National Headquarters
1130 17th Street, N.W. | Washington, D.C. 20036-4604 | tel 202.682.9400 | fax 202.682.1331
www.defenders.org

October 5, 2020

Chuck Mark, Forest Supervisor
Salmon-Challis National Forest
Supervisor's Office
1206 S. Challis Street
Salmon, ID 83467

Dear Mr. Mark:

We are writing in response to the Salmon-Challis National Forest (SCNF) September 22, 2020 plan revision update in which the Forest Service requested feedback on whether to revise, amend, or not change the Salmon and Challis plans. Thank you for providing an opportunity to weigh in on management planning at this crucial moment in the process.

Defenders recommends the SCNF revise the 30+ year old Salmon and Challis forest management plans as one consolidated plan. Forest conditions have changed, and new science should be reflected in plan components, suitability determinations, and designated area considerations. Consolidating the plans will result in management efficiencies and enable the Forest Service to adopt management prescriptions that account for the broader landscape, which is a requirement in the 2012 Planning Rule. The attached documents help demonstrate a plan revision is warranted. One provides new information about grizzly bear dispersal, and the other reports the results of a spatial analysis that examines at-risk species habitat resilience, connectivity, and conservation across SCNF and the surrounding ecoregions.

Sincerely,

Lauren McCain
Senior Federal Lands Policy Analyst
[redacted]

Erin Edge
Senior Representative, Rockies and Plains Program
[redacted]

Peter Nelson
Director, Federal Lands
[redacted]

[redacted]
1. New Information on Grizzly Bear Dispersal and Recommendations for Planning
2. An Analysis of At-risk Species Habitats and the Role of the Forest in the Ecoregional Complex

New Information on Grizzly Bear Dispersal and Recommendations for Planning

On January 21, 2020, USFWS sent a letter to the four national forests that manage parts of the Bitterroot Ecosystem confirming that Section 10(j) does not apply to grizzly bears that have dispersed into the Bitterroot on their own, and that in fact such dispersal is occurring.[1] Given natural recolonization, the Forest Service must consider how it is going to facilitate connectivity, establishment and recovery of an essential, non-experimental natural population of grizzly bears. The return of grizzly bears to the Bitterroot Ecosystem is significant new information that must be considered in a forest plan revision process for the Salmon-Challis National Forest (SCNF) and other affected national forests. Since SCNF manages the land that is necessary to achieve grizzly bear recovery, it is very clear that now is the time to plan for grizzly bears to occupy and persist in the Bitterroot Ecosystem, and the vehicle for doing so is a combined forest plan revision.

Connecting areas between national forests and providing adequate plan components to address habitat security could allow for grizzly bears to successfully move into the Bitterroot Ecosystem. A revised SCNF forest plan needs to identify areas and adopt plan components that would achieve this desired outcome.

A food storage order is necessary and past due as it can prevent conflicts with other wildlife and is a proactive step the Forest can take before grizzly bear occupancy occurs. Grizzly bears that get into attractants such as coolers and garbage can become food—conditioned which can be dangerous for both people and bears. In addition, the national forests responsible for managing the Bitterroot Ecosystem should coordinate recovery strategies, particularly food storage orders, which can be confusing to the public. SCNF should be included in this effort, given the Forest's potential role in facilitating natural dispersal into the Bitterroot Ecosystem.

Defenders requests that a revised and combined forest plan:
1) Identify the area to be managed for a recovered population, where the desired condition is occupation by bears, and adopt plan components and requirements to achieve that outcome;
2) Identify areas that are needed for population connectivity, and adopt plan components and requirements to achieve that outcome;
3) Adopt protection for bears that may range outside of these two areas.

While Defenders is requesting a combined forest plan revision process for SCNF, we also recognize that one possible approach to addressing this and incorporating plan components into multiple forest plans in various stages of the planning process would be a multi-forest grizzly bear amendment. This could allow for consistency and improved coordination amongst the various forests' plans.

The timetable for the revised SCNF plan is uncertain. This new information[1] about the
Forests as a conduit for grizzly bears should require consideration of possible changes in forest plans. It is also evident that bears from the Greater Yellowstone Ecosystem will likely reach the Bitterroot Ecosystem via SCNF. This makes plan revision timely and necessary.

[1] Letter from USFWS Idaho Fish and Wildlife Office and Montana State Ecological Services to Bitterroot, Lolo, Nez Perce-Clearwater and Salmon-Challis National Forests.

Salmon Challis National Forest: An Analysis of At-risk Species Habitats and the Role of the Forest in the Ecoregional Complex

Defenders of Wildlife conducted spatial analyses to quantify the current and potential role of the Salmon-Challis National Forest ("SCNF" or "forest") in conserving and recovering at-risk species for the greater ecosystem network and beyond. We focused our analyses on conservation, connectivity, and resilience of habitats for at-risk species, particularly those dependent on riparian ecosystems and old-growth forests (i.e., focal species). Additionally, we highlight important areas for grizzly bear dispersal to SCNF. This combination of science and maps can provide the Forest Service key baseline information about important places that deserve consideration for special protection during the plan revision processes. We report our findings below.

SCNF, a 4.4-million-acre national forest in Idaho, sits within the High Divide, Crown of the Continent, and Greater Yellowstone ecoregions ("ecoregional complex"). The forest is a stronghold for wildlife. As the bridge between the Greater Yellowstone to the Crown of the Continent ecosystems, the forest holds great potential for facilitating connectivity of high-quality aquatic habitats and wildlands for the persistence of diverse species communities in need of protections. Future management of the forest will be key in conserving small-range imperiled species, ensuring resiliency of aquatic and forest habitats in the face of climate change, and in strengthening area protections for biodiversity conservation.

What we did. First, we analyzed current ranges and/or habitat suitability models for 479 (out of 551) identified at-risk species (threatened, endangered, or species of concern) to determine patterns of biodiversity on a taxonomic, focal group, and cumulative basis throughout the ecoregional complex. Second, we selected various topographic and environmental factors to serve as proxies for landscape characteristics essential to habitat suitability, connectivity, and resilience given the needs of our focal species. These factors were combined in corresponding metrics and summarized at spatial units appropriate for interpretation and decision-making (HUC-12 watershed, forest unit, or inventoried roadless area). Finally, we applied a methodology based on Peck et al. 2017 to delineate potential paths for male grizzly bear dispersal from Greater Yellowstone and Northern Continental Divide ecosystems to SCNF. (Note: additional datasets were analyzed to give broader context to SCNF and national scale proposals for the national 30x30[1] campaign, including USGS GAP Protected Areas Database, NatureServe imperiled species range-sized rarity, and USGS ecosystem carbon stock)

What we found. SCNF is in prime condition and location to play an integral role in biodiversity conservation and wildlife habitat connectivity in the ecoregional complex. This is based on spatial heterogeneity in taxonomic-based biodiversity patterns and in landscape characteristics critical to species dependent on aquatic, riparian, and mature forest habitats. Future management will be especially key in conserving small-range imperiled species, ensuring resiliency of aquatic and forest habitats, and in strengthening area protections for biodiversity conservation.

[1] This is a global campaign to protect 30% of lands and waters by 2030, and conservation organizations in the U.S. have developed a national 30x30 campaign. See: https://defenders.org/newsroom/getting-30x30-new-report-outlines-how-protect-30-of-us-land-and-sea-2030.

1. SCNF is a stronghold for at-risk species biodiversity and spatial expansion of protections could help bridge the gap between surrounding hotspots.

Ecoregions covered by the forest are home to 205 at-risk species on average, which is considerably higher than that for the ecoregional complex (164 species). Additionally, data emphasizing imperiled species with very small ranges (NatureServe 2020) show that eastern and western extents of SCNF are some of the few places where these species can be conserved and should be given special consideration. There is also demonstrated potential in areas just outside the forest boundary; 1) SCNF is ideally placed between ecoregions with the highest at-risk species diversity (the Yellowstone Plateau/Teton Basin and the Selkirk Mtns) and 2) SCNF is part of the northern and southern extents of bird and mammal hotspots, respectively (Figure 1).

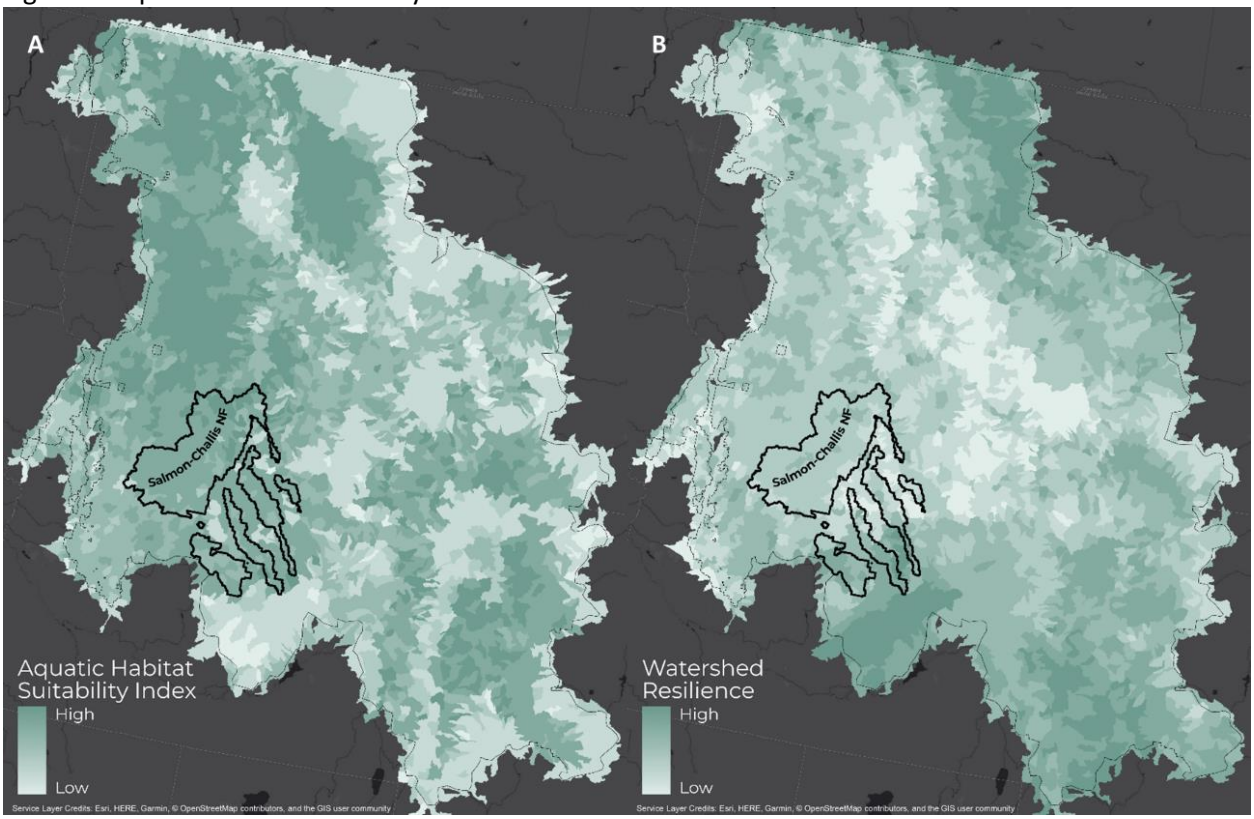
Figure 1. At-risk Species Richness

At-risk species richness in the ecoregional complex by the three major taxonomic groups (mammals, birds, and fish) and three groups of interest (riparian, aquatic and old growth forest obligates). Richness is based on the spatial overlap of 479 species ranges. Please see Table 1 in the methodology section below for the list of species and range data sources.

2. Currently, SCNF retains high-quality aquatic habitats and supports relatively high imperiled fish diversity, but climate resiliency metrics suggest future management challenges.

In particular, SCNF may experience relatively higher increases in stream temperatures than streams in the surrounding areas by 2040 and lack the climate corridors that would aid movement between current climate types and where those climates are projected to occur in the future under climate change. This could heavily impact fish species like bull trout that depend on cooler waters. Strengthening protections in select watersheds may help maintain the integrity of aquatic and riparian ecosystems (Figure 2).

Figure 2. Aquatic Habitat Suitability and Watershed Resilience

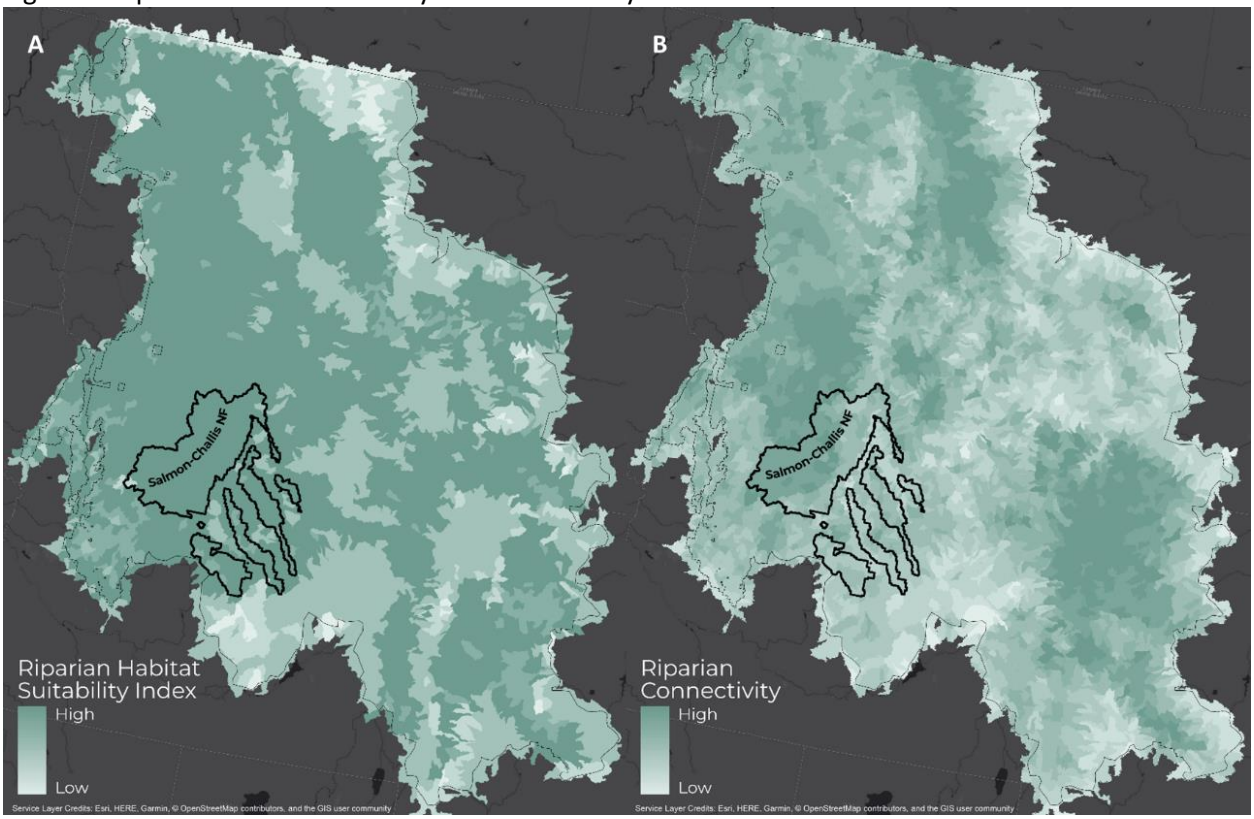


Scores for A) aquatic habitat suitability and B) watershed resilience by HUC 12. Scores are cumulative and based on habitat quality (USFS Watershed Condition), percent cover of at-risk species habitat, and number of dams for habitat suitability and change in stream temperature by 2040, conservation priority, and climate corridors for watershed resilience. See methodology for full citations to data sources.

3. The forest is an integral part of a high-quality, well-connected riparian network that supports a significant number of at-risk species.

Riparian habitat suitability for modeled at-risk species is high throughout the ecoregional complex, but higher riparian vegetation quality and lower human footprint help SCNF to stand out from surrounding areas. Other areas of interest for quality riparian connectivity include northeast and southeast portions of the complex (Figure 3).

Figure 3. Riparian Habitat Suitability and Connectivity

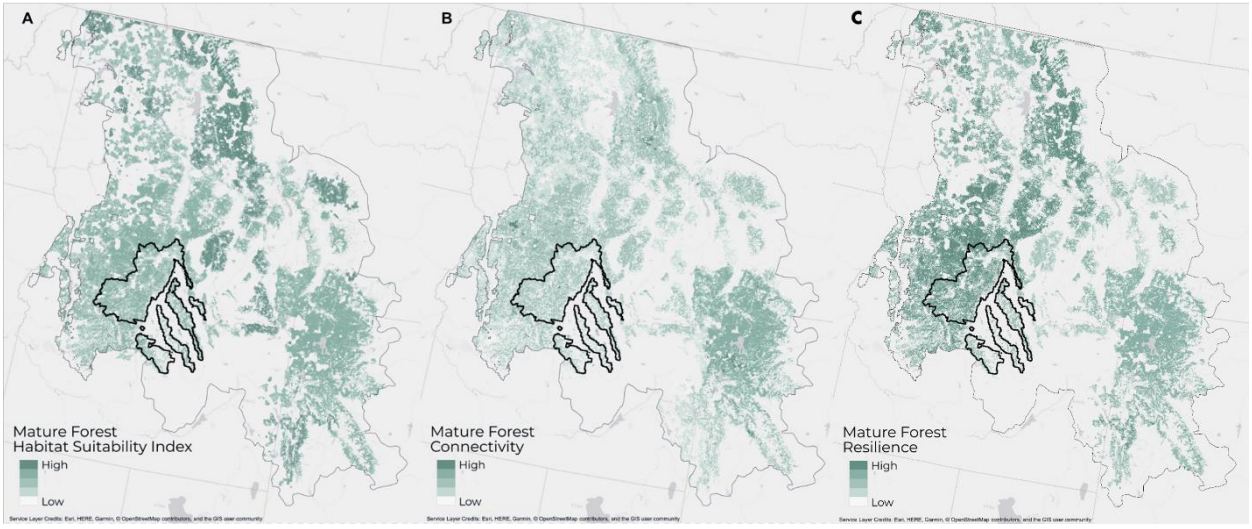


Scores for A) riparian habitat suitability and B) connectivity by HUC 12 watershed. Scores are cumulative and based on habitat quality (USFS Watershed Condition) and percent cover of at-risk species habitat for habitat suitability and percent of watershed in protected areas, percent tree canopy cover, and the human footprint for connectivity. See methodology for full citations to data sources.

4. Mature forests are undisturbed and biodiverse.

Additionally, and importantly, soon-to-be mature forests in and around SCNF can provide the most resilient forest habitats in the ecoregional complex if protected (Figure 4).

Figure 4. Mature Forest

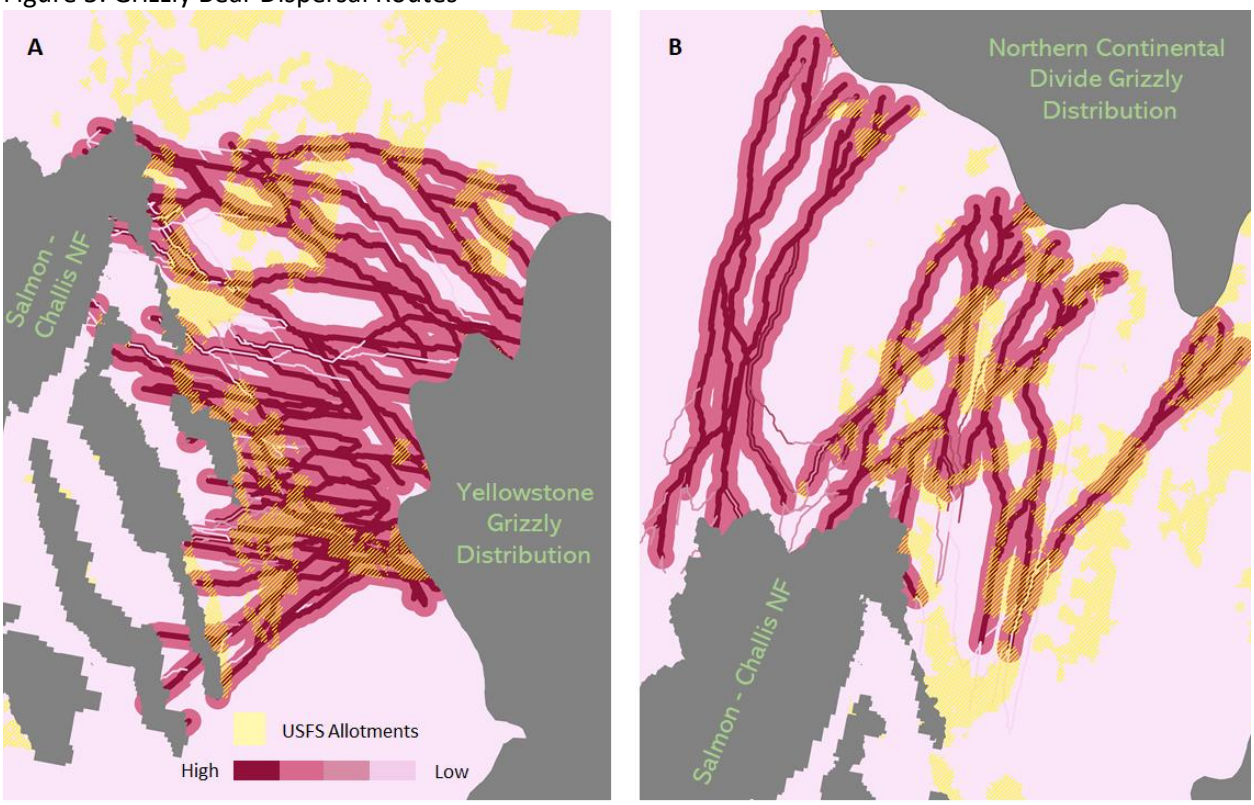


Scores for A) mature forest (> 100 years) habitat suitability, B) less mature (70-100 years) and mature forest (>100 years) connectivity, and C) mature forest (> 100 years) resilience. Habitat suitability scores are cumulative and based on measures of forest fragmentation (Esri), the human footprint, and percent cover of at-risk species habitat. Connectivity scores are based on distance to mature forest, wildness corridors (Belote et al. 2016), the human footprint, and percent of forest stand in protected areas. Resilience scores are based on forest pest risk (USFS), conservation priority, percent of stand in needed wildness corridors, climate corridors, forest diversity, and wildfire hazard. See methodology for full citations to data sources.

5. Patterns in grizzly bear dispersal potential suggests that movement from NCDE is more optimal than from GYE.

This is mainly due to lower fragmentation of ideal dispersal habitats. Once inside the main NW tract of SCNF, movement is less costly, and therefore dispersal is easier. However, grazing allotments may present conflicts: almost all high-probability routes come in contact with at least one allotment (Figure 5).

Figure 5. Grizzly Bear Dispersal Routes

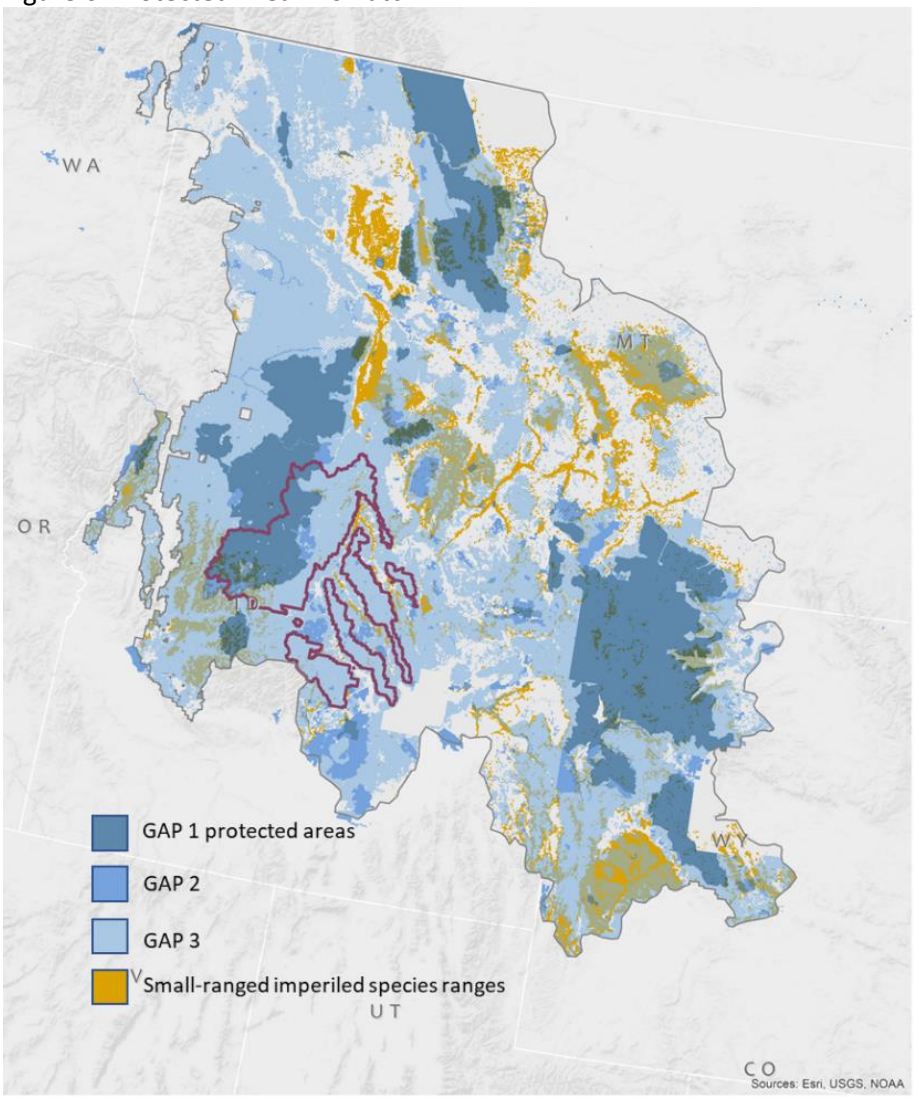


Likely grizzly bear dispersal routes to SCNF from A) Greater Yellowstone and B) the Northern Continental Divide populations. US Forest Service allotments are juxtaposed with grizzly paths to indicate areas of potential conflict. See methodology for full citations to data sources.

6. **Protected areas managed in ways that are consistent with conservation cover 26% of the ecoregional complex, but these areas are largely spatially incongruous with areas of high biodiversity.**

If we assume that all GAP-3 lands managed by USFS were managed with protecting wildlife and habitat as the foremost concern, then 84% of the greater ecosystem complex would be protected (Figure 6). Though this is highly unlikely since 44% of FS lands in this area are allocated for livestock grazing, it highlights the general importance of agency lands for wildlife and their habitats. The average protected area covers partial range for 162 species, which is consistent with the entire ecoregional complex average but may indicate a lacking focus on siting protections for imperiled species biodiversity hotspots.

Figure 6. Protected Area Mismatch

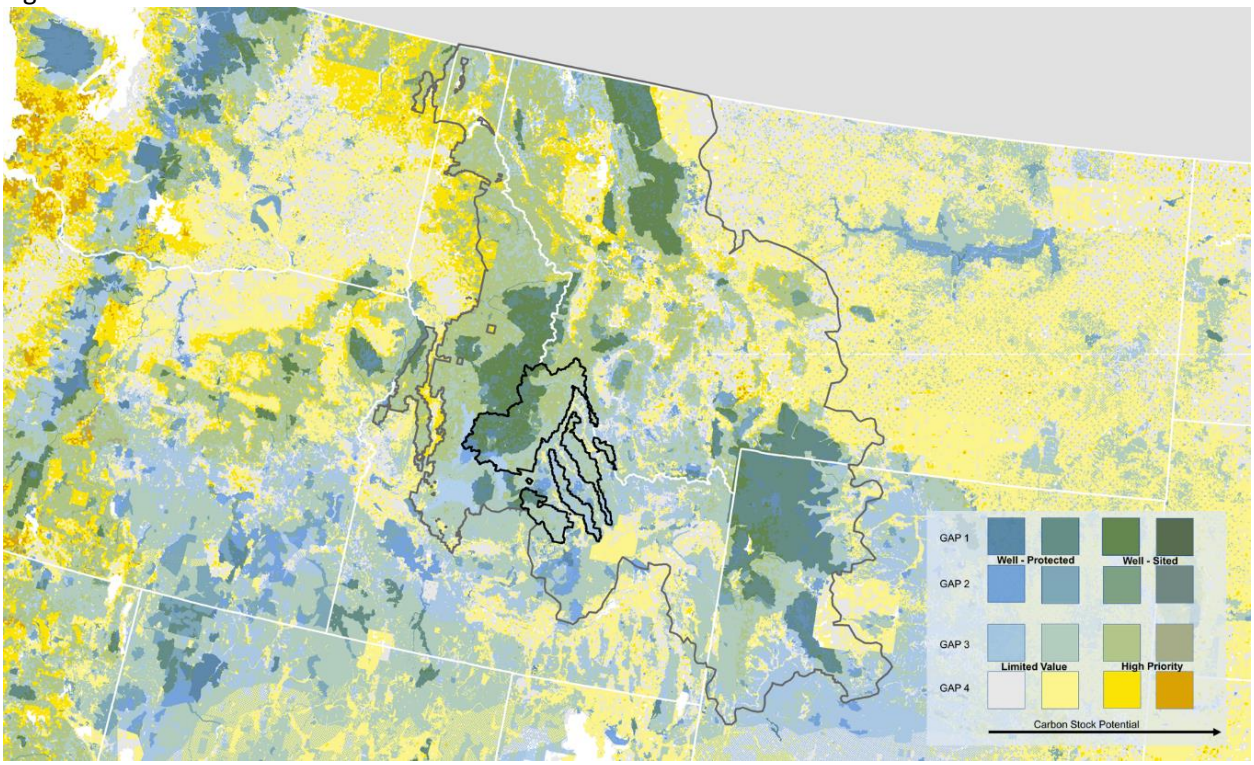


Comparing protected area coverage to locations of small-ranged imperiled species show significant areas of mismatch that need to be addressed. The blue gradient signifies protections under GAP categories 1-3, with darker blues representative of greater alignment between land management and biodiversity conservation goals.

7. This ecosystem complex holds promise for climate mitigation under national and regional 30x30 conservation framework given the relatively high carbon stock potential.

Over 60% of SCNF falls into high carbon potential category (top 75th percentile of carbon values for the United States). This is consistent with the greater ecosystem complex (57%). However, only 28% of this potential is currently managed in ways consistent with conservation (Figure 7). This region will be an important one to consider in protecting 30% of our nation's lands by 2030 in a way that achieves goals for biodiversity conservation and climate stabilization.

Figure 7. Carbon Stock Potential and Land Protection



Comparing protected area coverage to locations of ecosystem carbon show significant areas of mismatch that need to be addressed. The blue (y-axis) component of the bivariate color ramp signifies protections under GAP categories 1-4 while the yellow (x-axis) component signifies ecosystem carbon flux. Resolution is 1km^2. See methodology for full citations to data sources.

Conclusion – During a management plan revision process, the Forest Service must delineate management and geographic areas (36 CFR 219.7(d)) and undertake an evaluation of lands to recommend for wilderness designation (36 CFR 219.7(c)(2)(v)). Our analyses have helped identify habitat strongholds across the forest that would be appropriate candidates for recommended wilderness or special interest area designation to minimize human threats to them. Given spatial patterns in biodiversity and focal habitat suitability, connectivity, and resilience (*see* Inventoried Roadless Area Analysis table, below), we recommend the following inventoried roadless areas be considered during plan revision for special protective designation:

- Agency
- Allan Mountain
- Deep Creek
- Duck Peak
- Little Horse
- McEleny
- Oreana
- Phalen
- Sheepeater
- South Deep Creek
- South Panther

Table. Inventoried Roadless Area Analysis

Average habitat suitability, connectivity, resilience, and grizzly dispersal scores (0 = low to 3 = high) for roadless areas in the SCNF. Cells highlighted in green indicates that the value was in the top quartile of values for all roadless areas in the ecoregional complex. Yellow cells highlight roadless areas that fell into the top quartile for 3 or more metrics.

IRA Name	Riparian Suitability	Riparian Connectivity	Mature Forest Suitability	Forest Connectivity	Forest Resilience	Aquatic Suitability	Watershed Resilience	Grizzly Dispersal
Agency	3.00	1.65	1.86	0.86	0.01	2.31	1.32	1.39
Allan	3.00	1.79	1.33	0.77	0.25	2.60	1.65	2.19
Anderson	2.85	1.95	1.21	0.80	0.38	2.43	1.84	1.82
Blue Bunch	2.72	2.44	1.39	0.77	0.08	2.13	1.47	1.34
Blue Joint	3.00	2.31	1.06	0.69	0.35	2.31	1.65	1.27
Borah Peak	2.42	1.44	0.51	0.28	0.01	2.23	2.08	0.26
Boulder -	2.50	1.44	1.01	0.54	0.07	2.10	1.76	0.85

IRA Name	Riparian Suitability	Riparian Connectivity	Mature Forest Suitability	Forest Connectivity	Forest Resilience	Aquatic Suitability	Watershed Resilience	Grizzly Dispersal
Camas Creek	2.70	1.98	1.23	0.71	0.20	2.09	1.66	1.43
Challis Creek	2.76	1.81	1.48	0.72	0.04	2.04	1.64	1.49
Cold Springs	3.00	1.45	0.37	0.29	0.01	2.31	1.98	1.00
Copper Basin	2.57	1.60	0.06	0.07	0.00	2.22	2.18	0.09
Deep Creek	3.00	1.82	1.46	0.85	0.28	2.57	1.48	2.06
Diamond	2.68	1.48	0.73	0.39	0.01	2.24	2.14	0.80
Duck Peak	3.00	2.37	1.34	0.77	0.34	2.26	1.78	2.11
Goat	2.98	1.29	0.44	0.32	0.07	2.30	1.38	0.63
Goldbug	3.00	1.59	1.27	0.56	0.09	2.31	1.49	1.09
Greylock	2.89	1.90	1.11	0.50	0.04	2.16	1.65	1.48
Grouse Peak	3.00	1.21	0.02	0.03	0.02	2.31	1.18	0.43
Hanson	2.38	1.90	1.42	0.75	0.11	2.01	1.60	1.29
Haystack	2.80	1.82	1.37	0.73	0.28	2.20	1.52	1.48
Italian Peak	2.72	1.55	0.75	0.40	0.02	2.17	1.73	0.65
Jesse Creek	2.88	1.50	1.41	0.67	0.06	2.40	1.32	0.76
Jumpoff	3.00	1.32	0.47	0.22	0.01	2.31	2.31	1.23
Jureano	3.00	1.65	0.97	0.66	0.52	2.31	1.65	1.72

IRA Name	Riparian Suitability	Riparian Connectivity	Mature Forest Suitability	Forest Connectivity	Forest Resilience	Aquatic Suitability	Watershed Resilience	Grizzly Dispersal
King	2.73	1.36	0.87	0.39	0.01	2.29	2.40	0.94
Lemhi Range	2.65	1.62	0.99	0.50	0.03	2.26	1.55	0.74
Little Horse	3.00	1.96	1.82	0.89	0.18	2.64	1.65	1.81
Long Tom	3.00	1.98	0.88	0.42	0.08	2.31	1.70	2.28
Loon Creek	2.91	1.77	1.16	0.69	0.22	2.24	1.60	1.59
McEleny	3.00	2.64	1.77	0.83	0.02	2.31	1.74	2.27
Musgrove	3.00	2.00	1.76	0.82	0.07	2.31	1.65	1.61
Napias	2.72	1.98	1.28	0.72	0.42	2.27	1.46	1.70
Napoleon	2.85	1.73	1.03	0.66	0.36	2.42	1.82	1.85
Oreana	3.00	1.98	1.97	0.94	0.04	2.64	1.65	2.38
Pahsimeroi	2.46	1.36	0.47	0.29	0.03	2.16	1.66	0.22
Perreau	2.73	1.38	0.79	0.48	0.25	1.96	1.47	1.05
Phelan	2.90	1.94	1.29	0.83	0.34	2.48	1.35	1.35
Pioneer	2.55	1.38	0.55	0.36	0.06	2.19	2.11	0.55
Prophyry	2.67	1.41	0.28	0.15	0.03	2.06	2.12	0.28
Railroad	2.66	1.44	0.88	0.45	0.05	2.16	1.64	1.10
Red Hill	3.00	0.92	0.03	0.01	0.00	2.31	1.05	0.69

IRA Name	Riparian Suitability	Riparian Connectivity	Mature Forest Suitability	Forest Connectivity	Forest Resilience	Aquatic Suitability	Watershed Resilience	Grizzly Dispersal
Red	2.28	1.81	0.93	0.55	0.19	2.07	1.86	1.73
Sal Mountain	2.82	1.33	1.19	0.59	0.12	2.17	1.31	1.04
Seafoam	2.95	2.33	1.22	0.63	0.08	2.31	1.65	1.92
Sheepeater	3.00	1.64	1.00	0.52	0.10	2.55	1.77	2.22
South Deep	3.00	1.65	1.72	0.84	0.07	2.64	1.65	1.30
South	3.00	1.65	1.93	0.84	0.01	2.31	1.65	1.73
Spring Basin	2.96	1.59	1.12	0.58	0.08	2.25	1.62	1.42
Squaw Creek	2.93	1.72	1.35	0.70	0.13	2.22	1.61	1.60
Taylor	2.85	1.66	1.17	0.63	0.20	2.27	1.50	1.25
Warm Creek	2.50	1.98	0.56	0.32	0.00	1.98	1.98	0.78
West Big	2.62	1.81	1.16	0.63	0.15	2.22	1.59	1.14
West Panther	3.00	1.99	1.31	0.78	0.33	2.31	1.65	1.83
White Knob	2.68	1.45	0.26	0.18	0.06	2.09	2.08	0.49
Wood	2.61	1.16	0.18	0.12	0.08	2.05	2.33	1.16

Mapping Methodology

Biodiversity

Species richness was assessed based on 479 species ranges (Table 1). Target species are those that are considered at-risk; threatened, endangered, or species of concern. We analyzed general biodiversity in the greater ecoregional context as well as focal species groups dependent on riparian/aquatic and mature forest habitats. Target species were limited to those with available range data. Ranges for species that are currently listed, proposed, or recently recovered from the Endangered Species Act were downloaded from US FWS (ECOS). Species with ranges that overlap the larger study area (Map 1 from proposal: Crown of the Continent, High Divide, Greater Yellowstone Ecosystem, and SCNF) were included. Additional resources such as the SCNF assessment report (7/2018), the Intermountain Region threatened, endangered, and sensitive species list (6/2016), and the SCNF species of conservation concern website (5/2018) were also used to generate the list of at-risk species. The team conducted follow-up research to find available ranges for non-ESA-listed species. Sources for these ranges included USGS GAP, NOAA NMFS, and IUCN. Ranges were not available for 72 potential species of interest (Table 2). Of the at-risk species on the list, 76 are aquatic species, 38 depend on riparian habitats and 9 depend on mature forest habitats. Spatial units used for assessment include basic grid (size chosen for equitable comparison with avg HUC 12 size), watershed, ecoregion (based on EPA/USGS), and ecoregion (based on Sayre et al.).

Habitat Suitability

Aquatic – Suitability was assessed on the watershed level (HUC 12) given the nature of the habitat and precedence (USFS watershed conditions). The Forest Service already has a number of relevant factors that are used in a cumulative metric of watershed condition. These include water quality, water quantity, aquatic habitat, and aquatic biota. It is assumed that such factors are highly correlated. As such, we only used one – aquatic habitat condition – which takes into account habitat fragmentation, large woody debris, and channel shape and function. In addition to this, we combined factors for aquatic at-risk species habitat suitability (a measure of how much of the watershed fell into a cumulative layer based on 11 species GAP models; Table 1) and the number of dams located within the watershed (from National Inventory of Dams).

All three factors (percent cover of at-risk species suitable habitat, watershed condition, and number of dams) were summarized by watershed and the resulting values were reclassified into low, medium, and high value groups with thresholds determined by natural breaks in the data. Each factor was assigned equal weight in a weighted sum.

Riparian – Suitability was assessed on the watershed level (HUC 12) based on 2 factors, including the Forest Service's metric of riparian habitat quality (based on vegetation condition) and cumulative riparian at-risk species habitat suitability (based on 12 GAP models; Table 1). Values summarized by watershed were then assigned three classes (low, medium, high) with thresholds determined by natural breaks and combined with equal weights in a weighted sum.

Less Mature forest – Forests between 70 and 100 years of age (USFS) will soon become mature forest that supports old growth obligates. Prioritizing protections for these forests would ensure new mature forest continues to develop over time. Models of forest stand age as part of the USGS LandCarbon project (Sohl et al. 2014) were averaged together and then filtered to remove stands less than 70 and over 100 years old. Remaining forest was grouped based on proximity to create mature forest units. Statistics will be run on these zones to summarize average human disturbance value (Human Footprint; Sanderson et al. 2002), coverage of at-risk species habitat suitability models (based on 7 GAP layers; Table 1), and Esri's national metric of forest habitat fragmentation by forest less mature unit.

Mature forest – We have identified forests over 100 years of age to provide the functions essential to old growth obligates (USFS). Models of forest stand age as part of the USGS LandCarbon project (Sohl et al. 2014) were averaged together and then filtered to remove stands less than 100 years old. Remaining forest was grouped based on proximity to create mature forest units. Statistics were run on these zones to return unit-level information on average human disturbance value (Human Footprint; Sanderson et al. 2002), coverage of at-risk species habitat suitability models (based on 7 GAP layers; Table 1), and Esri's national metric of forest habitat fragmentation.

Habitat Connectivity

Riparian – Level of connectivity was assessed by watershed (HUC 12) and based on the proportion of the watershed with over 25% tree cover (NLCD products), the average human disturbance value, and the percent of the watershed that falls within protected areas (GAP 1 and 2 from PADUS). Values summarized by watershed were then assigned three classes, with thresholds determined by natural breaks. All three factors were given equal weights in the final sum.

Less Mature and Mature forest – Connectivity potential was analyzed by forest unit based on human disturbance levels quantified using wildness corridors (Belote et al. 2016), protected areas coverage, and distance to mature forest (>100 years old). All three factors were summarized by less mature forest unit (70-100 years old) and mature forest unit (>100 years) and reclassified into three classes, or levels. All factors contributed equally in a weighted sum.

Considerations for Climate Resiliency

Watersheds – Additional factors based on predictive models and climate conservation priorities were summarized by watershed. These include average predicted increase in stream temperatures by 2040 (NorWeST program), average conservation ranking based on climatic microrefugia (Stralberg et al. 2020), and connectivity between current future climate analogs (Carroll et al. 2018).
The values for all three factors, summarized by watershed, were then reclassified into three groups, with thresholds determined by natural breaks. Each factor was weighted equally in a weighted sum, which resulted in our preliminary watershed resilience.

Forests – Predictive data for consideration includes forests essential for climate connectivity (McGuire et al. 2016), level of conservation priority, the Forest Service's pest risk assessment, forest diversity, wildfire hazard, and the percent of forest unit within needed corridors. These six factors were

summarized by less mature forest unit and values were classified into three groups. Each factor contributed equally to the weighted sum.

Grizzly Dispersal

We sought to delineate potential paths that would provide the opportunity for male-mediated gene flow between two established populations (in the Northern Continental Divide and the Greater Yellowstone ecosystems) and the SCNF. This methodology is based on Peck et al. 2017 which defined potential dispersal routes between the NCDE and GYE populations. We used covariates that were included in the models most parsimonious with collared bear data; distance to forest edge, natural contagion, normalized difference vegetation index, distance to rivers and streams elevation, terrain ruggedness index, and a combined metric of human disturbance (human footprint; Sanderson 2002). Using ArcGIS 10.7 (ESRI, Redlands, Washington, USA), we generated each covariate as a raster layer with 300-m resolution. We chose this resolution as a compromise between the need to accurately characterize habitats selected, the large extent of our study area, and computer processing capabilities. We measured several covariates using circular moving windows with a radius of 1500 m from the centroid of the center pixel based on typical daily movements of males (Schwartz et al. 2010).

Distance to forest: we reclassified the 2016 National Land Cover Database (NLCD; U.S. Geological Survey 2014) to construct a forest raster (deciduous, evergreen, and mixed forests, as well as woody wetlands). We calculated Euclidean distance to the nearest forest pixel. Positive and negative distance values were associated with grid cells either outside or inside forest polygons, respectively. Values were rescaled to 1 (low cost) to 10 (high cost) based on logistic growth, with the further you are from the forest, the higher the costs of dispersal.

Natural contagion: we used focal statistics to generate a landscape variety index of natural land cover (i.e., all land-cover types from the reclassified 2016 NLCD data, but excluding cropland and urban areas) using a moving window with a 10-km radius representative of seasonal to annual male home ranges. Higher values result from more fragmented landscapes with a variety of land cover typed. Values were rescaled to 1 (low cost) to 10 (high cost) based on an exponential function, with the larger the landscape variety, the higher the costs of dispersal.

NDVI: We generated a normalized difference vegetation index (NDVI), a relative measure of vegetative greenness, using the Google Earth Engine (GEE; Google Earth Engine Team 2015) as a median composite of Landsat 8 (U.S. Geological Survey 2016) imagery acquired between 2016 and 2019, during peak greenness (15 June–15 July); GEE processing corrected for geometric, radiometric, and atmospheric errors and individual pixels corresponding to clouds were excluded from the analysis. Values were rescaled to 1 (low cost) to 10 (high cost) based on logistic decay, with the higher the NDVI, the higher the costs of dispersal.

Distance to streams: we used the high-resolution National Hydrography Dataset (1:24,000 scale; U.S. Geological Survey 2015a) and computed the Euclidean distance to the nearest river or stream. Values were rescaled to 1 (low cost) to 10 (high cost) based on logistic growth, with the further you are from the stream network, the higher the costs of dispersal.

Human disturbance: Grizzly bears generally avoid close proximity to roads and higher-density human infrastructure. We used the human footprint (Sanderson et al. 2002) which is created from nine global data layers of human population pressure (population density), human land use and infrastructure (built-up areas, nighttime lights, land use/land cover), and human access (coastlines, roads, railroads, navigable rivers). Higher values are representative of more heavily impacted landscapes based on these criteria. We log10-transformed these data because the relative probability of bears moving through increasingly anthropogenic-influenced landscapes is not linear (Schwartz et al. 2010).

Elevation: we resampled 30-m National Elevation Data (U.S. Geological Survey 2009) to a 300-m resolution and included a quadratic term to allow for a non-linear response. Values were rescaled to 1 (low cost) to 10 (high cost) based on a Gaussian function, with optimal elevations based on Berman et al. 2019.

Terrain ruggedness: Because terrain features and topography may affect movement, we computed vector ruggedness measure using a 1500-m radius to provide a broad-scale measure of variation in aspect and slope. Values were rescaled to 1 (low cost) to 10 (high cost) based on a Gaussian function, with optimal elevations based on Berman et al. 2019.

We combined these covariates to create a cost surface for grizzly dispersal where the 300-m grid cells represent the collection of nodes through which animal movements occur. To define origin and destination nodes, we delineated a 25-km buffer zone spanning 500 km on the southwestern and northwestern boundaries of the NCDE and GYE distributions, respectively as well as the SCNF destination. We paired 100 random locations (origin nodes) within the 25-km buffer with a random location (destination node) in the SCNF buffer. We iterated a least cost path analysis to find the most likely routes between source populations and SCNF given the cost landscape. As a result, we observed broad-scale concordance between our predicted paths and those developed by Peck et al. 2017.

IRA summary

All metrics were summarized by inventoried roadless areas, giving a single averaged score of habitat suitability, connectivity, resilience, and grizzly dispersal cost to each roadless area.

30x30 Considerations

Data on protected areas were from the PAD-US 2.0 database. Protected areas and underlying patterns were analyzed based on U.S. Geological Survey's Gap Analysis Program (GAP) codes which are specific to the management intent to conserve biodiversity. GAP 1 and 2 areas are managed in ways typically consistent with conservation, GAP 3 areas are governed under multiple-use mandates (e.g., forestry, mining), and GAP 4 areas lack any conservation mandates. Terrestrial imperiled species richness came from the Map of Biodiversity Importance dataset (NatureServe 2020) and is based on habitat suitability models for 2,216 species and 11 taxa. Total ecosystem carbon (g Carbon/m2) and carbon flux (g Carbon/m2/yr) were downloaded from the USGS LandCarbon Program (Zhu 2010) and used to represent current stocks and sequestration potential, respectively.

GAP Status Code 1: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, intensity, and legacy) are permitted to proceed without interference or are mimicked through management.

GAP Status Code 2: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive uses or management practices that degrade the quality of existing natural communities, including suppression of natural disturbance.

GAP Status Code 3: An area having permanent protection from conversion of natural land cover for most of the area, but subject to extractive uses of either a broad, low-intensity type (e.g., logging, Off Highway Vehicle recreation) or localized intense type (e.g., mining). It also confers protection to Federally listed endangered and threatened species throughout the area.

GAP Status Code 4: There are no known public or private institutional mandates or legally recognized easements or deed restrictions held by the managing entity to prevent conversion of natural habitat types to anthropogenic habitat types. The area generally allows conversion to unnatural land cover throughout or management intent is unknown. See the PAD-US Standards Manual for a summary of methods or the geodatabase look up table for short descriptions.

Table 1. Target Species

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
[Unnamed] coyote-thistle	Eryngium petiolatum	Plant	Resolved Taxon		Aquatic	US FWS		
[Unnamed] sedge	Carex interrupta	Plant	Resolved Taxon		Aquatic	US FWS		
Aleutian Canada goose	Branta canadensis leucopareia	Bird	Recovery		Aquatic	US FWS		
Alexander's rhyacophilan caddisfly	Rhyacophila alexanderi	Invert	Species of Concern	1	Aquatic	US FWS		
Arctic grayling	Thymallus arcticus	Fish	Resolved Taxon	1	Aquatic	US FWS		
Ashy pebblesnail	Fluminicola fuscus	Mollusk	Species of Concern	1	Aquatic	IUCN	NR	
Black tern	Chlidonias niger	Bird	Species of Concern	1	Aquatic	US FWS		1
Blanding's turtle	Emydoidea blandingii	Reptile	Under Review		Aquatic	US FWS		1

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Blue sucker	Cycleptus elongatus	Fish	Species of Concern	1	Aquatic	US FWS		
Bonneville cutthroat trout	Oncorhynchus clarkii utah	Fish	Resolved Taxon	1	Aquatic	US FWS		
Brown's microcylloepus riffle beetle	Microcylloepus browni	Invert	Resolved Taxon	1	Aquatic	US FWS		
Bull Trout	Salvelinus confluentus	Fish	Threatened	1	Aquatic	US FWS	SS	
California floater	Anodonta californiensis	Mollusk	Resolved Taxon	1	Aquatic	US FWS		
Cascades frog	Rana cascadae	Amphibian	Under Review		Aquatic	US FWS		1
Cave physa	Physella spelunca	Mollusk	Resolved Taxon		Aquatic	US FWS		
Chinook Salmon	Oncoryhynchus tshawytscha	Fish	Species of Concern	1	Aquatic	https://databasin.org/datasets/da9e3dec22aa437da8859fa7a7b26d34	SS	
Cockerell's striate disc	Discus shemeki cockerelli	Mollusk	Species of Concern	1	Aquatic	US FWS		
Coeur d'Alene salamander	Plethodon idahoensis	Amphibian	Resolved Taxon	1	Aquatic	US FWS		1
Colorado pikeminnow	Ptychocheilus lucius	Fish	Endangered		Aquatic	US FWS		
Colorado River cutthroat trout	Oncorhynchus clarkii pleuriticus	Fish	Resolved Taxon		Aquatic	US FWS		
Columbia pebblesnail	Fluminicola columbiana	Mollusk	Resolved Taxon	1	Aquatic	US FWS		
Columbia River tiger beetle	Cicindela columbica	Invert	Resolved Taxon	1	Aquatic	US FWS		
Columbia spotted frog	Rana luteiventris	Amphibian	Resolved Taxon	1	Aquatic	US FWS	NR	1
Common loon	Gavia immer	Bird	Species of Concern	1	Aquatic	IUCN	NR	1
Evening fieldslug	Deroceras hesperium	Mollusk	Under Review		Aquatic	US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Fender's soliperlan stonefly	Soliperla fenderi	Invert	Species of Concern		Aquatic	US FWS		
Flathead chub	Platygobio gracilis	Fish	Species of Concern	1	Aquatic	US FWS		
flowering plant	Epipactis gigantea	Plant	Species of Concern	1	Aquatic	IUCN	R	
Harlequin duck	Histrionicus histrionicus	Bird	Resolved Taxon	1	Aquatic	US FWS	NR	1
Hatch's click beetle	Eanus hatchi	Invert	Species of Concern		Aquatic	US FWS		
Humpback chub	Gila cypha	Fish	Endangered		Aquatic	US FWS		
Idaho springsnail	Pyrgulopsis idahoensis	Mollusk	Original Data in Error - Taxonomic Revision	1	Aquatic	US FWS		
Interior redband trout	Oncorhynchus mykiss gibbsi	Fish	Species of Concern	1	Aquatic	US FWS	SS	
Jackson Lake snail	Helisoma jacksonense	Mollusk	Species of Concern		Aquatic	US FWS		
Jackson Lake springsnail	Pyrgulopsis robusta	Mollusk	Resolved Taxon		Aquatic	US FWS		
Kendall Warm Springs dace	Rhinichthys osculus thermalis	Fish	Endangered		Aquatic	US FWS		
Kokanee	Oncorhynchus nerka	Fish	Species of Concern	1	Aquatic	IUCN	SS	
Leatherside chub	Snyderichthys copei	Fish	Species of Concern	1	Aquatic	US FWS		
Lynn's clubtail	Gomphus lynnae	Invert	Species of Concern		Aquatic	US FWS		
Meltwater lednian stonefly	Lednia tumana	Invert	Threatened		Aquatic	US FWS		
mountain whitefish	Prosopium williamsoni	Fish	Resolved Taxon	1	Aquatic	US FWS	R	
Narrow-foot hygrotus diving beetle	Hygrotus diversipes	Invert	Resolved Taxon		Aquatic	US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Newcomb's littorine snail	Algamorda newcombiana	Mollusk	Species of Concern		Aquatic	US FWS		
No common name	Arnica amplexicaulis piperi	Plant	Resolved Taxon		Aquatic	US FWS		
No common name	Poa marcida	Plant	Resolved Taxon		Aquatic	US FWS		
No common name	Poa laxiflora	Plant	Resolved Taxon		Aquatic	US FWS		
No common name	Corydalis aquae-gelidae	Plant	Species of Concern		Aquatic	US FWS		
Northern leatherside Chub	Lepidomeda copei	Fish	Resolved Taxon	1	Aquatic	US FWS		
northern leopard frog	Rana pipiens	Amphibian	Resolved Taxon	1	Aquatic	US FWS		1
Northern red-legged frog	Rana aurora aurora	Amphibian	Species of Concern		Aquatic	US FWS		1
Olympic mudminnow	Novumbra hubbsi	Fish	Resolved Taxon		Aquatic	US FWS		
Pacific lamprey	Lampetra tridentata ssp.	Fish	Resolved Taxon		Aquatic	US FWS	R	
Paddlefish	Polyodon spathula	Fish	Resolved Taxon	1	Aquatic	US FWS		
Plains minnow	Hybognathus placitus	Fish	Species of Concern	1	Aquatic	US FWS		
Plains topminnow	Fundulus sciadicus	Fish	Resolved Taxon		Aquatic	US FWS		
River lamprey	Lampetra ayresii	Plant	Resolved Taxon		Aquatic	US FWS		
Rocky Mountain capshell	Acroloxus coloradensis	Mollusk	Resolved Taxon	1	Aquatic	US FWS		
Shortface lanx	Fisherola nuttalli	Mollusk	Resolved Taxon	1	Aquatic	US FWS		
Shoshone sculpin	Cottus greenei	Fish	Resolved Taxon	1	Aquatic	US FWS		
Sicklefin chub	Macrhybopsis meeki	Fish	Under Review	1	Aquatic	US FWS		
Snake River fine-spotted cutthroat trout	Oncorhynchus clarkii	Fish	Species of Concern	1	Aquatic	US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Snake River sucker	Chasmistes muriei	Fish	Resolved Taxon		Aquatic	US FWS		
Sturgeon chub	Macrhybopsis gelida	Fish	Under Review	1	Aquatic	US FWS		
Tailed frog	Ascaphus truei	Amphibian	Species of Concern	1	Aquatic	US FWS	NR	1
Thurber's reedgrass	Calamagrostis crassiglumis	Plant	Species of Concern		Aquatic	US FWS		
Utah valvata snail	Valvata utahensis	Mollusk	Original Data in Error - New Information Discovered	1	Aquatic	US FWS		
Warm Springs Zaitzevian riffle beetle	Zaitzevia thermae	Invert	Resolved Taxon	1	Aquatic	US FWS		
Water howellia	Howellia aquatilis	Plant	Threatened		Aquatic	US FWS		
Western glacier stonefly	Zapada glacier	Invert	Threatened		Aquatic	US FWS		
Western ridged mussel	Gonidea angulata	Mollusk	Species of Concern	1	Aquatic	IUCN	R	
Western silvery minnow	Hybognathus argyritis	Fish	Species of Concern	1	Aquatic	US FWS		
Westslope cutthroat trout	Oncorhynchus clarkii lewisi	Fish	Resolved Taxon	1	Aquatic	US FWS	NR	
White sturgeon	Acipenser transmontanus	Fish	Endangered		Aquatic	US FWS	NR	
White-faced ibis	Plegadis chihi	Bird	Species of Concern	1	Aquatic	US FWS		1
Wood River sculpin	Cottus leiopomus	Fish	Species of Concern	1	Aquatic	US FWS		
Yellow cedar	Calliptropsis nootkatensis	Plant	Resolved Taxon		Aquatic	US FWS		
American three-toed woodpecker	Picoides dorsalis	Bird	Species of Concern	1	Old growth	IUCN	NR	1
Bald eagle	Haliaeetus leucocephalus	Bird	Recovery	1	Old growth	US FWS	SS	1
Flammulated owl	Otus flammeolus	Bird	Species of Concern	1	Old growth	IUCN	NR	1

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Fringed-tailed myotis	Myotis thysanodes pahasapensis	Mammal	Species of Concern		Old growth	US FWS		
Northern goshawk	Accipiter gentilis	Bird	Resolved Taxon	1	Old growth	US FWS	NR	1
Tall bugbane	Cimicifuga elata	Plant	Species of Concern		Old growth	US FWS		
Woodland Caribou	Rangifer tarandus caribou	Mammal	Endangered		Old growth	US FWS		1
[Unnamed] catseye	Cryptantha breviflora	Plant	Resolved Taxon	1	Riparian	US FWS		
[Unnamed] goldenweed	Pyrrocoma uniflora var. uniflora	Plant	Resolved Taxon		Riparian	US FWS		
[Unnamed] onion	Allium madidum	Plant	Resolved Taxon	1	Riparian	US FWS		
[Unnamed] phacelia	Phacelia minutissima	Plant	Species of Concern	1	Riparian	US FWS		
[Unnamed] primrose	Primula alcalina	Plant	Species of Concern	1	Riparian	US FWS	NR	
[Unnamed] sand-verbena	Abronia ammphila	Plant	Species of Concern		Riparian	US FWS		
[Unnamed] sedge	Carex parryana idahoa	Plant	Resolved Taxon	1	Riparian	US FWS		
[Unnamed] sedge	Carex lenticularis dolia	Plant	Species of Concern	1	Riparian	US FWS		
Beller's ground beetle	Agonum belleri	Invert	Species of Concern		Riparian	US FWS		
Black Hills redbelly snake	Storeria occipitomaculata pahasapae	Reptile	Species of Concern		Riparian	US FWS		1
Blue-winged teal	Anas discors	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Bufflehead	Bucephala albeola	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Clustered lady's-slipper	Cypripedium fasciculatum	Plant	Species of Concern	1	Riparian	US FWS		
Fringed loosestrife	Lysimachia hybrida	Plant	Resolved Taxon	1	Riparian	US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Indian Valley sedge	Carex parryana	Plant	Resolved Taxon	1	Riparian	US FWS		
Jaeger's thelypody	Thelypodium repandum	Plant	Species of Concern	1	Riparian	US FWS	R	
Little willow flycatcher	Empidonax traillii brewsteri	Bird	Species of Concern		Riparian	US FWS		
Long-billed curlew	Numenius americanus	Bird	Resolved Taxon	1	Riparian	US FWS	NR	1
Long-eared owl	Asio otus	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Marbled disc	Discus marmorensis	Mollusk	Species of Concern	1	Riparian	US FWS		
No common name	Tauschia stricklandii	Plant	Resolved Taxon		Riparian	US FWS		
No common name	Corydalis caseana hastata	Plant	Resolved Taxon	1	Riparian	US FWS		
No common name	Tauschia tenuissima	Plant	Resolved Taxon	1	Riparian	US FWS		
No common name	Astragalus gilviflorus var. purpureus	Plant	Species of Concern		Riparian	US FWS		
No common name	Tofieldia glutinosa absona	Plant	Species of Concern	1	Riparian	US FWS		
No common name	Sullivantia hapemanii	Plant	Species of Concern	1	Riparian	US FWS	NR	
Olive-sided flycatcher	Contopus cooperi	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Ross bentgrass	Agrostis rossiae	Plant	Resolved Taxon		Riparian	US FWS		
Rufous hummingbird	Selasphorus rufus	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Silver-haired Bat	Lasionycteris noctivagans	Mammal	Species of Concern	1	Riparian	IUCN	R	1
Slender spiderflower	Cleome multicaulis	Plant	Species of Concern		Riparian	US FWS		
Small-living, thick-nerved sedge	Carex microptera crassinervia	Plant	Resolved Taxon	1	Riparian	US FWS		
Ute ladies'-tresses	Spiranthes diluvialis	Plant	Threatened		Riparian	US FWS	SS	

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Virginia rail	Rallus limicola	Bird	Species of Concern	1	Riparian	IUCN	NR	1
Whorled mountainsnail	Oreohelix vortex	Mollusk	Species of Concern	1	Riparian	US FWS		
Yellow-billed Cuckoo	Coccyzus americanus	Bird	Threatened	1	Riparian	US FWS	SS	1
Fisher	Martes pennanti	Mammal	Resolved Taxon	1	Riparian, Old growth	US FWS	R	1
Lewis woodpecker	Melanerpes lewis	Bird	Species of Concern	1	Riparian, Old growth	IUCN	NR	1
[Unnamed] larkspur	Delphinium multiplex	Plant	Resolved Taxon		Vernal	US FWS		
[Unnamed] onion	Allium constrictum	Plant	Resolved Taxon		Vernal	US FWS		
[Unnamed] willow	Salix fluviatilis	Plant	Resolved Taxon		Vernal	US FWS		
Ballhead, Thompson's waterleaf	Hydrophyllum capitatum thompsonii	Plant	Resolved Taxon		Vernal	US FWS		
Columbia yellow-cress	Rorippa columbiae	Plant	Resolved Taxon		Vernal	US FWS		
Howell's gumplant	Grindelia howellii	Plant	Species of Concern	1	Vernal	US FWS		
Howell's montia	Montia howellii	Plant	Species of Concern		Vernal	US FWS		
No common name	Valeriana columbiana	Plant	Resolved Taxon		Vernal	US FWS		
No common name	Camassia cusickii	Plant	Resolved Taxon	1	Vernal	US FWS		
No common name	Cryptantha interrupta	Plant	Resolved Taxon	1	Vernal	US FWS		
Northwestern larkspur	Delphinium xantholeucum	Plant	Resolved Taxon		Vernal	US FWS		
Pale blue-eyed grass	Sisyrinchium pallidum	Plant	Species of Concern		Vernal	US FWS		
Regal fritillary	Speyeria idalia	Invert	Under Review	1	Vernal	US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
[Unnamed] anemone	Anemone oregana felix	Plant	Resolved Taxon			US FWS		
[Unnamed] aster	Eucephalus glaucescens	Plant	Resolved Taxon			US FWS		
[Unnamed] aster	Symphyotrichum hallii	Plant	Resolved Taxon			US FWS		
[Unnamed] aster	Symphyotrichum molle	Plant	Species of Concern			US FWS		
[Unnamed] bittercress	Cardamine rupicola	Plant	Resolved Taxon	1		US FWS		
[Unnamed] bladderpod	Lesquerella paysonii	Plant	Species of Concern			US FWS		
[Unnamed] bladderpod	Lesquerella humilis	Plant	Species of Concern	1		US FWS		
[Unnamed] catseye	Cryptantha stricta	Plant	Resolved Taxon			US FWS		
[Unnamed] clarkia	Clarkia amoena pacifica	Plant	Resolved Taxon			US FWS		
[Unnamed] clover	Trifolium plumosum plumosum	Plant	Resolved Taxon			US FWS		
[Unnamed] clover	Trifolium barnebyi	Plant	Resolved Taxon			US FWS		
[Unnamed] clover	Trifolium plumosum amplifolium	Plant	Resolved Taxon	1		US FWS		
[Unnamed] evening-primrose	Oenothera psammophila	Plant	Species of Concern	1		US FWS		
[Unnamed] fameflower	Phemeranthus sediformis	Plant	Resolved Taxon			US FWS		
[Unnamed] fleabane	Erigeron latus	Plant	Species of Concern	1		US FWS		
[Unnamed] goldenweed	Pyrrocoma radiata	Plant	Species of Concern	1		US FWS		
[Unnamed] larkspur	Delphinium nuttallianum lineapetalum	Plant	Resolved Taxon			US FWS		
[Unnamed] leather flower	Clematis occidentalis dissecta	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
[Unnamed] lichen	Texosporium sancti-jacobi	Plant	Species of Concern	1		US FWS		
[Unnamed] milk-vetch	Astragalus hoodianus	Plant	Resolved Taxon			US FWS		
[Unnamed] milk-vetch	Astragalus tweedyi	Plant	Resolved Taxon			US FWS		
[Unnamed] milk-vetch	Astragalus proimanthus	Plant	Resolved Taxon			US FWS		
[Unnamed] milk-vetch	Astragalus shultziorum	Plant	Resolved Taxon			US FWS		
[Unnamed] milk-vetch	Astragalus purshii ophiogenes	Plant	Resolved Taxon	1		US FWS		
[Unnamed] milk-vetch	Astragalus camptopus	Plant	Resolved Taxon	1		US FWS		
[Unnamed] milk-vetch	Astragalus oniciformis	Plant	Resolved Taxon	1		US FWS		
[Unnamed] milk-vetch	Astragalus ceramicus apus	Plant	Resolved Taxon	1		US FWS		
[Unnamed] milk-vetch	Astragalus scaphoides	Plant	Resolved Taxon	1		US FWS	NR	
[Unnamed] milk-vetch	Astragalus barrii	Plant	Resolved Taxon	1		US FWS		
[Unnamed] milk-vetch	Astragalus drabelliformis	Plant	Species of Concern			US FWS		
[Unnamed] milk-vetch	Astragalus atratus inseptus	Plant	Species of Concern	1		US FWS		
[Unnamed] milk-vetch	Astragalus paysonii	Plant	Species of Concern	1		US FWS	NR	
[Unnamed] onion	Allium scilloides	Plant	Resolved Taxon			US FWS		
[Unnamed] onion	Allium robinsonii	Plant	Resolved Taxon			US FWS		
[Unnamed] onion	Allium tolmiei persimile	Plant	Resolved Taxon	1		US FWS		
[Unnamed] phlox	Phlox mollis	Plant	Resolved Taxon	1		US FWS		
[Unnamed] phlox	Phlox missoulensis	Plant	Resolved Taxon	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
[Unnamed] phlox	Phlox pungens	Plant	Species of Concern			US FWS		
[Unnamed] primrose	Primula wilcoxiana	Plant	Resolved Taxon	1		US FWS		
[Unnamed] reedgrass	Calamagrostis tweedyi	Plant	Resolved Taxon	1		US FWS		
[Unnamed] rock-cress	Arabis crandallii	Plant	Resolved Taxon			US FWS		
[Unnamed] rock-cress	Arabis williamsii	Plant	Resolved Taxon			US FWS		
[Unnamed] sedge	Carex arapahoensis	Plant	Resolved Taxon	1		US FWS		
[Unnamed] stolon	Draba sphaerocarpa	Plant	Resolved Taxon	1		US FWS		
[Unnamed] thistle	Cirsium davisii	Plant	Resolved Taxon	1		US FWS		
[Unnamed] thistle	Cirsium longistylum	Plant	Species of Concern	1		US FWS		
[Unnamed] twinpod	Physaria integrifolia monticola	Plant	Species of Concern			US FWS		
[Unnamed] twinpod	Physaria saximontana saximontana	Plant	Species of Concern			US FWS		
Aase's onion	Allium aaseae	Plant	Species of Concern	1		US FWS		
Absaroka beardtongue	Penstemon absarokensis	Plant	Resolved Taxon			US FWS		
Alaska rein orchid	Platanthera unalascensis maritima	Plant	Resolved Taxon			US FWS		
Allen's 13-lined ground squirrel	Spermophilus tridecemlineatus alleni	Mammal	Species of Concern			US FWS		
American peregrine falcon	Falco peregrinus anatum	Bird	Recovery	1		US FWS	NR	1
American pika	Ochotona princeps	Mammal	Species of Concern	1		IUCN	NR	1
Baird's sparrow	Ammodramus bairdii	Bird	Resolved Taxon	1		US FWS		1

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Bank monkeyflower	Mimulus clivicola	Plant	Resolved Taxon	1		US FWS		
Basalt daisy	Erigeron basalticus	Plant	Resolved Taxon			US FWS		
Bearmouth mountainsnail	Oreohelix spthree	Mollusk	Resolved Taxon	1		US FWS		
Berry's mountainsnail	Oreohelix strigosa berryi	Mollusk	Species of Concern	1		US FWS		
Big brown bat	Eptesicus fuscus	Mammal	Species of Concern	1		IUCN	R	1
Bighorn sheep	Ovis Canadensis	Mammal	Species of Concern	1		IUCN	NR	1
Black rosy finch	Leucosticte atrata	Bird	Species of Concern	1		IUCN	R	1
Black-footed ferret	Mustela nigripes	Mammal	Experimental Population, Non-Essential			US FWS		1
Black-tailed prairie dog	Cynomys ludovicianus	Mammal	Resolved Taxon	1		US FWS		1
Blind cave leiodid	Glacicavicola bathysciodes	Invert	Species of Concern	1		US FWS		
Blue Mountain onion	Allium dictuon	Plant	Species of Concern			US FWS		
Bog idol leaf beetle	Donacia idola	Invert	Resolved Taxon			US FWS		
Boreal owl	Aegolius funereus	Bird	Species of Concern	1		IUCN	R	1
Boulder pile mountainsnail	Oreohelix jugalis	Mollusk	Species of Concern	1		US FWS		
Branched fleabane	Erigeron allocotus	Plant	Resolved Taxon	1		US FWS		
Brewer's sparrow	Spizella breweri	Bird	Species of Concern	1		IUCN	NR	1
Byrne Resort mountainsnail	Oreohelix spthirtyone	Mollusk	Resolved Taxon	1		US FWS		
Cache beardtongue	Penstemon compactus	Plant	Species of Concern	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
California myotis	Myotis californicus	Mammal	Species of Concern	1		IUCN	R	1
Callused vertigo	Vertigo arthuri	Mollusk	Species of Concern			US FWS		
Canada Lynx	Lynx canadensis	Mammal	Threatened	1		US FWS		1
Carinated rocky mountainsnail	Oreohelix strigosa goniogyra	Mollusk	Species of Concern	1		US FWS		
Cary beardtongue	Penstemon caryi	Plant	Species of Concern	1		US FWS		
Cassin's finch	Carpodacus cassinii	Bird	Species of Concern	1		IUCN	NR	1
Chryxus arctic butterfly	Oeneis chryxus valerata	Invert	Resolved Taxon			US FWS		
Clark's nutcracker	Nucifraga columbiana	Bird	Species of Concern	1		IUCN	NR	1
Clearwater phlox	Phlox idahonis	Plant	Species of Concern	1		US FWS		
Columbian sharp-tailed grouse	Tympanuchus phasianellus columbianus	Bird	Resolved Taxon	1		US FWS		1
Constance's bittercress	Cardamine constancei	Plant	Resolved Taxon	1		US FWS		
Cooper's rocky mountainsnail	Oreohelix strigosa cooperi	Mollusk	Resolved Taxon			US FWS		
Copenhagen Basin pika	Ochotona princeps clamosa	Mammal	Resolved Taxon	1		US FWS		
Cotton's milk-vetch	Astragalus cottonii	Plant	Species of Concern			US FWS		
Cronquist daisy	Erigeron cronquistii	Plant	Species of Concern	1		US FWS		
Curtus aster	Sericocarpus rigidus	Plant	Species of Concern			US FWS		
Cusick's lupine	Lupinus cusickii	Plant	Species of Concern	1		US FWS		
Daggett, rock-cress	Arabis demissa languida	Plant	Resolved Taxon			US FWS		
Daggett, rock-cress	Arabis demissa russeola	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Davis' pepper cress	Lepidium davisii	Plant	Species of Concern	1		US FWS		
Davis' stickseed	Hackelia davisii	Plant	Resolved Taxon	1		US FWS	R	
Dense twinpod	Physaria condensata	Plant	Resolved Taxon			US FWS		
Desert yellowhead	Yermo xanthocephalus	Plant	Threatened			US FWS		
Destruction Island shrew	Sorex trowbridgii destructioni	Mammal	Species of Concern			US FWS		
Douglas' biscuitroot	Cymopterus douglassii	Plant	Species of Concern	1		US FWS	R	
Douglas' draba	Draba douglasii douglasii	Plant	Resolved Taxon	1		US FWS		
Eastern short-horned lizard	Phrynosoma douglassii brevirostra	Reptile	Species of Concern	1		US FWS		1
Evening grosbeak	Coccothraustes vespertinus	Bird	Species of Concern	1		IUCN	NR	1
Ferruginous hawk	Buteo regalis	Bird	Resolved Taxon	1		US FWS		1
Flett's violet	Viola flettii	Plant	Resolved Taxon			US FWS		
Fremont County rockcress	Boechera pusilla	Plant	Resolved Taxon			US FWS		
Fremont's bladder-pod	Lesquerella fremontii	Plant	Resolved Taxon			US FWS		
Fringed myotis	Myotis thysanodes	Mammal	Species of Concern	1		US FWS	R	1
Fruit rock-cress	Arabis fructicosa	Plant	Resolved Taxon			US FWS		
Giant Palouse earthworm	Driloleirus americanus	Invert	Resolved Taxon	1		US FWS		
Golden eagle	Aquila chrysaetos	Bird	Species of Concern	1		US FWS	NR	1
Gorge fleabane	Erigeron oreganus	Plant	Species of Concern			US FWS		
Gray jay	Perisoreus canadensis	Bird	Species of Concern	1		IUCN	NR	1

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Gray wolf	Canis lupus	Mammal	Recovery	1		US FWS	NR	1
Great gray owl	Strix nebulosa	Bird	Species of Concern	1		IUCN	NR	1
Greater sage-grouse	Centrocercus urophasianus	Bird	Resolved Taxon	1		US FWS	R	1
Green-tailed towhee	Pipilo chlorurus	Bird	Species of Concern	1		IUCN	NR	1
Grizzly bear	Ursus arctos horribilis	Mammal	Experimental Population, Non-Essential	1		US FWS		
Guardian buckwheat	Eriogonum meledonum	Plant	Species of Concern	1		US FWS	NR	
Hinckley's bricklebush	Brickellia brachyphylla montanus	Plant	Species of Concern	1		US FWS		
Hoary Bat	Lasiurus cinereus	Mammal	Species of Concern	1		IUCN	R	1
Hoary marmot	Marmota caligata	Mammal	Species of Concern	1		IUCN	NR	1
Hoover's tauschia	Tauschia hooveri	Plant	Species of Concern			US FWS		
Horse	Equus caballus	Mammal	Resolved Taxon	1		US FWS		1
Howell's fleabane	Erigeron howellii	Plant	Species of Concern			US FWS		
Ice grass	Phippsia algida	Plant	Resolved Taxon			US FWS		
Idaho banded mountainsnail	Oreohelix idahoensis idahoensis	Mollusk	Species of Concern	1		US FWS		
Idaho dunes tiger beetle	Cicindela arenicola	Invert	Species of Concern	1		US FWS		
Idaho penstemon	Penstemon idahoensis	Plant	Species of Concern	1		US FWS		
Idaho pointheaded grasshopper	Acrolophitus pulchellus	Invert	Species of Concern	1		US FWS	NR	

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Inyo lomatium	Lomatium foeniculaceum inyoense	Plant	Resolved Taxon	1		US FWS		
Jessica's aster	Symphyotrichum jessicae	Plant	Species of Concern	1		US FWS		
Jones' columbine	Aquilegia jonesii	Plant	Resolved Taxon	1		US FWS		
Keeled bladderpod	Lesquerella carinata	Plant	Species of Concern	1		US FWS		
Kotzebue's, grass-of-parnassus	Parnassia kotzebuei pumila	Plant	Resolved Taxon			US FWS		
Kruckeberg's swordfern	Polystichum kruckebergii	Plant	Resolved Taxon	1		US FWS		
Laramie columbine	Aquilegia laramiensis	Plant	Species of Concern			US FWS		
Laramie false sagebrush	Sphaeromeria simplex	Plant	Species of Concern			US FWS		
Larch Mountain salamander	Plethodon larselli	Amphibian	Resolved Taxon			US FWS		1
Large-fruited bladder-pod	Lesquerella macrocarpa	Plant	Species of Concern			US FWS		
Larkspur	Delphinium leucophaeum	Plant	Species of Concern			US FWS		
Lassen desert-parsley	Lomatium ravenii	Plant	Resolved Taxon	1		US FWS		
Lava rock mountainsnail	Oreohelix waltoni	Mollusk	Species of Concern	1		US FWS		
Lemhi beardtongue	Penstemon lemhiensis	Plant	Species of Concern	1		US FWS	R	
Little Brown Myotis	Myotis lucifugus	Mammal	Species of Concern	1		IUCN	R	1
Long-eared myotis	Myotis evotis	Mammal	Species of Concern	1		US FWS	R	1
Long-legged myotis	Myotis volans	Mammal	Species of Concern	1		US FWS	R	1
Lost River milk-vetch	Astragalus amnis-amissi	Plant	Resolved Taxon	1		US FWS	R	
Louie's pocket gopher	Thomomys mazama louiei	Mammal	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
MacFarlane's four-o'clock	Mirabilis macfarlanei	Plant	Threatened			US FWS		
Meadow pussytoes	Antennaria arcuata	Plant	Species of Concern	1		US FWS	NR	
Mission Creek oregonian	Cryptomastix magnidentata	Mollusk	Species of Concern	1		US FWS		
Monarch butterfly	Danaus plexippus plexippus	Invert	Under Review	1		US FWS	R	
Mountain blue-eyed grass	Sisyrinchium sarmentosum	Plant	Resolved Taxon			US FWS		
Mountain goat	Oreamnos americanus	Mammal	Species of Concern	1		IUCN	NR	1
Mountain lady's-slipper	Cypripedium montanum	Plant	Resolved Taxon	1		US FWS		
Mountain plover	Charadrius montanus	Bird	Resolved Taxon			US FWS		1
Mountain quail	Oreortyx pictus	Bird	Resolved Taxon	1		US FWS		1
Mulford's milk-vetch	Astragalus mulfordiae	Plant	Species of Concern	1		US FWS		
No common name	Castilleja parviflora olympica	Plant	Resolved Taxon			US FWS		
No common name	Chaenactis ramosa	Plant	Resolved Taxon			US FWS		
No common name	Chaenactis thompsonii	Plant	Resolved Taxon			US FWS		
No common name	Claytonia lanceolata chrysantha	Plant	Resolved Taxon			US FWS		
No common name	Claytonia megarhiza nivalis	Plant	Resolved Taxon			US FWS		
No common name	Erigeron flettii	Plant	Resolved Taxon			US FWS		
No common name	Erigeron leibergii	Plant	Resolved Taxon			US FWS		
No common name	Erigeron piperanus	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Eriogonum umbellatum hypoleium	Plant	Resolved Taxon			US FWS		
No common name	Lomatium cuspidatum	Plant	Resolved Taxon			US FWS		
No common name	Lomatium thompsonii	Plant	Resolved Taxon			US FWS		
No common name	Pedicularis rainierensis	Plant	Resolved Taxon			US FWS		
No common name	Penstemon washingtonensis	Plant	Resolved Taxon			US FWS		
No common name	Petrophytum hendersonii	Plant	Resolved Taxon			US FWS		
No common name	Poa curtifolia	Plant	Resolved Taxon			US FWS		
No common name	Senecio neowebsteri	Plant	Resolved Taxon			US FWS		
No common name	Synthyris pinnatifida lanuginosa	Plant	Resolved Taxon			US FWS		
No common name	Douglasia nivalis nivalis	Plant	Resolved Taxon			US FWS		
No common name	Draba ruaxes	Plant	Resolved Taxon			US FWS		
No common name	Lomatium quintuplex	Plant	Resolved Taxon			US FWS		
No common name	Arenaria franklinii thompsonii	Plant	Resolved Taxon			US FWS		
No common name	Balsamorhiza rosea	Plant	Resolved Taxon			US FWS		
No common name	Cimicifuga laciniata	Plant	Resolved Taxon			US FWS		
No common name	Cryptantha thompsonii	Plant	Resolved Taxon			US FWS		
No common name	Dodecatheon poeticum	Plant	Resolved Taxon			US FWS		
No common name	Douglasia laevigata laevigata	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Erythronium oregonum	Plant	Resolved Taxon			US FWS		
No common name	Columbiadoria hallii	Plant	Resolved Taxon			US FWS		
No common name	Hieracium longiberbe	Plant	Resolved Taxon			US FWS		
No common name	Lomatium hendersonii	Plant	Resolved Taxon			US FWS		
No common name	Lomatium laevigatum	Plant	Resolved Taxon			US FWS		
No common name	Synthyris missurica stellata	Plant	Resolved Taxon			US FWS		
No common name	Synthyris schizantha	Plant	Resolved Taxon			US FWS		
No common name	Lupinus sabinii	Plant	Resolved Taxon			US FWS		
No common name	Viola adunca cascadensis	Plant	Resolved Taxon			US FWS		
No common name	Parthenium alpinum	Plant	Resolved Taxon			US FWS		
No common name	Stanleya pinnata gibberosa	Plant	Resolved Taxon			US FWS		
No common name	Lomatium attenuatum	Plant	Resolved Taxon			US FWS		
No common name	Cymopterus everetii	Plant	Resolved Taxon			US FWS		
No common name	Descurainia torulosa	Plant	Resolved Taxon			US FWS		
No common name	Physaria dornii	Plant	Resolved Taxon			US FWS		
No common name	Thelesperma pubescens	Plant	Resolved Taxon			US FWS		
No common name	Arnica cordifolia	Plant	Resolved Taxon			US FWS		
No common name	Thelesperma caespitosum	Plant	Resolved Taxon			US FWS		
No common name	Oxytropis besseyi obnapiformis	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Sidalcea candida	Plant	Resolved Taxon			US FWS		
No common name	Chaenactis evermannii	Plant	Resolved Taxon	1		US FWS		
No common name	Chamaechaenactis scaposa	Plant	Resolved Taxon	1		US FWS		
No common name	Dasynotus daubenmirei	Plant	Resolved Taxon	1		US FWS		
No common name	Draba argyraea	Plant	Resolved Taxon	1		US FWS		
No common name	Halimolobos perplexa lemhiensis	Plant	Resolved Taxon	1		US FWS		
No common name	Halimolobos perplexa perplexa	Plant	Resolved Taxon	1		US FWS		
No common name	Triniteurybia aberrans	Plant	Resolved Taxon	1		US FWS		
No common name	Hymenopappus filifolius idahoensis	Plant	Resolved Taxon	1		US FWS		
No common name	Musineon lineare	Plant	Resolved Taxon	1		US FWS		
No common name	Physaria geyeri purpurea	Plant	Resolved Taxon	1		US FWS		
No common name	Synthyris platycarpa	Plant	Resolved Taxon	1		US FWS		
No common name	Peteria thompsonae	Plant	Resolved Taxon	1		US FWS		
No common name	Waldsteinia idahoensis	Plant	Resolved Taxon	1		US FWS		
No common name	Cymopterus ibapensis	Plant	Resolved Taxon	1		US FWS	R	
No common name	Pyrrocoma insecticruris	Plant	Resolved Taxon	1		US FWS		
No common name	Machaeranthera laetevirens	Plant	Resolved Taxon	1		US FWS		
No common name	Erythronium grandiflorum nudipetalum	Plant	Resolved Taxon	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Agastache cusickii	Plant	Resolved Taxon	1		US FWS		
No common name	Artemisia papposa	Plant	Resolved Taxon	1		US FWS		
No common name	Cryptantha sobolifera	Plant	Resolved Taxon	1		US FWS		
No common name	Cymopterus corrugatus	Plant	Resolved Taxon	1		US FWS		
No common name	Frasera idahoensis	Plant	Resolved Taxon	1		US FWS		
No common name	Penstemon elegantulus	Plant	Resolved Taxon	1		US FWS		
No common name	Silene scaposa lobata	Plant	Resolved Taxon	1		US FWS		
No common name	Castilleja oresbia	Plant	Resolved Taxon	1		US FWS		
No common name	Hackelia hispida	Plant	Resolved Taxon	1		US FWS		
No common name	Lomatium rollinsii	Plant	Resolved Taxon	1		US FWS		
No common name	Lomatium serpentinum	Plant	Resolved Taxon	1		US FWS		
No common name	Chrysothamnus nauseosus nanus	Plant	Resolved Taxon	1		US FWS		
No common name	Eriogonum thymoides	Plant	Resolved Taxon	1		US FWS		
No common name	Draba apiculata daviesiae	Plant	Resolved Taxon	1		US FWS		
No common name	Saussurea weberi	Plant	Resolved Taxon	1		US FWS		
No common name	Synthyris canbyi	Plant	Resolved Taxon	1		US FWS		
No common name	Trisetum orthochaetum	Plant	Resolved Taxon	1		US FWS		
No common name	Parrya nudicaulis	Plant	Resolved Taxon	1		US FWS		
No common name	Achnatherum swallenii	Plant	Resolved Taxon	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Antennaria aromatica	Plant	Resolved Taxon	1		US FWS		
No common name	Synthyris pinnatifida canescens	Plant	Resolved Taxon	1		US FWS		
No common name	Lewisia columbiana wallowensis	Plant	Resolved Taxon	1		US FWS		
No common name	Oxytropis campestris wanapum	Plant	Species of Concern			US FWS		
No common name	Penstemon barrettiae	Plant	Species of Concern			US FWS		
No common name	Sullivantia oregana	Plant	Species of Concern			US FWS		
No common name	Astragalus diaphanus diurnus	Plant	Species of Concern			US FWS		
No common name	Draba pectinipila	Plant	Species of Concern			US FWS		
No common name	Aletes humilis	Plant	Species of Concern			US FWS		
No common name	Cryptantha subcapitata	Plant	Species of Concern			US FWS		
No common name	Achnatherum contractum	Plant	Species of Concern			US FWS		
No common name	Artemisia biennis diffusa	Plant	Species of Concern			US FWS		
No common name	Astragalus jejunus articulatus	Plant	Species of Concern			US FWS		
No common name	Haplopappus carthamoides subsquarrosus	Plant	Species of Concern			US FWS		
No common name	Ipomopsis aggregata webberi	Plant	Species of Concern			US FWS		
No common name	Ipomopsis spicata robruthii	Plant	Species of Concern			US FWS		
No common name	Physaria eburniflora	Plant	Species of Concern			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
No common name	Phacelia inconspicua	Plant	Species of Concern	1		US FWS		
No common name	Douglasia idahoensis	Plant	Species of Concern	1		US FWS		
No common name	Cymopterus davisii	Plant	Species of Concern	1		US FWS		
No common name	Erigeron salmonensis	Plant	Species of Concern	1		US FWS		
No common name	Leptodactylon glabrum	Plant	Species of Concern	1		US FWS		
No common name	Saxifraga bryophora tobiasiae	Plant	Species of Concern	1		US FWS		
No common name	Rubus bartonianus	Plant	Species of Concern	1		US FWS		
No common name	Leptodactylon pungens hazeliae	Plant	Species of Concern	1		US FWS		
No common name	Chaenactis cusickii	Plant	Species of Concern	1		US FWS		
No common name	Calochortus nitidus	Plant	Species of Concern	1		US FWS	R	
No common name	Pyrrocoma liatriformis	Plant	Species of Concern	1		US FWS		
No common name	Erigeron lackshewitz	Plant	Species of Concern	1		US FWS		
No common name	Papaver pygmaeum	Plant	Species of Concern	1		US FWS		
No common name	Botrychium paradoxum	Plant	Species of Concern	1		US FWS		
No common name	Botrychium crenulatum	Plant	Species of Concern	1		US FWS	R	
No common name	Eriogonum lagopus	Plant	Species of Concern	1		US FWS		
No common name	Rorippa calycina	Plant	Species of Concern	1		US FWS		
No common name	Shoshonea pulvinata	Plant	Species of Concern	1		US FWS		
No common name	Claytonia lanceolata flava	Plant	Species of Concern	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
North American wolverine	Gulo gulo luscus	Mammal	Proposed Threatened	1		US FWS	SS	1
Northern Idaho Ground Squirrel	Urocitellus brunneus	Mammal	Threatened			US FWS		1
Northern sagebrush lizard	Sceloporus graciosus graciosus	Reptile	Species of Concern	1		US FWS		1
Olympic harebell	Campanula piperi	Plant	Resolved Taxon			US FWS		
Oregon Vesper Sparrow	Pooecetes gramineus ssp. affinis	Bird	Under Review			US FWS		1
Osgood Mountains milk-vetch	Astragalus yoder-williamsii	Plant	Resolved Taxon	1		US FWS		
Owyhee clover	Trifolium owyheense	Plant	Species of Concern	1		US FWS		
Pacific Townsend's big-eared bat	Plecotus townsendii townsendii	Mammal	Species of Concern	1		US FWS	SS	1
Pahasapa mountainsnail	Oreohelix strigosa ssp.	Mollusk	Species of Concern			US FWS		
Pale Townsend's big-eared bat	Plecotus townsendii pallescens	Mammal	Species of Concern	1		US FWS		
Pauper milk-vetch	Astragalus misellus pauper	Plant	Resolved Taxon			US FWS		
Payson beardtongue	Penstemon paysoniorum	Plant	Resolved Taxon			US FWS		
Piping Plover	Charadrius melodus	Bird	Threatened			US FWS		1
Plains bison	Bison bison bison	Mammal	Resolved Taxon	1		US FWS		1
Porter sagebrush	Artemisia porteri	Plant	Resolved Taxon			US FWS		
Potholes meadow vole	Microtus pennsylvanicus kincaidi	Mammal	Species of Concern			US FWS		
Preble's shrew	Sorex preblei	Mammal	Species of Concern	1		US FWS		1

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Pygmy rabbit	Brachylagus idahoensis	Mammal	Species of Concern	1		IUCN	R	1
Queen-of-the-forest	Filipendula occidentalis	Plant	Species of Concern			US FWS		
Reakirt's blue butterfly	Echinargus isola	Invert	Resolved Taxon	1		US FWS		
Red knot	Calidris canutus rufa	Bird	Threatened			US FWS		1
Richardson's ground squirrel	Spermophilus richardsoni nevadensis	Mammal	Resolved Taxon	1		US FWS		
Rose-purple sand-verbena	Abronia umbellata acutalata	Plant	Species of Concern			US FWS		
Sage thrasher	Oreoscoptes montanus	Bird	Species of Concern	1		IUCN	NR	1
Salmon twin bladderpod	Physaria didymocarpa lyrata	Plant	Species of Concern	1		US FWS	R	
San Pitch Valley milk-vetch	Astragalus lentiginosus chartaceus	Plant	Resolved Taxon	1		US FWS		
Sapphire Mt. rock-cress	Arabis fecunda	Plant	Species of Concern	1		US FWS		
Sea cliff bluegrass	Poa unilateralis	Plant	Resolved Taxon			US FWS		
Seaside goldfields	Lasthenia maritima	Plant	Resolved Taxon			US FWS		
Shaw Island Townsend's vole	Microtus townsendii pugeti	Mammal	Resolved Taxon			US FWS		1
Slender Moonwort	Botrychium lineare	Plant	Resolved Taxon	1		US FWS		
Small-footed myotis	Myotis leibii	Mammal	Species of Concern	1		US FWS		1
Smooth stickleaf	Mentzelia mollis	Plant	Resolved Taxon	1		US FWS		
Smooth-leaf bluebells	Mertensia viridis dilatata	Plant	Resolved Taxon			US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Snow, little draba	Draba nivalis brevicula	Plant	Resolved Taxon			US FWS		
Sp. nov. ined. (WY) townsendia	Townsendia sp.	Plant	Species of Concern			US FWS		
Sp. nov. ined. cirsium	Cirsium sp.	Plant	Species of Concern			US FWS		
Sp. nov. ined. erigeron	Erigeron sp.	Plant	Species of Concern			US FWS		
Spalding's Catchfly	Silene spaldingii	Plant	Threatened			US FWS		
Spotted bat	Euderma maculatum	Mammal	Species of Concern	1		US FWS	NR	1
Sprague's pipit	Anthus spragueii	Bird	Resolved Taxon			US FWS		1
Stalk-leaved monkey-flower	Mimulus patulus	Plant	Species of Concern	1		US FWS		
Stanley whitlow-grass	Draba trichocarpa	Plant	Species of Concern	1		US FWS	NR	
Stemless beardtongue	Penstemon acaulis	Plant	Species of Concern			US FWS		
Sterile milk-vetch	Astragalus sterilis	Plant	Resolved Taxon	1		US FWS		
Suksdorf's desert-parsley	Lomatium suksdorfii	Plant	Species of Concern			US FWS		
Swainson's hawk	Buteo swainsoni	Bird	Resolved Taxon	1		US FWS		1
Sword townsendia	Townsendia spathulata	Plant	Resolved Taxon			US FWS		
Talus collomia	Collomia debilis var. larsenii	Plant	Resolved Taxon			US FWS		
Thistle	Cirsium brevifolium	Plant	Resolved Taxon	1		US FWS		
Thistle, Douglas' milk-vetch	Astragalus kentrophyta douglasii	Plant	Resolved Taxon			US FWS		
Townsends big-eared bat	Corynorhinus townsendii	Mammal	Species of Concern	1		IUCN	R	1
Trianglelobe moonwort	Botrychium ascendens	Plant	Species of Concern	1		US FWS		

Common Name	Scientific Name	Taxon	Status	SCNF	Habitat	Source	SCC	GAP
Tufted Puffin	Fratercula cirrhata	Bird	Under Review			US FWS		1
Tundra shootingstar	Dodecatheon austrofrigidum	Plant	Species of Concern			US FWS		
Tweedy's pussypaws	Cistanthe tweedyi	Plant	Resolved Taxon			US FWS		
Wallowa primrose	Primula cusickiana	Plant	Resolved Taxon	1		US FWS		
Washington monkey-flower	Mimulus washingtonensis washingtonensis	Plant	Species of Concern			US FWS		
Weist's sphinx moth	Euproserpinus wiesti	Invert	Resolved Taxon	1		US FWS		
Western Bumble bee	Bombus occidentalis	Invert	Under Review	1		US FWS	R	
Western burrowing owl	Athene cunicularia ssp. hypugaea	Bird	Species of Concern	1		US FWS		1
Western grey squirrel	Sciurus griseus	Mammal	Resolved Taxon			US FWS		1
Western prairie fringed Orchid	Platanthera praeclara	Plant	Threatened			US FWS		
Western small-footed myotis	Myotis ciliolabrum	Mammal	Species of Concern	1		IUCN	R	1
Western toad	Bufo boreas	Amphibian	Species of Concern	1		IUCN	R	1
White Cloud milkvetch	Astragalus vexilliflexus nubilus	Plant	Species of Concern	1		US FWS	SS	
Whitebark pine	Pinus albicaulis	Plant	Candidate	1		US FWS	SS	
Wyoming pocket gopher	Thomomys clusius	Mammal	Resolved Taxon			US FWS		1
Yellow banded Bumble bee	Bombus terricola	Invert	Resolved Taxon	1		US FWS		
Yuma myotis	Myotis yumanensis	Mammal	Species of Concern	1		US FWS	R	1
479				270				87

Table 2. Potential Species of Interest

Common Name	Scientific Name
Western Joepye Weed	*Agoseris lackschewitzii*
	Allotropa virgata
A Grasshopper	*Argiacris militaris*
Grasshopper	*Arigiacris keithi*
Flowering Plant	*Astragalus amblytropis*
Lemhi Milkvetch	*Astragalus aquilonius*
Meadow Milkvetch	*Astragalus diversifolius*
Grays Milkvetch	*Astragalus gilviflorus*
Park Milkvetch	*Astragalus leptaleus*
	Astragalus vexilliflexus
A Grasshopper	*Barracris petraea*
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*
Flowering Plant	*Botrychium lunaria*
Michigan Moonwort	*Botrychium michiganense*
Flowering Plant	*Botrychium simplex*
A Riffle Beetle	*Bryelmis idahoensis*
Bigleaf Sedge	*Carex abrupta*
Idaho Sedge	*Carex idahoa*
Seaside Sedge	*Carex incurviformis*
Western Sedge	*Carex occidentalis*
Many Headed Sedge	*Carex straminiformis*
Snow Indian Paintbrush	*Castilleja pulchella*
Mayfly	*Caurinella idahoensis*
	Chrysosplenium tetrandrum
Flexible Alpine Collomia	*Collomia debilis var. camporum*
White Arctic Whitlow Grass	*Draba fladnizensis*
Rockcress Draba	*Draba globosa*
	Eatonella nivea
A Mayfly	*Ephemerella alleni*
Idaho Fleabane	*Erigeron humilis*

Common Name	Scientific Name
Welshes Buckwheat	*Eriogonum capistratum var. welshii*
Railroad Canyon Wild Buckwheat	*Eriogonum soliceps*
	Escobaris vivipara
Gillette's Checkerspot	*Euphydryas gillettii*
Green River Pebblesnail	*Fluminicola coloradoensis*
Glaucous Gentian	*Gentianella propinqua*
Macouns Gentian	*Gentianella tenella*
Caddisfly	*Goereilla baumanni*
Moss	*Helodium blandowii*
	Hierochloe odorata
Small Flower Standing Cypress	*Ipomopsis polycladon*
Sacajawea's Bitterroot	*Lewisia sacajaweana*
Western Pearlshell Mussel	*Margaratifera falcata*
Flowering Plant	*Meesia longiseta*
Grasshopper	*Melanoplus artemisiae*
Idaho Pennycress	*Noccaea idahoensis var. aileeniae (=Thlaspi idahoense var. aileeniae)*
Moss	*Orthotrichum hallii*
Besseys Locoweed	*Oxytropis besseyi var. salmonensis*
Alpine Poppy	*Papaver radicatum ssp. kluanense*
Mayfly	*Paraleptophlebia vaciva*
	Parnassia kotzebuei
Salmon River Penstemon	*Penstemon salmoensis*
Lyalls Phacelia	*Phacelia lyallii*
Idaho Bladderpod	*Physaria carinata*
White Spruce	*Picea glauca*
Arctic Bluegrass	*Poa abbreviata*
Mountain Twinpod/Marsh's Bluegrass	*Poa abbreviata ssp. marshii*
	Polemonium elusum
Fern	*Polystichum kruckerbergii*
	Ranunculus gelidus
Northern Buttercup	*Ranunculus pygmaeus*

Common Name	Scientific Name
Cascade Willow	*Salix farriae*
	Saxifraga adscendens
	Saxifraga cernua
	Sedum borschii
Caddisfly	*Sericostriata surdickae*
	Silene scaposa
	Silene uralensis ssp.
Idaho Amphipod	*Stygobromus idahoensis*
Lolol Sallfly	*Sweltsa durfeei*
Fungi/Lichen	*Thamnolia subuliformis*
Fungi/Lichen	*Xanthoparmelia idahoensis*

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