assess the national significance of local areas.

Keywords: biodiversity; connectivity; ecological integrity; Mountain Treasures; protected areas; Southern Appalachian Mountains

1. Introduction

For over a century, conservation efforts have led to the establishment of hundreds of protected areas covering millions of hectares in the United States. These protected areas form the foundation for strategies to protect biological diversity and ecological processes upon which people and other species depend [1]. Nevertheless, there is growing recognition that existing protected areas may be insufficient to sustain biodiversity as climate change and land development continue to impact natural ecosystems [2]. In fact, referencing the Convention on Biological Diversity [3], Aycrigg et al. (2016) [4] recognized that "as significant as conservation areas are ... they fall short of meeting recommended policy goals of each nation having established by 2020 an ecologically representative and well-connected system of protected areas."

Recent calls have been made to add to the system of protected areas by establishing an ecologically connected network that is more inclusive of ecosystems and species currently under-represented in protected areas [3,4]. In response to these calls, Belote et al. (2017) [5] conducted a national assessment

of wildland values and priorities for expanding the U.S. protected area system to include the most ecologically intact and wildest lands [6], establish a national connected network [7], and better represent ecosystem diversity [8] and hotspots of range-limited species [9]. Establishing a system of conservation reserves that is more resilient to climate change may require adding intact lands that connect existing protected areas and adding ecosystem and species representation to the existing system [1,10,11].

At the same time, protecting what is left of the remaining wildlands (areas where human land use does not dominate ecological systems) has been recognized as a key conservation strategy [12,13]. Watson et al. (2016) suggest that "protecting the world's last wilderness areas is . . . our best prospect for ensuring that intact ecosystems and . . . evolutionary processes persist for the benefit of future generations." Similarly, Ibisch et al. (2016) [14] recently mapped Earth's remaining roadless lands and described the global importance of these areas for additional conservation protection.

Marshall and Dobbins (1936) [15] made similar calls for the protection of large tracts of wildlands after evaluating roadless areas over 80 years ago using paper maps to identify national conservation priorities. Today, national and global high resolution data on human impacts allow conservation scientists to better evaluate human land use changes [16,17], identify roadless and wildland areas [12,14], and map biodiversity [9,18]. These datasets provide important opportunities for assessing the global or national importance of regions or local areas in conservation planning [2]. Without such evaluations, local assessments and management recommendations may fail to consider the full conservation value of lands [2].

In this paper, we used data compiled by Belote et al. (2017) [4] to evaluate the national wildland conservation significance of the "Mountain Treasures" of western North Carolina for their value in completing a national network of conservation reserves. Ranging in size from 80 to 11,810 hectares, the Mountain Treasures are 53 units of land in the Southern Appalachian Mountains first identified in 1992 by citizens via spatial analysis of roadless areas and field verification [19]. The citizen inventory and identification of Mountain Treasures was originally conducted in conjunction with the development of a management plan by the United States Forest Service. This inventory has been updated and refined in anticipation of the Forest Plan revision for the Nantahala and Pisgah National Forests that began in 2014 (see Appendix A for the list of Mountain Treasures).

The Nantahala and Pisgah National Forests are primarily managed for multiple uses by the U.S. Forest Service, which administers over 78 million hectares throughout the United States [20]. National Forests are managed under federal direction through the National Forest Management Act, which requires that management plans be updated on a regular basis (every 10–15 years). During management plan revisions, the Forest Service evaluates candidates of land units to be recommended to the U.S. Congress for additional conservation protections, including formal wilderness designation. Here, we use national data to assess the relative value of the Mountain Treasures, which are candidates for elevated levels of conservation protection, compared to other similar units on all other Forest Service lands of the contiguous U.S.

We evaluated the relative importance of adding the Mountain Treasures to the national system of conservation reserves by assessing their: (1) ecological integrity, (2) importance for connecting existing protected areas, (3) whether the composition of their ecosystems are national priorities for expanding representation, and (4) their importance as habitats for range-restricted and unprotected hotspots of biodiversity. These qualities derive from conservation principles to maintain biological diversity under the increasing pressures of climate change and land development. Protecting intact lands (areas of high ecological integrity) that connect protected areas and diversify the ecological representation of conservation reserves are among the highest conservation priorities. Here, we quantified these qualities and compared the Mountain Treasures to other similar candidates for elevated levels of protection occurring on Forest Service lands (Figure 1). In so doing, we demonstrate a relatively straightforward method for evaluating the national significance of local areas during regional land use and conservation planning.

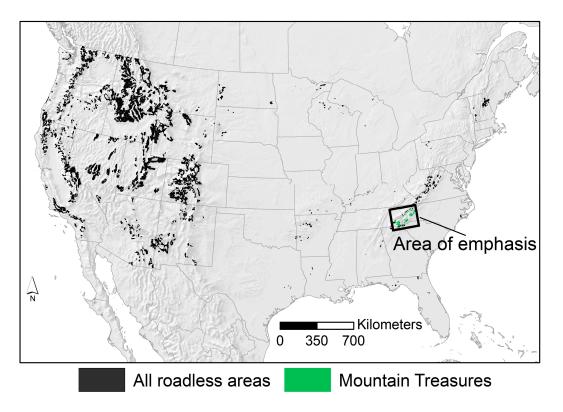


Figure 1. The location of Mountain Treasures (green) and all other roadless areas (grey) in the contiguous United States. The maps in Figures 3–7 represent the "area of emphasis" highlighted here.

2. Materials and Methods

2.1. Study Area Region

The Mountain Treasures of North Carolina are located in the Nantahala and Pisgah National Forests of the Southern Appalachian Mountains (Figure 1). The Southern Appalachians contain one of the most biologically diverse temperate forests in the world [9]. The topography includes sheltered valleys at relatively low elevations up to the highest mountains of the eastern U.S. This topographic richness provides a very broad range of different habitat niches. In addition, a wide variety of geologic substrates also contributes to a range of soil types. The geological history is also very ancient, with continuous vegetation likely extending back to the last mass extinction 65 million years ago. The diverse microclimatic conditions, the relatively moderated climate over long periods, and a long geological history without major disturbances, such as direct glaciation or submersion under water, contribute to the high biological diversity of the region. Mountain Treasures range in elevation from 604–1623 meters above sea level, with metamorphic and metasedimentary rock characterizing the parent material. The vegetation cover of the Mountain Treasures is diverse, but characterized by species of oak (*Quercus* spp.) and mixed deciduous trees with areas dominated by conifers (*Pinus* spp. and *Tsuga canadensis*), as well as Appalachian mountain balds.

2.2. Quantifying Conservation Value

To quantify ecological integrity, we used Theobald's map of human modification [6]. This is a composite map developed from spatial data representing land cover, human population density, roads, structures, and other stressors to the ecosystems. Lands that maintain a high degree of ecological integrity or low degree of human modification have been referred to as "wildlands" [21], and protecting the remaining wildlands is considered by many to be among the highest of conservation priorities [12,13,22].

To quantify the value of land units for maintaining or establishing connections between protected areas, we used a mapped connectivity index from Belote et al. (2016) [7]. The index was developed to identify the least human-modified corridors between existing large protected areas, which were defined as all wilderness areas regardless of size and all other Gap Analysis Program (GAP) status 1 and 2 lands \geq 4046.9 hectares (10,000 acres). GAP 1 and 2 lands are classified as such because laws, policies, or their land management plans mandate that biodiversity be a central conservation goal and that land conversion, commercial development, and resource extraction is prohibited or limited [23]. Lands with a high connectivity index receive a higher wildland conservation value, as they may help to maintain ecological linkages between protected areas [7].

To quantify ecosystems currently under-represented in the existing protected area system, we used an assessment of ecological representation in highly protected lands. Ecosystem representation has recently been calculated using a number of different methods, including those based on the proportion of ecosystem area within different GAP status lands [8], wilderness areas [24], and roadless lands [25]. We recalculated the analyses of Aycrigg et al. (2013) using the latest protected areas database (PAD) to map the proportion of total area of each ecosystem occurring in GAP status 1 or 2 areas (Figure 2C) [23]. The ecosystem classification we used was based on the National Vegetation Classification System (NVCS) ecological "group" level and is mapped at 30-meter resolution throughout the contiguous U.S. These data are made available from the GAP land cover data (http://gapanalysis.usgs.gov/ gaplandcover). Lands composed of ecosystems that are less well-represented in protected areas are assigned a higher value than lands with ecosystems that are already highly protected.

To quantify the value of land for hosting species currently under-represented in protected areas, we used the conservation priority index of Jenkins et al. (2015) [9] (Figure 2D). This index was developed by overlaying maps of mammal, bird, reptile, amphibian, freshwater fish, and tree species distributions and weighting the rarity of species (calculated based on the size of each species' geographic distribution) and the proportion of its distribution that is protected based on the International Union for Conservation of Nature (IUCN) protected area categories I to VI [9]. Lands classified in categories I–VI overlap those considered as GAP 1 and 2 (http://gapanalysis.usgs.gov/blog/iucn-definitions). Areas rich in endemic species with limited geographic distributions that are currently not well-represented in protected areas receive a higher value in our index than areas with few such species. Rarity-weighted richness values, such as the index we use here, perform well at identifying conservation priorities when compared with more complex conservation design algorithms (e.g., Zonation, [26]).

Finally, we derived an index of composite wildland conservation values, which was produced by summing the normalized indices of each quality described above [5]. This index map shows important priorities for adding lands to the national system of conservation reserves. Lands that currently serve as candidates of elevated levels of protection and with higher composite values may be considered high priorities for added conservation protections. Pairwise complementarity [27] of the four values were mapped across the contiguous U.S. in Belote et al. (2017) [5], and the Southern Appalachian region was found to possess high degrees of many of the value combinations.

For each quality, we compared the distribution of Mountain Treasures to all other inventoried roadless areas (IRAs) within the entire National Forest System of the contiguous United States. To do this, we calculated the mean value of each index for every Mountain Treasure (N = 53) and IRAs (N = 2408). We plotted kernel density distributions (analogous to smoothed histograms) of each index to compare Mountain Treasures and IRAs. We used this method of plotting over alternatives (e.g., box and whisker, bar graphs) to better evaluate the distribution of data within Mountain Treasures and IRAs. Because our data represent a census of all values within units of interest, we were not interested in conducting inferential statistics to compare distributions. We also rank ordered each Mountain Treasure with respect to the four indices, as well as their final composite wildland conservation value. In addition to comparing values among Mountain Treasures, we also plotted 75th, 90th, 95th, and 99th percentiles of each index calculated from all IRAs to quantify the relative importance of individual Mountain Treasures compared to national IRAs.

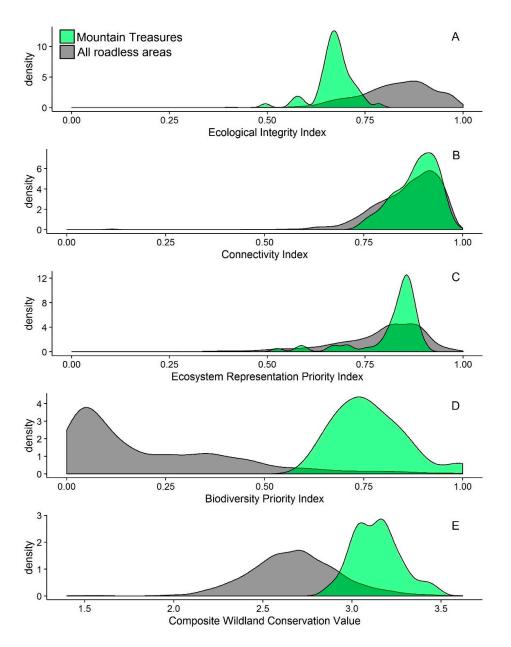


Figure 2. The distribution of conservation priorities for Mountain Treasures (green) and all other roadless areas in the lower 48 United States (grey) based on data from Belote et al. (2017). The values for the top four indices range from 0 (low) to 1 (high) nationally. These indices were combined into a composite Wildland Conservation Value index (bottom panel). (A) Ecological integrity; (B) Connectivity; (C) Ecosystem representation priority; (D) Biodiversity priority index; (E) Composite wildland conservation value.

3. Results

3.1. Ecological Integrity and Connectivity Priority

The mean ecological integrity of the Mountain Treasures was 23% lower than the mean integrity of other US Forest Service IRAs (Table 1; Figure S1; Figures 2A and 3). Despite the lower degree of ecological integrity, Mountain Treasures fall between existing protected areas and maintain an overall connectivity value similar to other IRAs (Figures 2B and 4). The connectivity values of Siler Bald and Bald Mountain are above 90% of all U.S. roadless lands in the lower 48 United States, and sixteen

Mountain Treasures possess connectivity values greater than 75% of all designated roadless areas (Figure S2).

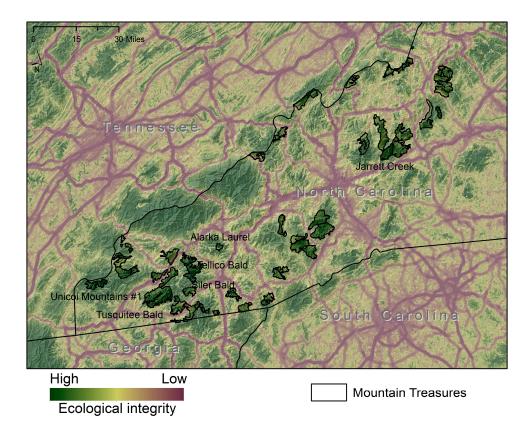


Figure 3. Map of ecological integrity for the Southern Appalachian Mountains highlighting the Mountain Treasures. While the Mountain Treasures have on average lower ecological integrity scores compared to all other roadless areas, it is important to note their regional significance for sustaining relatively intact and wild, some of the wildest places in the Southeastern U.S.

Table 1. Summary statistics for each index used to compare North Carolina's Mountain Treasures with other US Forest Service (USFS) candidates for additional protection. All indices are based on data compiled by Belote et al. (2017) and range from 0 to 1, except for the composite wildland conservation value which had a maximum possible value of 4.

Index	Mountain Treasures			All Other USFS Inventoried Roadless Areas						
	Median	Mean	SD	Median	Mean	SD	75%	90%	95%	
Ecological integrity	0.67	0.67	0.05	0.84	0.83	0.26	0.90	0.95	0.97	
Connectivity priority	0.89	0.88	0.05	0.88	0.86	0.09	0.92	0.95	0.96	
Ecosystem representation priority	0.85	0.82	0.08	0.82	0.79	0.12	0.87	0.90	0.92	
Biodiversity priority	0.75	0.77	0.09	0.13	0.21	0.20	0.34	0.48	0.61	
Wildland conservation value	3.15	3.14	0.13	2.68	2.68	0.26	2.83	2.99	3.11	

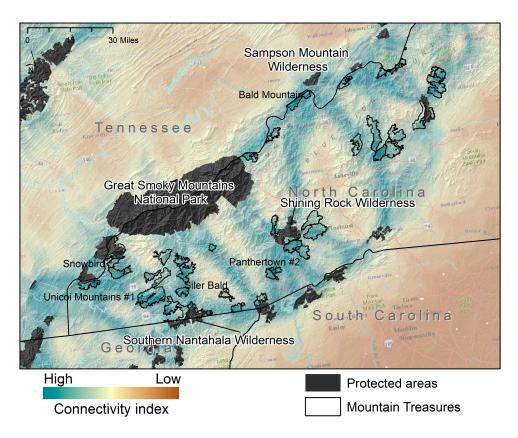


Figure 4. Map of the connectivity priority value between protected areas for the Southern Appalachian Mountains, highlighting the Mountain Treasures based on data from Belote et al. (2016). Many of the Mountain Treasures lie between existing protected areas and therefore represent important priorities for maintaining connections between existing conservation reserves including the Great Smoky Mountains National Park and wilderness areas on the Nantahala and Pisgah National Forests.

3.2. Ecosystem Representation

The ecosystem representation priority of the Mountain Treasures was also comparable to IRAs (Figure 2C). Panther Town #1 and #3, Dobson Knob, Linville Gorge Extension A, Sugar Knob, Nolichucky Gorge, and Southern Nantahala Extension D are composed and dominated by ecosystems poorly represented in protected areas (Figure 5), making these areas a higher priority than 75% of other roadless areas in the U.S. (Figure S3).

3.3. Biodiversity Priority Index

The biodiversity priority index was on average 73% higher than other IRAs (Table 1; Figure 2D). Santeetlah Bluffs, Snowbird, Joyce Kilmer-Slickrock Extension #1, Lower Snowbird Creek, Southern Nantahala Extensions A1 and A2, Wesser Bald, and Unicoi Mountains #1 have a higher biodiversity priority index than 99% of all other roadless lands in the lower 48 United States (Figure 6). Nearly all Mountain Treasures have a higher biodiversity priority index than 95% of all other roadless areas (Figure S4).

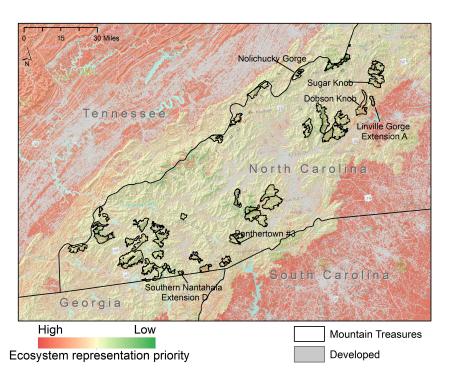


Figure 5. Map of the ecosystem representation priorities in the Southern Appalachian Mountains highlighting the Mountain Treasures. Many of the Mountain Treasures are home to ecosystems that are not well-protected based on recent evaluations of how well the existing system of protected areas represents the nation's ecosystem diversity.

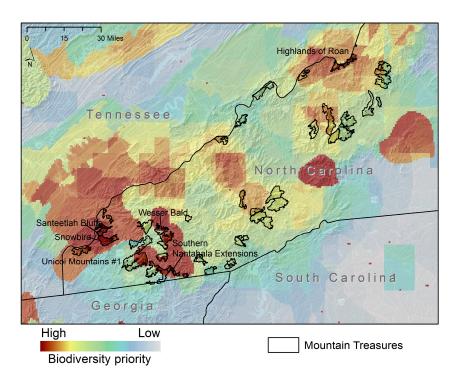


Figure 6. Map of the biodiversity priority index of Jenkins et al. (2015), which identifies key areas containing many range-limited species that are poorly represented in protected areas.

Combined these qualities resulted in a composite wildland conservation priority of the Mountain Treasures that was on average ~15% higher than IRAs (Table 1; Figures 2E and 7). On average, the Mountain Treasures exceed the wildland conservation value of other roadless areas and over half of the Mountain Treasures have a higher value than 95% of all other roadless areas (Figure S5).

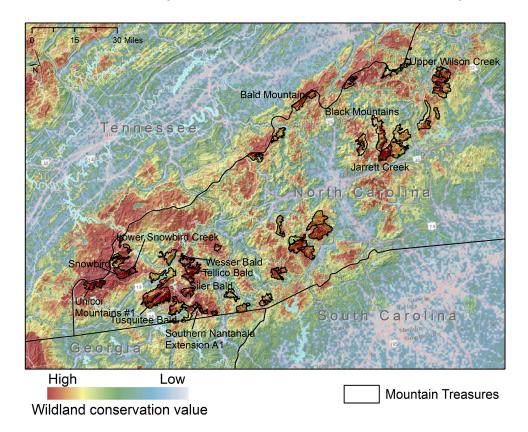


Figure 7. The composite wildland conservation value of Belote et al. (2017) that combined the indices of ecological integrity, connectivity, ecosystem representation, and biodiversity priorities into one map.

4. Discussion

The Mountain Treasures represent some of the most important lands in the U.S. to establish a protected areas system that is intact, connected, and representative of ecological diversity and hotspots of range-limited species. Our assessment is based on a number of widely accepted principles from conservation science that provide guidance on how to construct a system of protected areas to maintain biodiversity and ecological processes in the face of habitat fragmentation and climate change [3,4,10,28–30]. A conservation reserve system that is ecologically intact, connected in a network of protected areas, and representative of ecosystem and species diversity may provide the greatest degree of adaptive capacity in the face of a global change [10,31]. Unprotected lands that possess these qualities may be considered high priorities for adding to the existing system of conservation reserves [5]. The Mountain Treasures are not currently designated as highly protected lands.

In their valuable new paper, Aycrigg et al. (2016) state their intent to "start the conversation" about completing a national protected area system that is more representative of ecosystem and species diversity. Our objective here is to use a recent national assessment of wildland conservation values to assess the significance of North Carolina's Mountain Treasures in helping to achieve a resilient protected area system of the future. The Mountain Treasures are among the most valuable roadless areas in the country for the qualities they currently maintain. It may be critical to consider their national

significance in land management and conservation decisions. Without such broad-scale analyses, local decisions and actions may fail to appreciate important national [5] or global [2] conservation priorities.

The Mountain Treasures are less intact and wild compared to all roadless areas, many of which are in the western U.S. (Figure 2A). This is not surprising given the higher density of human population, roads, and other disturbances experienced by ecosystems of the eastern U.S. Interestingly, at a global scale, biologically-rich areas tend to experience more intensive human modification [17]. Thus, patterns of biodiversity and human modification of the Southern Appalachians represent an example of this global phenomenon [32]. It is worth noting, however, that the Mountain Treasures represent some of the most intact and wildest places in the Southeastern U.S.

Despite the overall higher degree of human modification and lower degree of ecological integrity of the Mountain Treasures, on average their importance for establishing and maintaining a nationwide and regional connected network of protected areas is nearly identical to all other roadless areas in the U.S. [7]. Many of the Mountain Treasures lie between existing protected areas and therefore represent important priorities for maintaining connections between existing conservation reserves including the Great Smoky Mountains National Park and wilderness areas in the Nantahala and Pisgah National Forests (Figure 4). Creating a connected network of protected areas is among the highest recommended adaptation strategies to maintain biodiversity under a changing climate [7,10,33,34].

The Mountain Treasures are also equally important compared to the other roadless areas with respect to expanding the representation of ecosystem diversity in protected areas (Figure 2C). These roadless areas may be considered as reasonable candidates for future wilderness designation [25], and protecting roadless areas composed of ecosystems poorly represented in wilderness and other highly protected areas should be considered high priorities for additional protections [24]. Designating lands composed of poorly represented ecosystems will ensure that our protected areas system of the future includes all of nature's diversity, and can be used as part of important climate adaptation planning [35].

Compared to other roadless areas—the likely candidates for inclusion in an expanded conservation reserve system—the Mountain Treasures are some of the most biologically rich areas (Figure 2D) and represent important conservation priorities [9]. The richness of range-limited and endemic species in the Appalachians compared to other roadless lands is the result of paleo-ecological history [36], the diverse climatic and edaphic gradients [37,38], and the evolutionary history of the species in the region, e.g., [39]. A number of species occur nowhere else on Earth or are geographically restricted, but remain without formal conservation protection [9].

When combined, the four indices described above provide important insights into the national conservation significance of the Mountain Treasures. These roadless lands are among the nation's most important if we are to construct a protected area system of the future that has the best chance of passing our natural heritage on to future generations. The Southern Appalachian Mountains have been identified as a critical region for historical [36,40] and projected future [41,42] climate change-driven species migrations. Minimizing or eliminated non-climate stressors to species and ecosystems through elevated levels of conservation protection may be regarded as a 'no regrets' climate adaptation conservation strategy [43].

Our analysis is based on data representing the qualities of land important for constructing an ecologically representative and connected system of protected areas. Our goal was to provide a simple means of comparing local candidates for elevated levels of conservation protection to other candidates throughout the contiguous U.S. based on the recommendations of Aycrigg et al. (2016) [4] and the assessment of Belote et al. (2017) [5]. However, other ecosystem values or tools of conservation planning—not considered here—would enrich our evaluation. For instance, measuring ecosystem services [44] and recreational or other economic values [45] could provide additional insights into the relative value of the Mountain Treasures.

Other conservation optimization or prioritization tools may also provide important insights into the value and rank of the Mountain Treasures [27]. Because Mountain Treasures are in the federal estate and are already publicly owned and managed, the cost of land will not need to be factored in, as in other conservation prioritizations [46]. However, we recognize that our evaluation is but one resource used in a more complex approach to conservation planning [47]. Our main goal was to provide insights into the potential national significance of the Mountain Treasures, because such insights might be easily overlooked by regional conservation planners.

In fact, other global or continental data could also be used to provide additional insights into conservation values of local areas, such as the Mountain Treasures. For instance, Pouzols et al.'s (2014) [2] global evaluation of priorities for protected area expansion to meet international targets [3] using over 24,000 terrestrial vertebrate species' range maps reveals the Southern Appalachian Mountains to be in the top 20% of the highest priorities on Earth. In fact, several of the Mountain Treasures (Tellico Bald, Wesser Bald, Joyce Kilmer-Slickrock Extension #2-4, Dobson Knob, Linville Gorge Extension A, Sugar Knob, and Harper Creek) represent the top 10% of the highest global priorities for terrestrial protected area expansion on the planet (data available for download here: https://avaa.tdata.fi/web/cbig/gpan).

5. Conclusions

Our analysis provides a case study for using national geospatial data that represent individual or combined conservation values to assess the significance of local areas in regional conservation plans. Implementing conservation protections will require work with local communities, federal agencies, and potentially congressional review and legislation. However, we believe it is important to place conservation evaluations into a broader spatial context than is typically considered in decision making (e.g., [48]). The local abundance of values can sometimes conceal the national or global rarity or significance of lands to local conservation planners.

While we believe that local land use decisions should be placed into this global or national context, we also recognize that local evaluations of data on conservation values not reflected in national datasets will remain a critical part of conservation planning. However, a well-known adage of conservation is "think globally, act locally." As global and national data become increasingly available, local conservation planners or land managers can evaluate the broader significance of local areas. These efforts provide important opportunities to not only think globally (or nationally), but also to quantify the global or national significance of lands.

Supplementary Materials: The following are available online at www.mdpi.com/2073-445X/6/2/35/s1, Figure S1: Mean value of the ecological integrity index used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S2: Mean value of the corridor index from Belote et al. (2016) and used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S3: Mean value of the ecosystem representation priority index used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S4. Mean value of the biodiversity priority index used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S4. Mean value of the biodiversity priority index used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S4. Mean value of the biodiversity priority index used in Belote et al. (2017) with each Mountain Treasure rank ordered from highest to lowest; Figure S5: The mean composite Wildland Conservation Value for all Mountain Treasures rank ordered from highest to lowest.

Acknowledgments: We thank Peter S. McKinley, Brent Martin, Jill Gottesman, Michelle Ruigrok, and two anonymous reviewers for comments and suggestions that improved the manuscript. The national data were compiled and analyzed with input from Gregory H. Aplet, Matthew S. Dietz, Jocelyn Aycrigg, Clinton Jenkins, Janice Thomson, Anne Carlson, Connor Bailey, David Theobald, Meredith McClure, Brad McRae, and James Tricker. The Wilderness Society funded the work.

Author Contributions: R.T.B. and G.H.I conceived and designed the project; R.T.B performed the analysis and analyzed the data; R.T.B. and G.H.I wrote the paper.

Conflicts of Interest: The authors declare no conflict of interest.

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Appendix A

Table A1. List of North Carolina's Mountain Treasures, area, mean elevation (meters above sea level), and mean indices (\pm standard deviation) based on the national data of Belote et al. (2017).

Mountain Treasure Name	Hectares	Elevation (m)	Ecological Integrity	Biodiversity Priority Index	Connectivity Index	Ecosystem Representation Index	Composite Wildland Conservation Value	
Alarka Laurel	1006	1273	0.73 ± 0.05	0.74 ± 0.03	0.93 ± 0.01	0.83 ± 0.14	3.2 ± 0.14	
Ash Cove	2382	940	0.57 ± 0.22	0.62 ± 0.05	0.85 ± 0.04	0.86 ± 0.04	2.88 ± 0.3	
Bald Mountain	4696	1010	0.68 ± 0.05	0.66 ± 0.01	0.95 ± 0.02	0.86 ± 0.06	3.16 ± 0.06	
Big Ivy #1	4297	1253	0.7 ± 0.05	0.75 ± 0.02	0.87 ± 0.03	0.78 ± 0.16	3.06 ± 0.17	
Black Mountains	7248	1386	0.66 ± 0.03	0.79 ± 0.02	0.88 ± 0.04	0.73 ± 0.18	3.06 ± 0.17	
Bluff Mountain	2373	837	0.64 ± 0.11	0.64 ± 0.02	0.87 ± 0.05	0.87 ± 0.08	3.02 ± 0.17	
Boteler Peak	4320	1023	0.65 ± 0.13	0.72 ± 0.1	0.89 ± 0.06	0.85 ± 0.09	3.11 ± 0.2	
Cedar Rock Mountain	3513	934	0.69 ± 0.04	0.73 ± 0.01	0.9 ± 0.04	0.86 ± 0.1	3.14 ± 0.2	
Cheoah Bald	3826	1057	0.56 ± 0.23	0.76 ± 0.07	0.83 ± 0.05	0.84 ± 0.11	2.99 ± 0.28	
Daniel Ridge	4782	1195	0.68 ± 0.04	0.73 ± 0.01	0.93 ± 0.02	0.81 ± 0.14	3.15 ± 0.18	
Dobson Knob	4771	776	0.67 ± 0.06	0.68 ± 0.01	0.81 ± 0.06	0.89 ± 0.08	3.05 ± 0.11	
Fishhawk Mountain	2294	1050	0.68 ± 0.03	0.7 ± 0.01	0.76 ± 0.03	0.85 ± 0.1	2.95 ± 0.19	
Harper Creek	3008	710	0.68 ± 0.02	0.69 ± 0.06	0.89 ± 0.05	0.87 ± 0.09	3.14 ± 0.13	
Highlands of Roan #1	1643	1551	0.67 ± 0.04	0.83 ± 0.01	0.93 ± 0.02	0.6 ± 0.19	3.04 ± 0.2	
Highlands of Roan #2	2145	1482	0.65 ± 0.05	0.83 ± 0.02	0.86 ± 0.03	0.62 ± 0.18	2.97 ± 0.18	
Jarrett Creek	3633	964	0.72 ± 0.03	0.75 ± 0.02	0.94 ± 0.03	0.85 ± 0.1	3.23 ± 0.17	
Joyce Kilmer—Slickrock Extension #1	1444	1223	0.66 ± 0.04	0.98 ± 0.03	0.89 ± 0.04	0.79 ± 0.16	3.24 ± 0.24	
Joyce Kilmer—Slickrock Extension #2	936	927	0.69 ± 0.02	0.84 ± 0	0.79 ± 0.03	0.85 ± 0.12	3.17 ± 0.06	
Joyce Kilmer—Slickrock Extension #3	489	604	0.64 ± 0.06	0.84 ± 0	0.83 ± 0.04	0.88 ± 0.05	3.19 ± 0.09	
Joyce Kilmer—Slickrock Extension #4	132	997	0.71 ± 0.01	0.84 ± 0	0.8 ± 0	0.86 ± 0.06	3.18 ± 0.02	
Laurel Mountain	5411	1053	0.67 ± 0.1	0.74 ± 0.01	0.81 ± 0.04	0.85 ± 0.1	3.06 ± 0.18	
Linville Gorge Extension A	1151	653	0.71 ± 0.03	0.68 ± 0	0.76 ± 0.02	0.87 ± 0.11	3.04 ± 0.03	
Linville Gorge Extension B	251	654	0.68 ± 0.03	0.68 ± 0	0.89 ± 0	0.87 ± 0.09	3.01 ± 0.28	
Lost Cove	2392	824	0.67 ± 0.04	0.76 ± 0.04	0.89 ± 0.05	0.86 ± 0.09	3.16 ± 0.16	
Lower Snowbird Creek	1097	868	0.73 ± 0.02	0.9 ± 0.07	0.91 ± 0.02	0.87 ± 0.04	3.41 ± 0.08	
Mackey Mountain	6110	790	0.68 ± 0.04	0.69 ± 0.01	0.84 ± 0.04	0.86 ± 0.05	3.04 ± 0.14	
Middle Prong Extension	2708	1330	0.67 ± 0.02	0.78 ± 0.01	0.85 ± 0.08	0.75 ± 0.17	2.99 ± 0.13	
Nolichucky Gorge	2285	893	0.66 ± 0.03	0.79 ± 0.01	0.92 ± 0.05	0.86 ± 0.11	3.26 ± 0.06	
Overflow	2432	950	0.65 ± 0.04	0.62 ± 0	0.92 ± 0.04	0.87 ± 0.11	3.04 ± 0.21	
Panthertown #1	1890	1207	0.68 ± 0.05	0.7 ± 0.01	0.93 ± 0.03	0.85 ± 0.14	3.19 ± 0.07	
Panthertown #2	1529	1117	0.66 ± 0.02	0.7 ± 0.01	0.94 ± 0.03	0.86 ± 0.07	3.16 ± 0.11	
Panthertown #3	127	1268	0.66 ± 0.03	0.67 ± 0.02	0.93 ± 0.04	0.86 ± 0.1	3.17 ± 0.05	

Table A1. Cont.

Mountain Treasure Name	Hectares	Elevation (m)	Ecological Integrity	Biodiversity Priority Index	Connectivity Index	Ecosystem Representation Index	Composite Wildland Conservation Value
Piercy Mountain Range	3686	1046	0.66 ± 0.11	0.73 ± 0.09	0.82 ± 0.04	0.86 ± 0.05	3.07 ± 0.21
Pigeon River Gorge	2473	868	0.5 ± 0.21	0.78 ± 0.01	0.88 ± 0.06	0.85 ± 0.11	2.97 ± 0.4
Santeetlah Bluffs	1800	1327	0.63 ± 0.03	1 ± 0	0.9 ± 0.02	0.73 ± 0.18	3.19 ± 0.19
Shining Rock Extension	1968	1623	0.64 ± 0.05	0.78 ± 0.02	0.89 ± 0.03	0.6 ± 0.19	2.88 ± 0.17
Siler Bald	2542	1231	0.68 ± 0.07	0.83 ± 0.08	0.96 ± 0.01	0.83 ± 0.11	3.28 ± 0.17
Slide Hollow NC	80	933	0.69 ± 0.01	0.8 ± 0.02	0.77 ± 0	0.86 ± 0.11	3.17 ± 0.03
Snowbird	3630	1214	0.7 ± 0.04	1 ± 0.01	0.93 ± 0.02	0.83 ± 0.12	3.47 ± 0.13
South Mills River	6929	937	0.7 ± 0.05	0.74 ± 0.01	0.88 ± 0.04	0.86 ± 0.05	3.18 ± 0.08
Southern Nantahala Extension A1	1014	1187	0.7 ± 0.03	0.88 ± 0.01	0.93 ± 0.05	0.87 ± 0.05	3.38 ± 0.09
Southern Nantahala Extension A2	703	1244	0.74 ± 0.02	0.88 ± 0	0.84 ± 0.04	0.86 ± 0.05	3.29 ± 0.09
Southern Nantahala Extension B	3174	1140	0.58 ± 0.23	0.76 ± 0.15	0.85 ± 0.04	0.83 ± 0.13	3.02 ± 0.25
Southern Nantahala Extension D	634	978	0.63 ± 0.05	0.81 ± 0.1	0.93 ± 0.02	0.86 ± 0.04	3.22 ± 0.16
Southern Nantahala Extension E	468	847	0.69 ± 0.01	0.64 ± 0.01	0.94 ± 0.03	0.87 ± 0.03	3.15 ± 0.04
Sugar Knob	2501	786	0.59 ± 0.11	0.73 ± 0.04	0.9 ± 0.06	0.87 ± 0.08	3.09 ± 0.14
Tellico Bald	5068	1133	0.75 ± 0.03	0.81 ± 0.09	0.92 ± 0.06	0.83 ± 0.12	3.29 ± 0.15
Terrapin Mountain	2691	957	0.65 ± 0.08	0.66 ± 0.01	0.9 ± 0.05	0.86 ± 0.13	3.05 ± 0.21
Tusquitee Bald	11,810	1031	0.73 ± 0.03	0.76 ± 0.1	0.92 ± 0.03	0.84 ± 0.1	3.26 ± 0.13
Unicoi Mountains #1	3615	838	0.78 ± 0.02	0.85 ± 0.06	0.94 ± 0.02	0.87 ± 0.05	3.44 ± 0.1
Upper Wilson Creek	3771	817	0.66 ± 0.09	0.73 ± 0.05	0.89 ± 0.05	0.86 ± 0.1	3.11 ± 0.17
Wesser Bald	2693	982	0.69 ± 0.1	0.87 ± 0.15	0.93 ± 0.03	0.86 ± 0.07	3.32 ± 0.17
Woods Mountain	5131	800	0.67 ± 0.04	0.69 ± 0	0.81 ± 0.04	0.87 ± 0.05	3.03 ± 0.1

References

- Gaston, K.J.; Jackson, S.F.; Cantú-Salazar, L.; Cruz-Piñón, G. The ecological performance of protected areas. Ann. Rev. Ecol. Evol. Syst. 2008, 39, 93–113. [CrossRef]
- 2. Pouzols, F.M.; Toivonen, T.; Di Minin, E.; Kukkala, A.S.; Kullberg, P.; Kuusterä, J.; Lehtomäki, J.; Tenkanen, H.; Verburg, P.H.; Moilanen, A. Global protected area expansion is compromised by projected land-use and parochialism. *Nature* **2014**, *516*, 383–386. [CrossRef] [PubMed]
- 3. Secretariat of the Convention on Biological Diversity. *Global Biodiversity Outlook 4*; Secretariat of the Convention on Biological Diversity: Montreal, QC, Canada, 2014.
- 4. Aycrigg, J.L.; Groves, C.; Hilty, J.A.; Scott, J.M.; Beier, P.; Boyce, D.A.; Figg, D.; Hamilton, H.; Machlis, G.; Muller, K.; et al. Completing the system: Opportunities and challenges for a national habitat conservation system. *BioScience* **2016**, *66*, 774–784. [CrossRef]
- Belote, R.T.; Dietz, M.S.; Jenkins, C.N.; McKinley, P.S.; Irwin, G.H.; Fullman, T.J.; Leppi, J.C.; Aplet, G.H. Wild, connected, and diverse: Building a more resilient system of protected areas. *Ecol. Appl.* 2017. [CrossRef] [PubMed]
- 6. Theobald, D.M. A general model to quantify ecological integrity for landscape assessments and US application. *Landsc. Ecol.* **2013**, *28*, 1859–1874. [CrossRef]
- Belote, R.T.; Dietz, M.S.; McRae, B.H.; Theobald, D.M.; McClure, M.L.; Irwin, G.H.; McKinley, P.S.; Gage, J.A.; Aplet, G.H. Identifying corridors among large protected areas in the United States. *PLoS ONE* 2016, *11*, e0154223. [CrossRef] [PubMed]
- 8. Aycrigg, J.L.; Davidson, A.; Svancara, L.K.; Gergely, K.J.; McKerrow, A.; Scott, J.M. Representation of ecological systems within the protected areas network of the continental United States. *PLoS ONE* **2013**, *8*, e54689. [CrossRef] [PubMed]
- 9. Jenkins, C.N.; Van Houtan, K.S.; Pimm, S.L.; Sexton, J.O. US protected lands mismatch biodiversity priorities. *Proc. Natl. Acad. Sci. USA* 2015, *112*, 5081–5086. [CrossRef] [PubMed]
- 10. Schmitz, O.J.; Lawler, J.J.; Beier, P.; Groves, C.; Knight, G.; Douglas, A.B.J.; Bullock, J.; Johnston, K.M.; Klein, M.L.; Muller, K.; et al. Conserving biodiversity: Practical guidance about climate change adaptation approaches in support of land-use planning. *Nat. Areas J.* **2015**, *35*, 190–203. [CrossRef]
- 11. Heller, N.; Zavaleta, E. Biodiversity management in the face of climate change: A review of 22 years of recommendations. *Biol. Conserv.* **2009**, *142*, 14–32. [CrossRef]
- Watson, J.E.M.; Shanahan, D.F.; Di Marco, M.; Allan, J.; Laurance, W.F.; Sanderson, E.W.; Mackey, B.; Venter, O. Catastrophic declines in wilderness areas undermine global environment targets. *Curr. Biol.* 2016, 26, 1–6. [CrossRef] [PubMed]
- 13. Martin, J.-L.; Maris, V.; Simberloff, D.S. The need to respect nature and its limits challenges society and conservation science. *Proc. Natl. Acad. Sci. USA* **2016**, *113*, 6105–6112. [CrossRef] [PubMed]
- 14. Ibisch, P.L.; Hoffman, M.T.; Kreft, S.; Pe'er, G.; Kati, V.; Biber-Freudenberger, L.; Dellasala, D.A.; Vale, M.M.; Hobson, P.R.; Selva, N. A global map of roadless areas and their conservation status. *Science* **2016**, *354*, 1423–1427. [CrossRef] [PubMed]
- 15. Marshall, R.; Dobbins, A. Largest Roadless Areas in the United States. *Living Wilderness* **1936**, *2*, 11–13.
- 16. Theobald, D.M.; Zachmann, L.J.; Dickson, B.G.; Gray, M.E.; Albano, C.M.; Landau, V.; Harrison-Atlas, D. The Disappearing West: Description of the Approach, Data, and Analytical Methods Used to Estimate Natural Land Loss in the Western U.S. Available online: https://disappearingwest.org/methodology.pdf (accessed on 26 April 2017).
- 17. Venter, O.; Sanderson, E.W.; Magrach, A.; Allan, J.R.; Beher, J.; Jones, K.R.; Possingham, H.P.; Laurance, W.F.; Wood, P.; Fekete, B.M.; et al. Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation. *Nat. Commun.* **2016**, *7*, 1–11. [CrossRef] [PubMed]
- Pimm, S.L.; Jenkins, C.N.; Abell, R.; Brooks, T.M.; Gittleman, J.L.; Joppa, L.N.; Raven, P.H.; Roberts, C.M.; Sexton, J.O. The biodiversity of species and their rates of extinction, distribution, and protection. *Science* 2014, 344, 1246752. [CrossRef] [PubMed]
- 19. The Wilderness Society. North Carolina's Mountain Treasures: The Unprotected Wildlands of the Pisgah and Nantahala National Forests; The Wilderness Society: Washington, DC, USA, 2012.

- 20. USDA Forest Service. *Land Areas of the National Forest System*; USDA Forest Service: Washington, DC, USA, 2012; Volume FS-383.
- 21. Aplet, G.H. On the nature of wildness: Exploring what wilderness really protects. *Denver Law Rev.* **1999**, *76*, 347–367.
- 22. Wuerthner, G.; Crist, E.; Butler, T. Protecting the Wild; Island Press: Washington, DC, USA, 2015.
- 23. U.S. Geological Survey Gap Analysis Program. *Protected Areas Database of the United States (PAD-US), Version 1.4;* U.S. Geological Survey: Reston, VA, USA, 2016.
- Dietz, M.S.; Belote, R.T.; Aplet, G.H.; Aycrigg, J.L. The world's largest wilderness protection network after 50years: An assessment of ecological system representation in the U.S. National Wilderness Preservation System. *Biol. Conserv.* 2015, 184, 431–438. [CrossRef]
- 25. Aycrigg, J.L.; Tricker, J.; Belote, R.T.; Dietz, M.S.; Duarte, L.; Aplet, G.H. The next 50 years: Opportunities for diversifying the ecological representation of the National Wilderness Preservation System within the contiguous United States. *J. For.* **2015**, *114*, 1–9. [CrossRef]
- 26. Albuquerque, F.; Beier, P. Rarity-weighted richness: A simple and reliable alternative to integer programming and heuristic algorithms for minimum set and maximum coverage problems in conservation planning. *PLoS ONE* **2015**, *10*, e0119905. [CrossRef] [PubMed]
- 27. Margules, C.R.; Pressey, R.L. Systematic conservation planning. *Nature* 2000, 405, 243–253. [CrossRef] [PubMed]
- 28. Noss, R.F.; Cooperrider, A. Saving Nature's Legacy: Protecting and Restoring Biodiversity; Island Press: Washington, DC, USA, 1994.
- 29. Soulé, M.E.; Terbough, J. Conserving nature at regional and continental scales: A scientific program for North America. *BioScience* **1999**, *49*, 809–817. [CrossRef]
- Mawdsley, J.R.; O'Malley, R.; Ojima, D.S. A review of climate-change adaptation strategies for wildlife management and biodiversity conservation. *Conserv. Biol.* 2009, 23, 1080–1089. [CrossRef] [PubMed]
- 31. Gillson, L.; Dawson, T.P.; Jack, S.; McGeoch, M.A. Accommodating climate change contingencies in conservation strategy. *Trends Ecol. Evol.* **2013**, *28*, 135–142. [CrossRef] [PubMed]
- 32. Huston, M. Biological and Diversity, Economics, and Soils. Science 1993, 262, 1676–1680. [CrossRef] [PubMed]
- 33. Hagerman, S.M.; Satterfield, T. Agreed but not preferred: Expert views on taboo options for biodiversity conservation, given climate change. *Ecol. Appl.* **2014**, *24*, 548–559. [CrossRef] [PubMed]
- 34. Beier, P. Conceptualizing and designing corridors for climate change. *Ecol. Restor.* **2012**, *30*, 312–319. [CrossRef]
- 35. Belote, R.T.; Dietz, M.S.; Aplet, G.H. Allocating Untreated "Controls" in the National Wilderness Preservation System as a Climate Adaptation Strategy: A Case Study from the Flathead National Forest, Montana. *Northwest Sci.* **2015**, *89*, 239–254. [CrossRef]
- 36. Delcourt, P.A.; Delcourt, H.R. Paleoecological insights on conservation of biodiversity: A focus on species, ecosystems, and landscapes. *Ecol. Appl.* **1998**, *8*, 921–934. [CrossRef]
- Hannah, L.; Flint, L.; Syphard, A.D.; Moritz, M.A.; Buckley, L.B.; McCullough, I.M. Fine-grain modeling of species' response to climate change: Holdouts, stepping-stones, and microrefugia. *Trends Ecol. Evol.* 2014, 29, 390–397. [CrossRef] [PubMed]
- Fridley, J.D. Downscaling climate over complex terrain: High finescale (<1000 m) spatial variation of near-ground temperatures in a montane forested landscape (Great Smoky Mountains). J. Appl. Meteorol. Climatol. 2009, 48, 1033–1049. [CrossRef]
- 39. Kozak, K.H.; Wiens, J.J. Does Niche Conservatism Promote Speciation? a Case Study in North American Salamanders. *Evolution* **2006**, *60*, 2604. [CrossRef] [PubMed]
- 40. Delcourt, H.R.; Delcourt, P.A.; Webb, T. Dynamic plant ecology: The spectrum of vegetational change in space and time. *Quat. Sci. Rev.* **1982**, *1*, 153–175. [CrossRef]
- 41. Lawler, J.J.; Shafer, S.L.; White, D.; Kareiva, P.; Maurer, E.P.; Blaustein, A.R.; Bartlein, P.J. Projected climate-induced faunal change in the Western Hemisphere. *Ecology* **2009**, *90*, 588–597. [CrossRef] [PubMed]
- 42. McGuire, J.L.; Lawler, J.J.; McRae, B.H.; Nuñez, T.; Theobald, D.M. Achieving climate connectivity in a fragmented landscape. *Proc. Natl. Acad. Sci. USA* **2016**, *113*, 7195–7200. [CrossRef] [PubMed]

- Belote, R.T.; Dietz, M.S.; McKinley, P.S.; Carlson, A.A.; Carroll, C.; Jenkins, C.N.; Urban, D.L.; Fullman, T.J.; Leppi, J.C.; Aplet, G.H. Mapping conservation strategies under a changing climate. *BioScience* 2017, bix028. [CrossRef]
- 44. Burkhard, B.; Petrosillo, I.; Costanza, R. Ecosystem services—Bridging ecology, economy and social sciences. *Ecol. Complex.* **2010**, *7*, 257–259. [CrossRef]
- 45. Holmes, T.P.; Bowker, J.M.; Englin, J.; Hjerpe, E.; Loomis, J.B.; Phillips, S.; Richardson, R. A Synthesis of the Economic Values of Wilderness. *J. For.* **2016**, *113*, 1–9. [CrossRef]
- Withey, J.C.; Lawler, J.J.; Polasky, S.; Plantinga, A.J.; Nelson, E.J.; Kareiva, P.; Wilsey, C.B.; Schloss, C.A.; Nogeire, T.M.; Ruesch, A.; et al. Maximising return on conservation investment in the conterminous USA. *Ecol. Lett.* 2012, *15*, 1249–1256. [CrossRef] [PubMed]
- 47. Pressey, R.L.; Bottrill, M.C. Approaches to landscape- and seascape-scale conservation planning: Convergence, contrasts and challenges. *Oryx* **2009**, *43*, 464. [CrossRef]
- 48. Noss, R.F.; Platt, W.J.; Sorrie, B.A.; Weakley, A.S.; Means, D.B.; Costanza, J.; Peet, R.K. How global biodiversity hotspots may go unrecognized: Lessons from the North American Coastal Plain. *Divers. Distrib.* **2015**, *21*, 236–244. [CrossRef]



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