Comments: North Fork Smith Restoration Project 2024

To: https://cara.fs2c.usda.gov/Public//CommentInput?Project=59122.

From: Paul Engelmeyer and Joe Liebezeit, Bird Alliance of Oregon (formerly Portland Audubon)

Subject: Comments on Draft EA for South Fork Smith Restoration Project

Date: September 11, 2024

Dear Michele Jones,

Please accept the following comments from Bird Alliance of Oregon (BAO) concerning the Draft Environmental Analysis (EA) for North Fork Smith Restoration Project. BAO promotes the understanding, enjoyment, and protection of native birds, other wildlife, and their habitats. Since 1902 we have inspired people in the Pacific Northwest to love & protect nature. We appreciate the opportunity to work with the Siuslaw National Forest (SNF) as they move forward with their conservation efforts here in the Coast Range Bioregion.

A. Further Background Analyses are needed for the EA

The following analyses and related actions are lacking in the EA. These analyses and actions are necessary to meet the purpose and need of the EA.

The North Fork Smith Restoration Project EA fails to report on recommended actions and policies laid out in the 1995 - 96 Smith River Watershed Analyses report. Below we laide out these important examples of how that should be implemented in the EA.
(See table below attached below relating to road decommissions efforts)

1. **Identification and protection of remnant interior forest patches that can help link up larger interior forest stands:** To inform the decisions about plantation thinning, it is important for the SNF to conduct analyses that provide detailed information on the distribution of tree size classes and age classes in order to identify and protect any small interior forest patches that may exist. These small patches of interior forests are important features that can help "link" adjacent interior forest patches to help assure the recovery and dispersal of the ESA listed Marbled Murrelet and other species dependent on older forest conditions.

   In the fragmented forest in the Smith River basin where natural stands/mature habitat totals 14,800 acres there are limited interior habitat patches. Theses range in size from 8 to 1500 acres. This situation requires a concerted effort to "link" these patches and requires a more limited thinning approach to reduce corvid predation (from the attraction caused by the flush of berry producing plants), blow down, and edge effects for the benefit of listed species and species of concern.

Desired Action After Analysis: Once current interior forest patches are identified, implementation of appropriate silvicultural management prescriptions adjacent to these small patches is essential to linkage areas as well as retain 80% canopy cover. –These actions will be hugely important in ensuring habitat connectivity for ESA listed and sensitive species including Red tree vole, Humboldt Marten, northern flying squirrel and Northern Spotted Owl. Increasing connectivity would increase dispersal ability as well as reduce nest predation risk for ESA listed Marbled Murrelet chicks.

We have previously shared the recently released Pacific Seabird Group **Terrestrial Habitat Management Recommendations for Marbled Murrelets[1] and the updated Inland Survey protocol[2].** However, recommendations from the Terrestrial Habitat plan does not appear to have been incorporated into the NF Smith planning prescriptions.

Here are just a few key actions identified in the document that are essential for the conservation of the Murrelet and should be specifically addressed in the NF Smith EA:

- **delineate occupied areas;**
- **protect all mature suitable nesting habitat;**
- **maintain and enhance (improve the quality and/or increase the size of) forested areas adjacent to habitat (see *Minimizing Edge Effects Through Buffers*);**
- **maintain and enhance large blocks of contiguous forest cover (maximize stand size and minimize fragmentation; USFWS 1997);**
- **minimize predation and predator numbers in and near habitat (see *Minimizing Edge Effects Through Buffers);***
- **minimize the effects of disturbance near habitat (see *Minimizing Disturbance and Disruption*; USFWS 1997, USFWS 2015, UFWS 2020) and**
- **avoid or minimize adverse impacts to murrelet habitat due to forest fires, for example by preventing Megafires (see *Managing and Reducing Threats of Megafires).***

2. **Promoting Connectivity of Interior Forests: The NF Smith EA should include analyses of how prescriptions within Project area as well as in the larger forested areas, could support the protection of and linkage of interior forest within and across adjacent management units in the Coast Range Bioregion. It should also include analysis of how no-cut buffers, skips and strategic avoidance of areas of windthrow vulnerability could be used to buffer, extend and link interior habitat areas for the Marbled Murrelet and other ESA listed species and species of conservation concern previously highlighted.**

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[1] https://pacificseabirdgroup.org/wp-content/uploads/2024/02/Terrestrial-Habitat-Management-Recommendations-for-MAMU-2024.pdf

[2] https://pacificseabirdgroup.org/wp-content/uploads/2024/02/A-Revised-Protocol-for-Surveying-MAMU-in-Forests-2024.pdf

Desired action after analysis: Produce a prioritization, timeline and a map that delineates where prescriptions will be applied to improve connectivity in specific stands within the Smith watershed covered in the EA. A prioritization and this effort would fulfill the policy direction of protecting mature and old growth forest - protecting the integrity of interior forest patches is essential.

3. **Identification of opportunities to enlarge sensitive species habitat.**
   We are pleased that in the past the SNF identified blocks of interior forest habitat in the planning area - this is first significant step for landscape conservation planning.
   An analysis of the lands in the planning area is needed to identify opportunities to recover blocks of roadless areas to provide secure habitat. The analysis should include an assessment of the specific acreages needed in the planning area to recover sensitive species listed under the ESA or been a identified as a species of conservation concern.

   As we have stated previously according to the **'1995 Assessment Report Federal Lands in and adjacent to Oregon Coast Province'** interior forest conditions in the basins in the planning area are approximately 9%. **This report gives clear direction for the need to secure additional and larger blocks of this interior habitat.** The Assessment goes on to acknowledge that within the Coast Range lands the median patch size in the early 1900s was approximately 100,000 acres by 1945 the median patch size was approximately 3,000 acres by 1990 the patch size averages 137 acres.

   Desired Action After Analysis: Assure that these areas are identified for protection as interior forest habitat and management prescriptions and entry are curtailed. Actions to protect and increase interior forest patches will take a variety management strategies. Road closures and decommissioning is just another critical part of this conservation effort.

4. **Roads Analysis**
   We support the direction of culvert replacements and bridge removal throughout the basin, however, the EA lacks a thorough description of current conditions of the road network.

   A clear analysis that shows current road density per square mile of land in the planning area is needed. This should include total roads, including legacy roads, and should specifically identify the number of valley bottom roads in the planning area.

   Increased road density can compromise the health of terrestrial as well as aquatic systems. While legacy roads alone may not equate to the impacts from our current road network, we believe that overall cumulative road density impacts may still be significant and negatively impact watershed condition in the uplands as well as in the aquatic system. This has consistently been acknowledged in the Forest Service's guidance for Roads Analysis (USDA Forest Service 1999).

Understanding road density and location can help to gauge the impact of roads on natural watershed processes. **NOAA Fisheries has defined road densities of less than 2 miles/ square mile with no valley bottom roads as "properly functioning" and so the EA should strive to hit this target.**

Desired Action After Analysis: We would like to see a plan to decrease road density (linear miles/square mile) for the Project to meet the NOAA standards:
"Densities between 2 and 3 miles / square mile with some valley bottom roads are designated as "at risk" and densities over 3 miles / square mile with many valley bottom roads are considered "not properly functioning".

We support adequate funding for road decommissioning, if the analysis indicates the necessity in order to improve watershed health. Below is a list of roads recommended for decommissioning in the Watershed Analysis but we have not seen any information if these segments have all been completed. How did this changes the road densities in key watersheds?
The Smith River Watershed Analysis

Road ID	Segment Length (mi.)	Status	Maintenance Level	Objective	Surface Type	Service Life	Open to Public?
4830962	1	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
4800922	4.9	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
4800926	0.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
2300956	1.1	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4830911	0.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4830910	0.1	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4811948	1.03	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	
4830961	0.5	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4820952	0.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	
2300926	0.49	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4811027	1.33	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	C - LONG TERM SERVICE	ALL
4811037	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4811956	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
2300943	0.1	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	S - SHORT TERM SERVICE	
2300933	0.66	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4811030	0.2	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	C - LONG TERM SERVICE	
4800991	0.6	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	C - LONG TERM SERVICE	
4811042	0.5	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4811034	0.7	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	C - LONG TERM SERVICE	ALL
4811022	0.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4811957	0.6	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
2300944	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	S - SHORT TERM SERVICE	
4800990	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	
4800932	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
4830965	0.2	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	IMP - IMPROVED NATIVE MATERIAL	IS - INTERMITTENT STORED SERVICE	ALL
4830956	3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
4811955	0.6	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4820951	0.6	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4800921	0.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4890910	0.2	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4800910	1.8	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
2300920	0.3	EXISTING	2 - HIGH CLEARANCE VEHICLES	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4811024	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	
4811033	0.8	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	ALL
4830985	0.3	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
4830963	0.2	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	
4800989	1.4	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	
4800927	0.5	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	IS - INTERMITTENT STORED SERVICE	ALL
2300923	0.43	EXISTING	1 - BASIC CUSTODIAL CARE (CLOSED)	DECOMMISSION	AGG - CRUSHED AGGREGATE OR GRAVEL	I - INTERMITTENT TERM SERVICE	

5. **Carbon storage/climate changes -** Trees, particularly in the Pacific Northwest are important carbon stores. The NF Smith project should include a carbon analysis and the disclosure of timber cutting's impacts on the value of current carbon storage in stands that are nearing 80 years.

Action Desired After Analysis: If the thinning actions create a negative carbon budget, areas where trees will be planted and protected in perpetuity as an offset should be identified.

6. **Beaver should be acknowledged and prioritized within the EA and Forest wide planning effort. This keystone species plays an incredible role in the recovery of many species and as well as storing water and creating wetlands habitat in the upper portions of the basin. A recently published document by Jefferson and Manning 2024 states, "*There is ample and definitive evidence to show that beavers managing healthy floodplains directly benefit the majority of Species of Greatest Conservation Concern, across all Oregon Ecoregions, and across all taxa. The benefits provided by Beaver Managed Floodplains directly support many overlapping and inter-reliant federal and state species management mandates which are best achieved through collaborative planning. Formal designation of beaver managed floodplains as an Oregon Conservation Strategy Habitat is critical to improving collaborative conservation of Oregon's Species of Greatest Conservation Concern.*" *This new Dunning and Jacobs ONDA study documents 19 federal endangered species benefited by beavers".***

Action Desired After Analysis:

- **Acknowledge that robust beaver populations at the landscape scale is the goal**
- **Identify the ESA listed species with recovery plans that would benefit from beaver-driven restoration.**
- **Use the Beaver Restoration Assessment Tool model to prioritize stream reaches that would be appropriate to translocate beaver families.**
- **Partner with the tribes and watershed councils for organizing staging areas to hold beavers prior to release. Incorporate riparian restoration and large wood placement into the aquatic conservation effort.**
- **Follow the USFWS recommendations for beaver conservation and communication strategies that would benefit recovery of beaver populations in basin.**

B. The Scientific Literature Does Not Support the Proposed Thinning Regimes for Interior Forest and Species Protection

We believe that for a number of the stands, proposed treatments will not lead to the recovery of multiple species of concern. While we support improving habitat conditions through a thinning and restoration forestry program on plantation stands that are early in their development, we do not support such actions in areas where we have good canopy closure near mature stands that support sensitive species. In these areas, ecological values must be prioritized including:

1. Keep canopy cover after thinning to ≥ 80%. Current management of 40% canopy reduction is too aggressive thinning program, leaving excessively wide tree spacings. This spacing will degrade habitat via blow down leading to increased fragmentation risk, increasing predation for the murrelet and other species in the interior forest guild. The increase to 80% canopy cover or more is based on conversations with murrelet experts.

2. Remaining canopy should be retained and variable spaced thinning grids can be used to provide more structure

3. No early seral maintenance treatments are appropriate in these critical areas. Early seral stage is not a limiting factor by any means - the thousands of acres of coastal clear cuts are way more than enough and the only reason to maintain early seral is if it were complex early seral (e.g. if a mature forest burned or experienced blow down and where maintaining biological legacies is essential).

4. The cumulative impacts and the juxtaposition of so many adjacent logging unit treatments to accomplish canopy reductions will negatively impact murrelets, tree voles, owls, and potentially other fragmentation sensitive species (e.g. marten, if present). Thinning units need to be spaced appropriately with adequate spacing.

5. To reduce competition at the stem exclusion phase tree girdling should be used to leave more structure while leaving more of the forest intact. From a brief field visit to previously thinned units with forest ecologists we noticed the wide spacing, heavy thin, and lack of logs, snags, and a deficiency of understory complexity on the forest floor. In one unit after one east wind event there was significant blow-down - so a light thin went to heavy thin open canopy - I have not seen any monitoring analysis on this type of prescription. Paul Engelmeyer is willing to visit the site with Forest Service staff.

6. None of the 700 trees that will be used to improve stream conditions should be taken from areas that would negatively impair interior forest conditions nor impact the integrity of any identifiable interior patches within the basin.

7. Thinned wood should be left on the forest floor and additional retention of larger trees is necessary to retain basal area to ensure long-term recruitment of large trees and snags into the future. Additionally, thinning in the identified units should be curtailed to mitigate for known microclimate impacts on marbled murrlets (and potentially other interior forest species).

The effects of forest fragmentation on microclimate edge effects may be more complicated and with longer-term negative impacts than previously thought. Research indicates potential impacts of such microclimate edge effects on MAMU and other interior forest dependent species. **Therefore, we do not support opening the canopy to 40% in the stands adjacent to the interior forest patches that are deemed occupied by the murrelet.**

Such an approach is supported by the following research:

- **Forest fragmentation results in abiotic changes to forest structure which affects nest site suitability (Malt and Lank 2007).**

- Chen et al. (1993, 1995) found fragmented stands and forest edge areas to have higher winds, increased solar radiation, and lower humidity than contiguous mature and old-growth forests.
- Malt and Lank (2007) found that sites at timber harvest edge (both clear cuts and re-generating forests) had lower moss abundance than interior sites and natural edge sites (stream corridors and avalanche chutes) due to stronger winds, higher temperature variability and lower moisture retention when compared with interior sites.
- Burger (2002) found that Marbled Murrelets are more likely to select suitable nest trees and stands with high rates of lichen and bryophyte growth.
- The Science Findings July 2024 PNW Issue 268, *Hot Air or Dry Dirt: Investigating the Greater Drought Risk to Forests in the Pacific Northwest* identifies critical issues related-to thinning and moisture content within the stands - Please incorporate this information into the SNF thinning program.

Action Desired After Analysis: Take the top 80% interior forest subwatershed in Table 12 below and develop connectivity prescription that would address the following concerns;
- the PSG Murrelet recommendations concerning buffers adjacent to the occupied stand - increase survivorship - and follow the PSG habitat recommendations - see above
- 80% canopy closure for dispersal of Northern Spotted Owl
- Flying squirrel movement between interior patches may secure the prey base for the Northern Spotted Owl
- Marten movements between patches or linage stands may be improved
- Microclimate effects on interior patches

Table 12. Interior Mature Conifer Forest (>500' From Edge) By Subwatershed In Smith River Watershed

Subwatershed	Interior mature conifer (acres)	% of sub-watershed mature = interior	Subwatershed	Interior mature conifer (acres)	% of sub-watershed mature = interior
Coon	94	15	Smith falls	254	19
Eslick	514	34	Spencer	216	18
Johnson	47	6	Steelie	1,679	38
Joyce	30	39	Sulphur	620	40
Kentucky	1,514	37	Upper Wassen	3,416	65
Lower North Fork Smith	252	26	Vincent	245	16
Lower Wassen	538	35	Wassen	1,117	56
Murphy	656	30	Wassen Lake	1,610	52
Okie S	758	41	West Branch	383	21
Otter	615	40	Weiss	1,064	47
Peach	1,261	34	West Fork Smith	511	25
Sheep	785	29	West Smith	39	12

- **Leaving plantation trees in the higher trees per acre range appears to store carbon better than thinning**
- **Leaving more trees on the forest floor would have ecological benefits for multiple species many of which may be prey for ESA listed species like the NSO and the Marten.**

We have also reviewed comments submitted by both Oregon Wild and Wild Earth Guardians and we embrace their concerns and support their recommendations. We look forward to discussing these issues further with the SNF staff.

Sincerely,

Paul Engelmeyer, Ten Mile Creek Sanctuary Manager
Bird Alliance of Oregon
[redacted]

Joe Liebezeit, Assistant Director of Statewide Conservation
Bird Alliance of Oregon
[redacted]

David Eisler
[redacted]

Literature Cited

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U.S. Fish and Wildlife Service. 1997. Recovery plan for the Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon and California. Portland, OR: Oregon Field Office: 203pp.

Appendix A—Supporting Information by Species

Our recommendations above are supported by what we consider to be the 'Best Available Science' that supports the protection of habitat for Marbled Murrelet and other species of concern, including Red Tree Vole, Humbolt Marten, Flying squirrel, and Northern Spotted Owl.

Northern Spotted Owl

We urge you to consider a higher canopy cover in strategic locations throughout the planning area in order to retain habitat connectivity to assure optimal dispersal habitat for the Northern Spotted Owl as indicated by the research paper cited below:

Stan G. Sovern, Eric D. Forsman, Katie M. Dugger, Margaret Taylor. 2015. Roosting Habitat Use and Selection By Northern Spotted Owls During Natal Dispersal. The Journal of Wildlife Management 79(2):254–262; 2015; DOI: 10.1002/jwmg.834. http:// agsci-labs.oregonstate.edu/duggerka/files/2016/09/Sovern-et-al.-2015.pdf

"Management Implications. ... Based on our study, we recommend that managers should pursue a strategy that exceeds the canopy cover guidelines recommended by Thomas et al. (1990) when managing dispersal habitat for spotted owls. Based on our estimate of mean canopy closure (66%), and our estimate of mean canopy cover from overlaying a dot grid on the same areas (approx. 14% larger), we recommend that the target for canopy cover in stands managed for dispersing spotted owls should be at least 80%.")

Northern flying squirrels

Dr. Brenda McComb on 'Young Stand Thinning and Diversity Study' in 2009' indicated the following in her recommendations:

• Thinning had a marked and consistent negative effect on northern flying squirrels. NOTE: this is consistent with the Forest Ecosystems Studies findings

- **Since northern flying squirrels are a primary food source for the Northern Spotted owl, thinnings should be strategically placed within a matrix of unthinned stands**
- **We anticipate that flying squirrel populations will recover as thinned stands close canopy and mature, unthinned stands will be an important bridge until that time.**

Humboldt Marten

Historically, the Marten inhabited our Coast Range Bioregion and is currently currently listed under the ESA threatened designation. We urge you to consider the information concerning canopy cover and predation. Martens are threatened by the ongoing logging of mature forests, loss of closed-canopy habitat, to wildfires, rodent poison used in marijuana cultivation, and vehicle strikes.

As you are well aware Humboldt martens are elusive, cat-sized members of the weasel family. Once common in coastal forests in Northern California and Oregon, the animals were nearly wiped out by logging and widespread trapping. Today, fewer than 400 of these amazing carnivores remain, in just four highly isolated fragments of the species' historic habitat.

A presentation by John Bailey, Oregon State University, Keith Slauson, USFS, Pacific Southwest Research Station and Katie Moriarty, Oregon State University drew attention to the following issues in particular the issue of forest cover below 70%:

- Associated with structurally-complex forests
- Rest and den sites = snags, trees and logs >36" DBH
- **Populations decline in areas with 25-30% forest cover removed (Hargis *et al.* 1999, Potvin *et al.* 2000)**
- Dietary generalist (given high metabolism)
- **High predation risk - complexity on the forest floor, road systems, canopy cover, connectivity between the small interior forest patches will play a critical role is the recovery of this unique species in our fragmented simplified habitat conditions.**

Marbled Murrelets:

'Terrestrial Habitat Management Recommendations for Marbled Murrelets' compiled by the Pacific Seabird Group/Marbled Murrelet Technical Committee, January 2024. Pacific Seabird Group Technical Publication Number 7

It is well accepted that research indicates that nest predation is over 70%. Therefore, we believe the highest priority for the SNF thinning program should to reduce predation rates on Murrelets for the North Fork Smith Restoration Project and to truly protect known occupied habitat in the near term.

We have asked that you adopt a precautionary approach and place thinned stands within a matrix of unthinned stands and create buffers adjacent to all Murrelet occupied stands.

As a precautionary measure we urge you to follow a recommendation from the 1997 MAMU Recovery Plan, and to implement no-cut buffers adjacent to occupied stands:

> ***3.1.1.3 Maintain and enhance buffer habitat surrounding occupied habitat. Maintaining buffers around occupied habitat will mediate the effects of edge by helping to reduce environmental changes within the stand, reduce loss of habitat from windthrow and fire, reduce fragmentation levels, increase the amount of interior forest habitat available, and potentially help reduce predation at the nest. To have the greatest benefits, buffer widths should be a minimum of 300-600 feet and should consist of whatever age stand is present, including existing plantations (which should be managed to provide replacement habitat).***

The proposed thinning units adjacent to occupied stands should follow the Marbled Murrelet Recovery Plan recommendations and contain a prescription of 'no-cut' buffers or skips. How to best reduce negative impacts from edge effects can be obtained via long-term effectiveness monitoring.

While the SNF has developed a draft monitoring plan, the effectiveness of this monitoring will be hampered by the lack of control stands, and sites within the 100M to 600M no-cut buffers adjacent to occupied stands. Without such we will not be able to fully understand any effects of the thinning program.

The Coast Range has undergone massive changes from both natural and human factors. One primarily human-caused change has been a reduction in relatively large contiguous areas of late-successional habitats due mainly to roading for timber harvest activities (Maps D.6 - D.8). The following table illustrates how availability of large contiguous forested areas has changed in just the last 100 years.

Year	Isolated Acres in Coast Range[1/]	Median Patch Size
-1900	Virtually the entire Range (1,000,000+)	100,000+
-1945	576,000	3,000
1990	121,000	137

1/ Acres of land greater than 0.25 miles from roads.

Wildlife communities have responded to the above, some positively and some negatively. Species that evolved in and are adapted to large relatively unbroken blocks of habitat are listed below with their last known occurrence in the Coast Range of Oregon.

Species	Last Known Coast Range Occurrence
Grizzly bear	About 1820
Gray wolf	1934
Wolverine	1972
Fisher	1973
Lynx	1984

Restoration and recovery of large areas of unbroken late-seral forest communities will not happen by chance, and will require seizing opportunities identified through watershed analysis. Five areas of the Siuslaw National Forest with relatively high proportions of mature conifer forest and relatively low road density have the best potential for recovery of unbroken late-seral forest communities:

1) Key WS that contains Hebo-Nestucca Roadless Area, Three Rivers WS, and the Key WS portion of the Little Nestucca WS.
2) Key WS portion of Schooner Drift (Siletz) WS.
3) Key WS portions of Beaver, Drift (Alsea), and Toledo WS.
4) Yachats, Tenmile/Cummins, and the Key WS portions of Big/Rock/Cape, North Fork Siuslaw, and Indian Creek WS's.

We have asked for but not received for review the 2019 Letter of Concurrence (LoC) from the USFWS. We asked the document be shared with the public. We urge you to clearly address how your actions in the LSR would be consistent with this letter and also be consistent with the MAMU Recovery Plan (1997) as well as the PSG Terrestrial Habitat Recommendations (2024). We have been asked about the rationale concerning the necessity to incorporate buffers for MAMU so please consider the following citations (see literature above). We will work to upload the full documents.

The necessity to incorporate buffers:

- **Intact buffers around occupied, suitable, and restoration sites are needed to maintain or allow the creation of high-quality nesting habitat (McShane et al. 2004)**
- **Reduce potential for blowdown (Jaross and Read 2006**

- **Maintain microclimate (Chen et al. 1993, 1995, Kremsater and Bunnell 1999, McShane et al. 2004)**

- **Reduce the impacts of hard edges, which have been linked to increased nest predation (Nelson et al. 2002, ;**
    - **Reduction in predation rates: (MAMU Recovery Plan (USFWS 1997)***
      3.1.1.3 Maintain and enhance buffer habitat surrounding occupied habitat. Maintaining buffers around occupied habitat will mediate the effects of edge by helping to reduce environmental changes within the stand, reduce loss of habitat from windthrow and fire, reduce fragmentation levels, increase the amount of interior forest habitat available, and potentially help reduce predation at the nest. To have the greatest benefits, buffer widths should be a minimum of 300-600 feet and should consist of whatever age stand is present, including existing plantations (which should be managed to provide replacement habitat).
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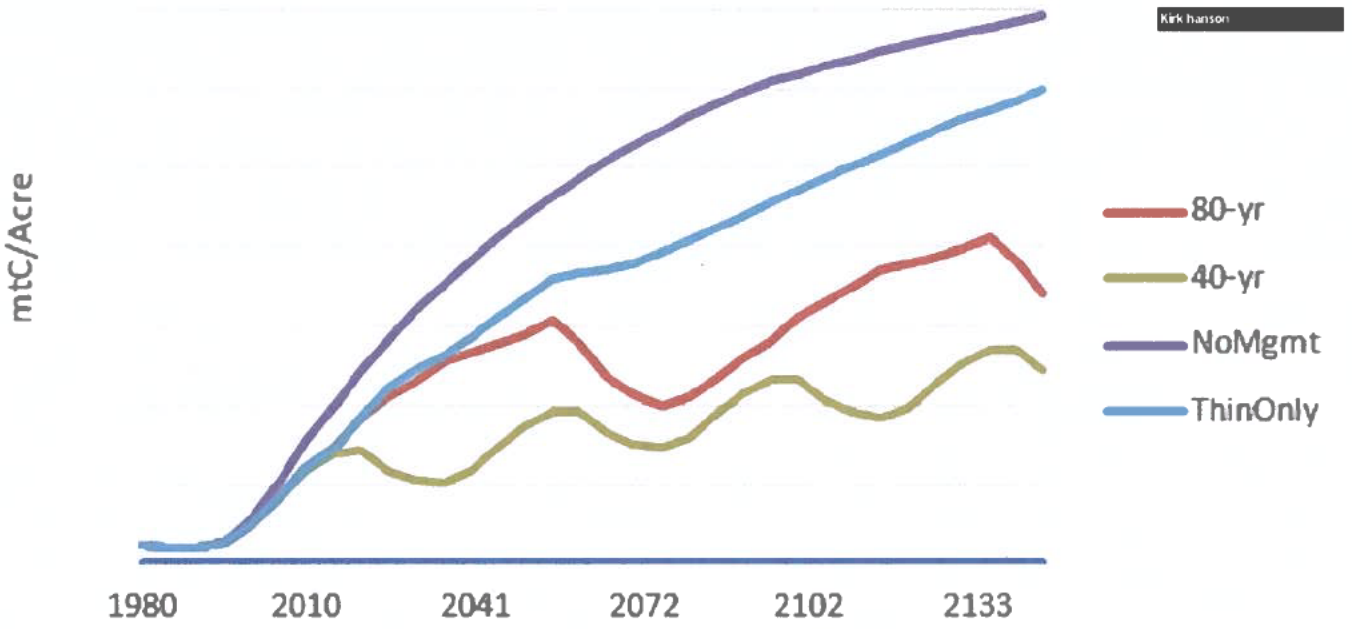
- **Additionally, windthrow or blowdown can result from the clearcut harvest of adjoining areas on private lands and on ridges exposed to high winds.**
- **Malt and Lank (2007) found that sites at timber harvest edges had lower moss abundance than interior nest sites and natural edge sites (stream corridors and avalanche chutes) due to stronger winds, higher temperature variability, and lower moisture retention when compared with interior sites. Maintaining microclimate is critical to maintaining moisture in the stand to help moss development and aid in proper thermoregulation of adults and chicks.**

Carbon accounting can and should be included in this EA. See the link https://www.nnrg.org/longer-rotations-and-carbon



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