



United States Department of Agriculture

Draft Species of Conservation Concern Assessment

Tongass National Forest Plan Revision



Forest
Service

Alaska
Region

Tongass
National Forest

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Cover Photo: Alaska Ricasolia lichen, a species under review as a Species of Conservation Concern for the Tongass National Forest. Photograph by Karen Dillman

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Species of Conservation Concern Assessment

Tongass National Forest Plan Revision

Forest Service, Alaska Region

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Introduction

The 2012 Planning Rule requires the identification of Species of Conservation Concern (SCC), which are at-risk species “other than federally recognized threatened, endangered, proposed, or candidate species, that are native and known to occur in the plan area and for which the Regional Forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long- term in the plan area” (36 CFR 219.9 (c)). Forest Service planning directives (FSH FSH 1909.12_12.52) state that the responsible official (forest supervisor) will coordinate with the regional forester to identify potential SCC “relevant to the plan area and the planning process.” In identifying SCC, the regional forester must consider information provided by the public, Tribes and cooperating agencies. The Forest Service is required to provide opportunities for public participation and feedback. The SCC list is developed for forest planning purposes; it does not confer special regulatory status on any species beyond existing state and federal statutes. In this assessment, we discuss the importance of SCCs as at-risk species and the shift in current management direction from a regional forester sensitive species policy to an SCC policy to comply with the 2012 Planning Rule.

Resource Importance

The purpose of identifying SCC is to aid in developing land management plan components that maintain the diversity of plant and animal communities and provide for the persistence of native species in the plan area (36 CFR 219.9). Most species will be maintained by plan components in the revised plan (through desired conditions, objectives, standards, guidelines, and suitability of lands) that maintain broad level ecosystem integrity and diversity. Some species may require additional species-specific plan components to maintain or recover populations, or where the species requires unique and specific ecological conditions that are best addressed with more focused plan components. Plan components will be developed that meet the needs of each SCC, whether they are ecosystem-level or species specific, during the plan development stage.

The 2012 Planning Rule provides direction to maintain biodiversity and the persistence of native species through an emphasis on ecological integrity. The 2012 Planning Rule recognizes that it may not be possible to maintain a viable population of some at-risk species within the plan area due to circumstances beyond the authority of the Forest Service or due to limitations in the inherent capability of the land. Examples might be migratory species where viability is primarily affected in other locations, temperature-sensitive species affected by warming temperatures, or where the plan area has limited ecological capacity to provide sufficient habitat to sustain the species.

Managing ecosystems to sustain biodiversity relies on maintaining the appropriate mix of habitat quantity, quality, and distribution across the landscape. Landscapes are diverse, highly complex systems influenced by many factors, including the interaction of soils, aspect, elevation, climate, disturbance events, and humans. Together, these influences have shaped vegetative composition and distribution that have, in turn, influenced the biodiversity in the region. All plant and animal species contribute to the biological diversity and ecosystem integrity of an ecosystem. Plan components in the revised plan that address ecosystem integrity would be expected to provide for ecological conditions necessary to maintain the persistence or contribute to the recovery of native species in the plan area (FSH 1909.12_23.11). Species-specific plan components are added as needed.

The Tongass National Forest is the largest national forest administered by the USDA Forest Service, almost 17 million acres. The Forest is primarily temperate rainforest which encompasses islands of the Alexander Archipelago, together with continental lands with coastal mountains, fjords, and glaciers.

Along with Canada’s Great Bear Rainforest, the Tongass is considered the largest intact temperate rainforest on the planet and provides many ecosystem services, including carbon storage and provision of habitat for diverse species (DellaSala et al. 2022). The Tongass is considered a biologically rich area, with generally high productivity essential to maintaining its ecosystem services (Oliver et al. 2015). It is home to many species of flora, fauna, and fungi, some of which are unique to Southeast Alaska.

Biodiversity, which includes both variation within the same species and the diversity of species across landscapes, is crucial for the longer-term resilience of ecosystems' function and the services they provide (Oliver et al. 2015). The mission of the USDA Forest Service is to “sustain the health, diversity, and productivity of the nation’s forests and grasslands to meet the needs of present and future generations” (<https://www.fs.usda.gov/about-agency/meet-forest-service>). In the face of anthropogenic disturbances and changes in global climate, sustainability requires maintenance of resilient ecosystems and their function; that is, ecosystems that can resist or recover rapidly from environmental perturbations (Oliver et al. 2015).

Biodiversity can substantially influence local communities' social and economic sustainability. For example, Alaska resident and migratory bird species generated approximately \$378 million in overall economic output through bird watching in 2016 alone and were enjoyed by more than 300,000 people, supporting approximately 4,000 jobs (Schwoerer and Dawson 2022). Hunting and fishing are traditional recreational, subsistence, and customary and traditional uses within the Tongass. Species being evaluated for identification as SCC include huntable big game such as mountain goats (*Oreamnos americanus*), sport fish like Chinook salmon (*Oncorhynchus tshawytscha*), and watchable wildlife (e.g., bird watching). Moreover, some potential botanical SCCs (vascular plants, bryophytes, lichen, and fungi) may be used as food, medicine, and weaving material. In addition, potential SCC may provide vital ecosystem services such as pollination, water filtration, insect pest control, host plants for other species, and ecosystem engineering to provide habitat for different species, thus contributing to overall biodiversity.

Current Management Direction

The National Forest Management Act (NFMA) of 1976 requires the Forest Service to “provide for the diversity of plant and animal communities.” The 2012 planning rule implements this NFMA requirement through the SCC policy. To be identified as a SCC, the Forest Service must be able to obtain sufficient scientific information to indicate substantial concern for the capability of the species to persist in the plan area over the long term.

General SCC Steps for Plan Revision

Identification of SCC needs to occur as early as possible so that plan content can be designed to meet the needs of species identified. Figure 1 shows how SCC identification and planning relates to the multi-step plan revision process. During the pre-assessment and assessment phases, the proposed SCC list will be developed with input from tribes, the public, and cooperating agencies.

The pre-assessment phase of forest plan revision includes the organization and preparation for revising the land management plan. The list of species to consider was developed during this phase using an information-gathering and screening process. The initial search for the best available scientific information (BASI), the application of BASI during a screening process, and a preliminary evaluation of this information occurred during this pre-assessment phase.

Phases of SCC Identification

(Species of Conservation Concern)

SPECIES CONSIDERED

FSH 1909.12, chap. 10 sec. 12.52d – Nature Serve Ranks G(T)1,2, or 3, or S1 or 2; current RFSS; ESA de-listed or 90-day findings; State or Tribal T&E or Tier 1 SWAP; current SCC or RFSS or BLM sensitive on adjoining lands

SPECIES UNDER REVIEW

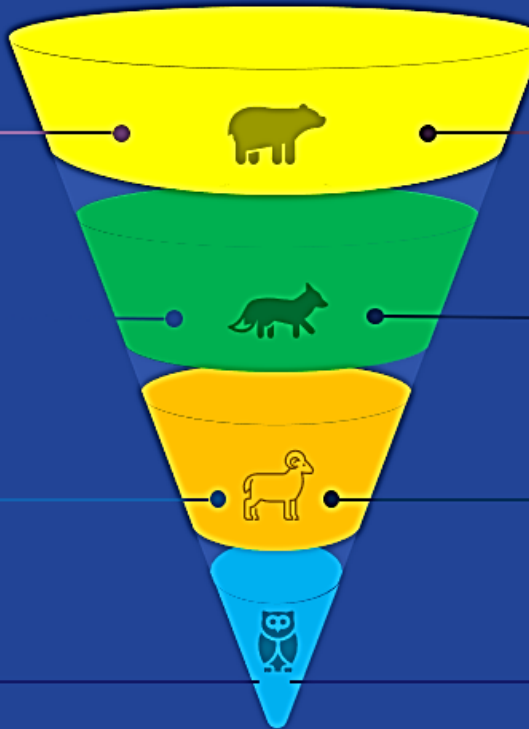
FSH 1909.12, chap. 10, sec. 12.52c.1 – Species considered (above) and confirmed to be native and known to occur from list above.

PROPOSED SCC

FSH 1909.12, chap. 10, sec. 12.52c.2 – BASI about the species indicates substantial concern about the species' capability to persist over the long term in the plan area.

REGIONAL FORESTER SCC

36 CFR 219.9(c) & FSH 1909.12, chap. 20, sec. 21.22a – Regional Forester (RF) reviews rationale and documentation provided by the Responsible Official (MPSG and Unit) and applies further assessment as deemed necessary by RF.



PRE-ASSESSMENT

Internal processing by PSG with Unit check-ins to review results and provide additional data and information. Species overviews with BASI drafted for species determined to be native and known to occur.

ASSESSMENT

Unit and Regional Office review of the Potential SCC list for release with the Draft Assessment. Tribal, partner and public engagement. Species overviews and BASI references provided with Assessment.

PROPOSED ACTION

Substantial Concern determinations finalized by Regional Forester incorporating Assessment inputs and other RF considerations. Species Overviews and Rationales finalized for Proposed Action and Draft Plan.

DRAFT & FINAL PLAN

Plan component crosswalk for SCC viability. Draft Plan includes the Proposed SCC list for the second and final public engagement. Final Plan includes finalized SCC

Figure 1. Multiple planning phases for Species of Conservation Concern.

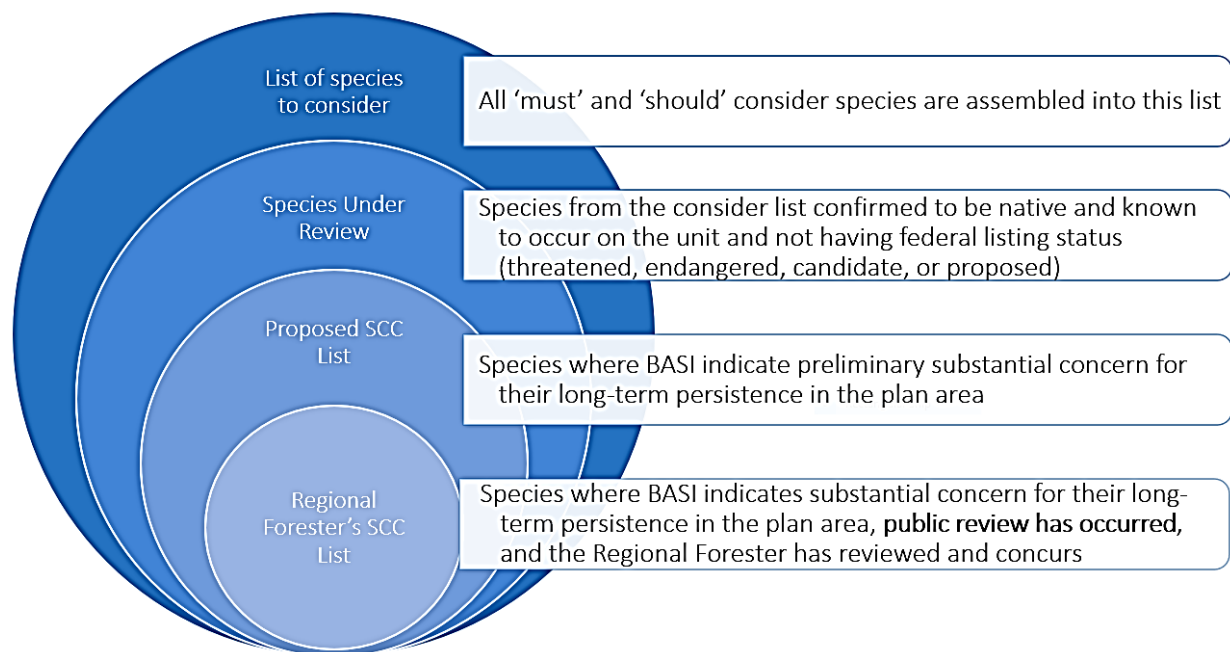


Figure 2. Major steps undertaken to establish a list of proposed Species of Conservation Concern.

Assessments are developed to “rapidly evaluate existing information about relevant ecological, economic, and social conditions, trends, and sustainability and their relationship to the land management plan within the context of the broader landscape” (36 CFR 219.5(a)(1)). The list of *Species Under Review* (Figure 1) is provided as part of this assessment document to allow the public an opportunity to give feedback on the initial list, suggest species to be added, and identify additional information for the review.

The assessment phase will result in an identification of a ‘need to change’ the current Forest Plan. The need to change generally reflects a review of the needs of species identified as proposed SCC to determine if the existing plan content provides those needs. Any identified gaps are the basis for developing new draft plan components that will provide for the ecological conditions the SCC need to persist. Once the plan content and alternatives are developed, they will be evaluated to determine how well they provide for the long-term persistence of SCC.

Methods for Identifying SCC

To fulfill the requirements of the 2012 Planning Rule and transition from the Forest Sensitive Species policy to SCC, Forest Service personnel developed a process paper that describes the identification of SCC for the Tongass Forest Plan Revision (USDA 2024). The process paper details the general steps to identify SCC by phase of plan revision and the methods that are being used, which are based on the Forest Service Land Management Planning Manual and Handbook and the Practitioner’s Reference for Applying the 2012 Planning Rule to Conserve Species (Hayward et al. 2016).

Public Engagement

The primary input that the agency is requesting at this assessment stage is knowledge of any species that should be added for consideration or removed from consideration, along with supporting scientific information or traditional ecological knowledge (e.g., date of last observation, threats observed, condition and size of the occurrence, habitat parameters associated with the species). If additional species are

identified that are native and known to occur on the Tongass, and for which there is evidence that the species may be at risk, those species would be fully evaluated during the assessment.

The list of *Species Under Review* and any current supporting information is included in Appendix A. The agency appreciates any additional best available scientific information and traditional ecological knowledge that would be valuable for evaluating a species for identification as an SCC. Public input and information received will be reviewed and will be incorporated into species evaluations as appropriate.

Potential Species of Conservation Concern

Following the procedures described above for the pre-assessment and assessment phases, and as part of the screening efforts to identify SCC, the Forest compiled a total of 416 species into the *List of Species to Consider*. Of these, 330 are botanical species (including vascular and non-vascular plants, lichen, and fungi), 52 are terrestrial wildlife species (animals and invertebrates), and 34 are aquatic species (fish and invertebrates).

Through a screening process, the list of *Species Under Review*, species that are native and known to occur on the Tongass and that are not listed (threatened or endangered) or considered (proposed or candidate) under the Endangered Species Act (ESA), was developed. The list of *Species Under Review* includes 254 species, of which 201 are botanical species, 42 are terrestrial wildlife species, and 11 are aquatic species (Figure 2). Tables 1 through 3 present the species that belong to the *Species Under Review List* divided by taxa. Currently, we have produced Species Accounts and preliminary Evaluations for 44% of the species in the *Species Under Review List*. The remaining 66% are currently being assessed or evaluated.

In the following sections, details on the species encompassing the *Species Under Review List* are discussed by taxa, their status, and preliminary findings if applicable. The list of species that were screened out because they were either not native or not known to occur on the Tongass or they are listed or considered under the ESA can be found in Appendix A.

Botanical Species

Of the 389 botanical species on the *List of Species to Consider*, a total of 163 botanical species (42%) met the initial criteria for consideration as SCC. The rest of the species (58%) were not known to occur or were determined not to be native to the Tongass. Therefore, 163 botanical species were carried forward as part of the list of *Species Under Review* (Table 1).

Terrestrial wildlife species

A total of 56 terrestrial wildlife species have been assessed on the *List of Species to Consider*, of which 18% were not carried forward into the *Species Under Review List* because they either did not meet the NatureServe ranking or local concern criteria, were not native and were not known to occur in the plan area, or were ESA-listed (Appendix A). The remaining 46 species made it into the *Species Under Review List* (Table 2).

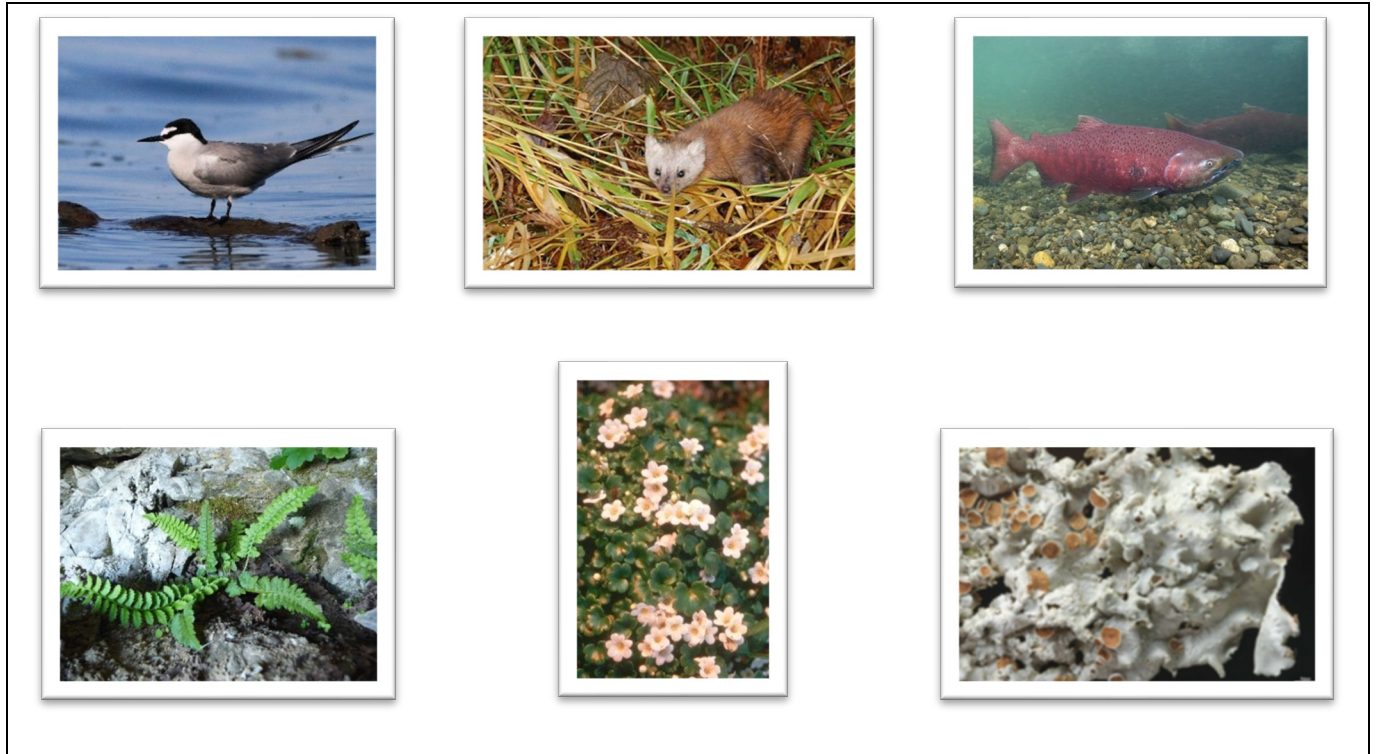


Figure 3. Selection of species under review as Species of Conservation Concern (SCC) on the Tongass National Forest. Top row left to right: Aleutian Tern (*Onychoprion aleuticus*; photo by Jay McGowan), Pacific marten (*Martes caurina*; photo by the Alaska Department of Fish and Game), Chinook salmon of the King Salmon River run (*Oncorhynchus tshawytscha*; photo by Ryan Hagerty). Bottom row left to right: Kruckeberg's holly fern (*Polystichum kruckebergii*; photo by Dana York), Unalaska mist-maid (*Romanzoffia unalaschensis*; photo by USDA), and Alaska Ricasolia lichen (*Ricasolia amplissima*; photo by T. Wheeler).

Aquatic wildlife species

Eleven of the 36 aquatic species on the *List of Species to Consider* have been included in the list of *Species Under Review* (Table 3). Most of the aquatic species (83%) that were screened out did not meet the vulnerability criteria (NatureServe ranks) to be evaluated as SCC and local concern was not raised; some (17%) were determined not to occur or be native to the Tongass National Forest (Appendix A).

Scope and Scale of Assessment

This assessment provides information on the SCC policy. It also includes the list of species that will be further reviewed for substantial concern to persist in the plan area. An overview of the SCC identification process is provided below, and more detailed information on the process of identifying SCC can be found on the Tongass National Forest Plan Revision webpage.

Included in this assessment is a list of *Species Under Review*, which includes at-risk species that are known to occur on- and are native to- the Tongass and are not listed under the Endangered Species Act of 1973 (ESA). For these species, further analysis is underway to determine whether there is substantial concern for the long-term persistence of these species on the Tongass.

Status and Trends

Southeast Alaska extends approximately 500 miles northwest from south of Metlakatla to Yakutat Bay. Of the 23 million acres it covers, about 17 million acres are within the Tongass National Forest (Tongass) (Smith 2016). The Alexander Archipelago, made up of over 5,000 islands, dominates the region, and the shoreline is >18,000 miles long, accounting for about 20% of the entire United States coastline (Smith 2016). The Tongass, and Southeast Alaska in general, is naturally fragmented by islands and steep glacial terrain with glacial fjords and major river systems dissecting the mountainous mainland region (Tierney and Smith 2016). Moreover, 10,000 years ago, many regions in North America were covered with massive continental glaciers, but some areas near the coast of southeast Alaska remained ice-free, acting as refugia for the organisms that survived the glacial period (Smith 2016). These factors, together with island biogeography and mainland influences (e.g., icefields and steep topography), have resulted in the biological variation we observe today, with many islands having distinct climatic, botanical, and faunal differences (Schoen and Albert 2016). This means the Tongass also has unique wildlife diversity, which is characterized by many endemic subspecies and genetic lineages. The Tongass in Southeast Alaska comprises 22 biogeographic provinces with their own natural variability of species and ecology, contributing to species diversity (Albert and Schoen 2007; Schoen and Albert 2016).

Human activities have influenced some Tongass ecosystems, primarily through logging and road construction. These activities have led to habitat fragmentation across portions of the roughly 4% of the Tongass where logging has occurred. These impacts include increased human access and subsequent impacts on species in some areas of the Tongass. From the 1950s through the 1990s, logging on the Tongass targeted old-growth forests, which are crucial for maintaining biodiversity with many species dependent on these ecological conditions. Logging on the Tongass has been greatly reduced since the late 1990s, due to the need to balance logging practices and the expectation of a conservation framework partially designed to maintain viable populations of native species (Smith and Flaherty 2023).

The mode and intensity of human activities on the Tongass are mainly driven by land management policy and activities. Throughout the years, there have been policy changes in how the Tongass is managed which have had different effects on biodiversity. The current Forest Plan emphasizes a transition from primarily old-growth to primarily young-growth timber harvest. This assessment will inform future policies and resource management under the revised Forest Plan, particularly for non-ESA listed at-risk species and their habitats.

Drivers and Stressors

The Drivers, Stressors, and Climate Change section of this Assessment discusses the dominant ecological processes and disturbance regimes (drivers) and the factors that may directly or indirectly degrade or impair ecological integrity (stressors), including climate change on the Tongass. Moreover, the Climate Change Vulnerability Assessment for the Tongass National Forest (Halofsky et al. DRAFT) provides valuable information about climate change's effect on wildlife species' habitats, wildlife species, biological processes, and species distribution (although climate change also affects flora, this report focuses on effects to wildlife). These sections, together with the scientific literature assessed during species evaluations, will provide insights into the common drivers and stressors for species identified as SCC.

Based on literature reviewed thus far, threats faced by many of these species include changes in weather and climate, which can lead to habitat loss or encroachment (Halofsky et al. DRAFT Ch. 5), physiological challenges (e.g., thermoregulation), and altered phenology (which can affect pollination and seed dispersal) (Halofsky et al. DRAFT Ch. 6). In addition, many species being considered as SCC have low

population numbers and abundances or have shown a declining trend, which makes them vulnerable to inbreeding depression and stochastic events. Moreover, direct anthropogenic disturbances that include logging (current and past), harvesting (e.g., hunting, gathering), ground disturbances (e.g., recreation, maintenance, and new constructions), and air pollution (e.g., cruise ships and mining operations) also affect many of these species. Restricted habitats, which can result from the species being a specialist in a particular habitat or due to low abundances or patch sizes of certain habitats, can negatively affect population connectivity and population growth and further the species' vulnerability to stochastic events. Finally, species interactions such as symbiotic relationships (i.e., absence of an interacting partner, e.g., mycorrhizal fungi associations with plants) or antagonistic relationships (e.g., pathogens or competition and displacement by invasive species) may also negatively affect the species identified as potential SCC.

Evaluation of the list of Species Under Review identifies and documents the drivers and stressors that raise concern over the long-term persistence of species in the plan area. This, in turn, will support grouping of species by common drivers and stressors, which would aid in designing plan components that promote effective management.

Information Needs

One of the Forest Service directives is to “document information gaps relevant to at-risk species that may be filled in through inventories, plan monitoring program or research” in the assessment report (FSH 1909.12_10, 12.53). Overall, a high proportion (65%) of the species in the list of *Species Under Review* that have been reviewed thus far (87 spp. in total) lack basic scientific information to determine if there is substantial concern over their long-term persistence in the plan area, or if the species are secure. For example, Droghini et al. (2022), found we lack basic information on the demographics, abundances, and population trends for most small mammals within the Tongass. We also lack information on their habitat or ecological requirements, their habitat trends, and species' response to climate change (e.g., Droghini et al. 2022). By documenting information gaps in our Species Accounts and Species Evaluations, we will have the necessary information to help inform and prioritize targeted inventories, plan monitoring, or research needs.

Current Management Practices

Species and habitats are covered by many different parts of the existing Forest Plan. Plan components include protections for all types of ecosystems, general wildlife, and some specific species, such as marine mammals, waterfowl and raptors, wolf, deer, and mountain goats. The Tongass Old Growth Conservation Strategy is the cornerstone for wildlife management on the Tongass, because many species depend either directly or indirectly on old growth habitat. The Conservation Strategy was developed in the 1990s and adopted as an integral part of the 1997 Forest Plan, to ensure continued existence of viable populations of old-growth dependent and old growth associated wildlife, well-distributed across the Tongass. The Strategy includes a system of Large, Medium, and Small old-growth reserves, a network of old-growth corridors connecting the medium and large reserves, and a series of Standards and Guidelines that provide additional protection for species and species groups with conservation needs not fully addressed by the reserve system alone.

Key Takeaways

- The Forest Service must maintain viable populations of native animal and botanical species and implement practices to ensure that species do not become threatened or endangered because of agency actions. Potential SCCs include species providing important ecological services, thus influencing the region's ecological, social, and economic sustainability.
- Maintenance of biodiversity and the persistence of native species on the Tongass National Forest are essential to maintaining the ecosystem services it provides.
- All species are contributors to biological diversity and ecosystem integrity as components of “the diversity of plant and animal communities,” and the revised plan must address the “persistence of most native species in the planning area” (36 CFR 219.9).
- Potential Species of Conservation Concern may provide vital ecosystem services such as pollination, water filtration, insect pest control, host plants for other species, and ecosystem engineering to provide habitat for other species, thus contributing to overall biodiversity.
- A total of 481 species were screened as part of the species to consider list, including 389 botanical species (inclusive of vascular plants, bryophytes, fungi, and lichen), 56 terrestrial wildlife species, and 36 aquatic species.
- A total of 220 species were identified as part of the Species Under Review List, composed of species that are native and known to occur on the Tongass and that are not ESA-listed. Of those, 163 are botanical species, 46 are terrestrial wildlife species, and 11 are aquatic species.
- A large proportion of species reviewed so far (61%) lack sufficient information to determine whether there is substantial concern over their long-term persistence on the Tongass or if they are secure.
- Common stressors and threats include change in climate trends, habitat loss and degradation, harvesting, and air pollution.

Species Under Review by Taxa Groups

Table 1. Species under review: Botanical species of the Tongass National Forest. Botanical species include bryophytes, fungi, lichens, and vascular plants. The list is organized by taxa and species in alphabetical order. Species that have been evaluated, and for which threats may be substantial and raise potential concern about their long-term persistence in the plan area, are in bold. These species will be evaluated further.

| Sub-taxa | Species | Common name | Preliminary findings |
|------------|---------------------------------------|----------------------------|-----------------------|
| Bryophytes | <i>Acrobolbus ciliatus</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Andreaea sinuosa</i> | A rock moss | Under initial review. |
| Bryophytes | <i>Apotreubia nana</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Atrichum flavisetum</i> | A smoothcap moss | Under initial review. |
| Bryophytes | <i>Blepharostoma arachnoideum</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Campylopus gracilis</i> | Schwarz's Swan-neck Moss | Under initial review. |
| Bryophytes | <i>Cololejeunea macounii</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Crossocalyx hellerianus</i> | Heller's Notchwort | Under initial review. |
| Bryophytes | <i>Didymodon maschalogena</i> | Michigan Beard Moss | Under initial review. |
| Bryophytes | <i>Didymodon maximus</i> | Big Beard Moss | Under initial review. |
| Bryophytes | <i>Gymnomitrium commutatum</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Hookeria acutifolia</i> | Sharpleaf HookeriA moss | Under initial review. |
| Bryophytes | <i>Hypopterygium flavolimbatum</i> | A moss | Under initial review. |
| Bryophytes | <i>Lepidozia sandvicensis</i> | A fingerwort | Under initial review. |
| Bryophytes | <i>Mastigophora woodsii</i> | A liverwort | Under initial review. |
| Bryophytes | <i>Mielichhoferia elongata</i> | Mielichhofer's Copper Moss | Under initial review. |
| Bryophytes | <i>Riccia fluitans</i> | Floating Crystalwort | Under initial review. |
| Bryophytes | <i>Scapania carinthiaca</i> | Carinthian Earwort | Under initial review. |
| Bryophytes | <i>Sphenolobopsis pearsonii</i> | Horsehair Threadwort | Under initial review. |
| Bryophytes | <i>Tetralophozia filiformis</i> | A pawwort | Under initial review. |
| Bryophytes | <i>Tetradontium repandum</i> | Small Four-toothed Moss | Under initial review. |
| Fungi | <i>Ascocoryne turficola</i> | A fungus | Under initial review. |
| Fungi | <i>Fomitopsis officinalis</i> | Quinine Conk | Under initial review. |
| Fungi | <i>Hydnellum mirabile</i> | A fungus | Under initial review. |
| Fungi | <i>Nealbatrellus subcaeruleoporus</i> | A fungus | Under initial review. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|--|----------------------------------|---|
| Fungi | <i>Polyozellus multiplex</i> | A fungus | Under initial review. |
| Fungi | <i>Stereopsis humphreyi</i> | A fungus | Under initial review. |
| Lichens | <i>Acrosyphus sphaerophoroides</i> | Mountain Crab Eye Lichens | Evaluated. Threats may be substantial. |
| Lichens | <i>Bunodophoron melanocarpum</i> | Northern Fan-coral Lichens | Under initial review. |
| Lichens | <i>Cladonia alaskana</i> | Alaska Cup Lichens | Under initial review. |
| Lichens | <i>Dendrioscicta gelida</i> | Greater Green Moon Lichens | Under initial review. |
| Lichens | <i>Erioderma solediatum</i> | Mouse Ears | Under initial review. |
| Lichens | <i>Leioderma solediatum</i> | Mouse Ears | Under initial review. |
| Lichens | <i>Lobaria retigera</i> | Smoker's Lung Lichens | Under initial review. |
| Lichens | <i>Nephroma occultum</i> | Cryptic Paw Lichens | Under initial review. |
| Lichens | <i>Niebla cephalota</i> | Powdery Fog Lichens | Evaluated. Threats may be substantial. |
| Lichens | <i>Parmotrema arnoldii</i> | Powdered Ruffle Lichens | Under initial review. |
| Lichens | <i>Parmotrema crinitum</i> | Salted Ruffle Lichens | Under initial review. |
| Lichens | <i>Peltigera gowardii</i> | Western Waterfan Lichens | Evaluated. Threats may be substantial. |
| Lichens | <i>Physciella chloantha</i> | Cryptic Rosette Lichens | Under initial review. |
| Lichens | <i>Pilophorus cereolus</i> | Powdered Matchstick Lichens | Under initial review. |
| Lichens | <i>Pseudocyphellaria perpetua</i> | Gilded Specklebelly Lichens | Under initial review. |
| Lichens | <i>Pseudocyphellaria rainierensis</i> | Oldgrowth Specklebelly Lichens | Under initial review. |
| Lichens | <i>Ramalina obtusata</i> | Hooded Ribbon Lichens | Under initial review. |
| Lichens | <i>Ramalina subleptocarpha</i> | Slit-rimmed RamalinA lichen | Under initial review. |
| Lichens | <i>Ricasolia amplissima sheiyi</i> | A lichen | Evaluated. Threats may be substantial. |
| Lichens | <i>Xanthoria alaskana</i> | A lichen | Under initial review. |
| Vascular Plants | <i>Abies amabilis</i> | Pacific Silver Fir | Under initial review. |
| Vascular Plants | <i>Agoseris aurantiaca var. aurantiaca</i> | Orange Agoseris | Under initial review. |
| Vascular Plants | <i>Agoseris glauca</i> | Prairie Agoseris | Under initial review. |
| Vascular Plants | <i>Ambrosia chamissonis</i> | Silver Bursage | Under initial review. |
| Vascular Plants | <i>Androsace chamaejasme lehmanniana</i> | Lehmann's Fairy-candelabra | Under initial review. |
| Vascular Plants | <i>Anemone patens var. multifida</i> | American Pasqueflower | Under initial review. |
| Vascular Plants | <i>Aquilegia flavescens</i> | Yellow Columbine | Under initial review. |
| Vascular Plants | <i>Arctophila fulva</i> | Pendantgrass | Under initial review. |
| Vascular Plants | <i>Arnica mollis</i> | Hairy Arnica | Under initial review. |

| Sub-taxa | Species | Common name | Preliminary findings |
|------------------------|---|------------------------------------|--|
| Vascular Plants | <i>Asplenium trichomanes quadrivalens</i> | Limestone Maidenhair Spleenwort | Under initial review. |
| Vascular Plants | <i>Astragalus robbinsii</i> var. <i>harringtonii</i> | Robbins' Milkvetch | Under initial review. |
| Vascular Plants | <i>Betula glandulosa</i> | Tundra Dwarf Birch | Under initial review. |
| Vascular Plants | <i>Boechera stricta</i> | Drummond's rockcress | Under initial review. |
| Vascular Plants | <i>Botrychium alaskense</i> | Alaska Moonwort | Under initial review. |
| Vascular Plants | <i>Botrychium pinnatum</i> | Northern Moonwort | Under initial review. |
| Vascular Plants | <i>Botrychium spathulatum</i> | Spoon-leaf Moonwort | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Botrychium tunux</i> | Moosewort | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Botrychium yaaxudakeit</i> | Yakutat Moonwort | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Brasenia schreberi</i> | Watershield | Under initial review. |
| Vascular Plants | <i>Callitropsis nootkaensis</i> | Alaska-cedar | Evaluated. Threats do not appear substantial. |
| Vascular Plants | <i>Cardamine angulata</i> | Seaside Bittercress | Evaluated. Threats do not appear substantial. |
| Vascular Plants | <i>Cardamine pennsylvanica</i> | Pennsylvania Bittercress | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Carex bebbii</i> | Bebb's Sedge | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Carex bicolor</i> | Two-color Sedge | Under initial review. |
| Vascular Plants | <i>Carex crawfordii</i> | Crawford's Sedge | Under initial review. |
| Vascular Plants | <i>Carex echinata echinata</i> | Little Prickly Sedge | Under initial review. |
| Vascular Plants | <i>Carex interior</i> | Inland Sedge | Under initial review. |
| Vascular Plants | <i>Carex lasiocarpa</i> | Slender Sedge | Under initial review. |
| Vascular Plants | <i>Carex leptalea</i> | Bristly-stalked Sedge | Under initial review. |
| Vascular Plants | <i>Carex phaeocephala</i> | Mountain Hare Sedge | Under initial review. |
| Vascular Plants | <i>Carex preslii</i> | Presl's Sedge | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Chimaphila umbellata umbellata</i> | Pipsissewa | Under initial review. |
| Vascular Plants | <i>Cirsium edule</i> var. <i>macounii</i> | Macoun's Thistle | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Crassula aquatica</i> | Water Pygmyweed | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Cryptogramma stelleri</i> | Fragile Rockbrake | Under initial review. |
| Vascular Plants | <i>Cypripedium montanum</i> | Mountain Lady's-slipper | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Cypripedium parviflorum</i> var. <i>pubescens</i> | Large Yellow Lady's-slipper | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Cystopteris montana</i> | Mountain Bladderfern | Under initial review. |
| Vascular Plants | <i>Danthonia intermedia</i> | Vasey's Oatgrass | Under initial review. |
| Vascular Plants | <i>Danthonia spicata</i> | Poverty Oatgrass | Evaluated. Lack of basic scientific information. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|--|------------------------------|--|
| Vascular Plants | <i>Diapensia lapponica</i> | Lapland Diapensia | Under initial review. |
| Vascular Plants | <i>Draba incerta</i> | Yellowstone Whitlow-grass | Under initial review. |
| Vascular Plants | <i>Elymus violaceus</i> | Alaska Wild Rye | Under initial review. |
| Vascular Plants | <i>Epilobium lactiflorum</i> | White-flower Willowherb | Under initial review. |
| Vascular Plants | <i>Eriophorum viridicarinatum</i> | Green Keeled Cotton-grass | Under initial review. |
| Vascular Plants | <i>Erythranthe lewisii</i> | Lewis' Monkeyflower | Under initial review. |
| Vascular Plants | <i>Festuca saximontana</i> | Rocky Mountain Fescue | Under initial review. |
| Vascular Plants | <i>Gentiana prostrata</i> | Pygmy Gentian | Under initial review. |
| Vascular Plants | <i>Gentianella propinqua aleutica</i> | Aleutian Four-parted Gentian | Under initial review. |
| Vascular Plants | <i>Geum rossii</i> | Ross' Avens | Under initial review. |
| Vascular Plants | <i>Glehnia littoralis leiocarpa</i> | American Silvertop | Under initial review. |
| Vascular Plants | <i>Glyceria leptostachya</i> | Slim-head Mannagrass | Under initial review. |
| Vascular Plants | <i>Isolepis cernua</i> | Low Bulrush | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Juncus articulatus</i> | Jointed Rush | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Juncus covillei</i> var. <i>obtusatus</i> | Coville's Rush | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Juncus nodosus</i> | Knotted Rush | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Lactuca biennis</i> | Tall Blue Lettuce | Under initial review. |
| Vascular Plants | <i>Lagotis glauca</i> | Glaucous Weaselsnout | Under initial review. |
| Vascular Plants | <i>Ligusticum calderi</i> | Calder's Lovage | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Lobelia dortmannia</i> | Water Lobelia | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Lonicera involucrata</i> | Four-line Honeysuckle | Under initial review. |
| Vascular Plants | <i>Luzula comosa</i> | Pacific Woodrush | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Lysimachia thyrsoiflora</i> | Water Loosestrife | Under initial review. |
| Vascular Plants | <i>Maianthemum racemosum amplexicaule</i> | Solomon's-plume | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Maianthemum stellatum</i> | Starflower Solomon's-plume | Under initial review. |
| Vascular Plants | <i>Melica subulata</i> | Alaska Oniongrass | Under initial review. |
| Vascular Plants | <i>Micranthes nelsoniana</i> var. <i>carlottae</i> | Haida Gwaii Saxifrage | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Micranthes tolmiei</i> | Tolmie's Saxifrage | Under initial review. |
| Vascular Plants | <i>Monotropa uniflora</i> | Ghost Pipe | Under initial review. |
| Vascular Plants | <i>Montia chamissoi</i> | Chamisso's Miner's-lettuce | Under initial review. |
| Vascular Plants | <i>Myriophyllum farwellii</i> | Farwell's Water-milfoil | Evaluated. Lack of basic scientific information. |

| Sub-taxa | Species | Common name | Preliminary findings |
|------------------------|---|-------------------------------|--|
| Vascular Plants | <i>Nymphaea tetragona</i> | Pygmy Water-lily | Under initial review. |
| Vascular Plants | <i>Oxytropis campestris</i> | Yellow Locoweed | Under initial review. |
| Vascular Plants | <i>Packera ogorukensis</i> | Ogoruk Creek Groundsel | Under initial review. |
| Vascular Plants | <i>Packera pauciflora</i> | Few-flower Ragwort | Under initial review. |
| Vascular Plants | <i>Packera paupercula</i> | Balsam Ragwort | Under initial review. |
| Vascular Plants | <i>Packera subnuda</i> var. <i>moresbiensis</i> | Queen Charlotte Groundsel | Under initial review. |
| Vascular Plants | <i>Papaver mcconnellii</i> | McConnell's Poppy | Under initial review. |
| Vascular Plants | <i>Papaver radicum alaskanum</i> | Arctic Poppy | Under initial review. |
| Vascular Plants | <i>Parnassia kotzebuei</i> | Kotzebue's Grass-of-Parnassus | Under initial review. |
| Vascular Plants | <i>Phyllodoce empetriformis</i> | Pink Mountain-heath | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Physocarpus capitatus</i> | Pacific Ninebark | Under initial review. |
| Vascular Plants | <i>Platanthera ephemeranthera</i> | White Piperia | Evaluated. Threats do not appear substantial. |
| Vascular Plants | <i>Platanthera orbiculata</i> | Lesser Roundleaf Orchid | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Platanthera unalascensis</i> | Alaska Rein Orchid | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Polygonum minimum</i> | Leafy Dwarf Knotweed | Under initial review. |
| Vascular Plants | <i>Polystichum kruckebergii</i> | Kruckeberg's Swordfern | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Polystichum setigerum</i> | Alaska Holly Fern | Under initial review. |
| Vascular Plants | <i>Primula pumila</i> | Arctic Primrose | Under initial review. |
| Vascular Plants | <i>Ranunculus orthorhynchus</i> var. <i>orthorhynchus</i> | Straight-beak Buttercup | Under initial review. |
| Vascular Plants | <i>Ranunculus pacificus</i> | Pacific Buttercup | Under initial review. |
| Vascular Plants | <i>Ranunculus pallasii</i> | Pallas' Buttercup | Under initial review. |
| Vascular Plants | <i>Romanzoffia unalascensis</i> | Alaska Mistmaiden | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Rorippa curvisiliqua</i> | Curve-pod Yellowcress | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Salix hookeriana</i> | Hooker's Willow | Under initial review. |
| Vascular Plants | <i>Salix prolixa</i> | Mackenzie's Willow | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Saussurea americana</i> | American Saw-wort | Under initial review. |
| Vascular Plants | <i>Saxifraga adscendens</i> | Ascending Saxifrage | Under initial review. |
| Vascular Plants | <i>Saxifraga eschscholtzii</i> | Cushion Saxifrage | Under initial review. |
| Vascular Plants | <i>Saxifraga hyperborea</i> | Pygmy Saxifrage | Under initial review. |
| Vascular Plants | <i>Schoenoplectus subterminalis</i> | Water Bulrush | Under initial review. |
| Vascular Plants | <i>Scolochloa festucacea</i> | Sprangletop | Under initial review. |

| Sub-taxa | Species | Common name | Preliminary findings |
|------------------------|---|------------------------|--|
| Vascular Plants | <i>Sedum oreganum var. oreganum</i> | Oregon Stonecrop | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Silene uralensis</i> | Apetalous Catchfly | Under initial review. |
| Vascular Plants | <i>Stachys mexicana</i> | Mexican Hedge-nettle | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Suaeda calceoliformis</i> | American Sea-blite | Evaluated. Lack of basic scientific information. |
| Vascular Plants | <i>Tanacetum bipinnatum</i> | Dwarf Tansy | Evaluated. Threats may be substantial. |
| Vascular Plants | <i>Thalictrum occidentale</i> | Western Meadowrue | Under initial review. |
| Vascular Plants | <i>Therorhodon camtschaticum</i> | Kamchatka Rhododendron | Under initial review. |
| Vascular Plants | <i>Tiarella trifoliata var. laciniata</i> | Cutleaf Foamflower | Under initial review. |
| Vascular Plants | <i>Vicia americana</i> | American Purple Vetch | Under initial review. |
| Vascular Plants | <i>Viola sempervirens</i> | Redwood Violet | Under initial review. |
| Vascular Plants | <i>Woodsia alpina</i> | Northern Woodsia | Under initial review. |
| Vascular Plants | <i>Woodsia glabella</i> | Smooth Woodsia | Under initial review. |
| Vascular Plants | <i>Woodsia ilvensis</i> | Rusty Woodsia | Under initial review. |
| Vascular Plants | <i>Zigadenus elegans</i> | White Camas | Under initial review. |

Table 2: Species under review: Terrestrial wildlife species of the Tongass National Forest. The list is organized by taxa and species in alphabetical order. Species that have been evaluated, and for which threats may be substantial and raise potential concern about their long-term persistence in the plan area, are in bold. These species will be evaluated further.

| Sub-taxa | Species | Common name | Preliminary findings |
|--------------|---|--------------------------------|--|
| Amphibians | <i>Ambystoma gracile</i> | Northwestern Salamander | Under initial review. |
| Amphibians | <i>Ambystoma macrodactylum</i> | Long-toed Salamander | Under initial review. |
| Amphibians | <i>Anaxyrus boreas</i> | Western Toad | Under initial review. |
| Amphibians | <i>Rana luteiventris</i> | Columbia spotted frog | Evaluated. Lack of basic scientific information. |
| Birds | <i>Accipiter gentilis laingi</i> | Queen Charlotte goshawk | Evaluated. Threats may be substantial. |
| Birds | <i>Aythya collaris</i> | Ring-necked duck | Evaluated. Lack of basic scientific information. |
| Birds | <i>Brachyramphus brevirostris</i> | Kittlitz's murrelet | Evaluated. Lack of basic scientific information. |
| Birds | <i>Brachyramphus marmoratus</i> | Marbled Murrelet | Evaluated. Threats do not appear substantial. |
| Birds | <i>Calidris [Aprhiza] virgata</i> | Surfbird | Evaluated. Threats do not appear substantial. |
| Birds | <i>Calidris canutus</i> | Red Knot | Under initial review. |
| Birds | <i>Empidonax flaviventris</i> | Yellow-bellied flycatcher | Evaluated. Lack of basic scientific information. |
| Birds | <i>Euphagus carolinus</i> | Rusty Blackbird | Under initial review. |

| Sub-taxa | Species | Common name | Preliminary findings |
|----------------|---|-------------------------------------|--|
| Birds | <i>Falco peregrinus pealei</i> | Peale's peregrine falcon | Evaluated. Lack of basic scientific information. |
| Birds | <i>Fulica americana</i> | American coot | Evaluated. Lack of basic scientific information. |
| Birds | <i>Haematopus bachmani</i> | Black oystercatcher | Evaluated. Threats do not appear substantial. |
| Birds | <i>Hydroprogne caspia</i> | Caspian tern | Evaluated. Lack of basic scientific information. |
| Birds | <i>Megascops kennicottii</i> | Western screech owl | Evaluated. Lack of basic scientific information. |
| Birds | <i>Onychoprion aleuticus</i> | Aleutian tern | Evaluated. Threats may be substantial. |
| Birds | <i>Phalacrocorax penicillatus</i> | Brandt's cormorant | Evaluated. Threats do not appear substantial. |
| Invertebrates | <i>Bombus occidentalis</i> | Western bumble bee | Under initial review. |
| Invertebrates | <i>Bombus suckleyi</i> | Suckley's cuckoo bumble bee | Under initial review. |
| Mammals | <i>Canis lupus ligoni</i> | Alexander archipelago wolf | Evaluated. Threats do not appear substantial. |
| Mammals | <i>Clethrionomys [Myodes] grapperi wrangeli</i> | Wrangell Red-backed Vole | Evaluated. Threats do not appear substantial. |
| Mammals | <i>Clethrionomys gapperi soleus</i> | Revillagiedo Island red-backed vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Clethrionomys rutilus glacialis</i> | Glacier Bay red-backed vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Eumetopias jubatus</i> | Steller sea lion (eastern DPS) | Evaluated. Threats do not appear substantial. |
| Mammals | <i>Glaucomys sabrinus griseifrons</i> | Prince of Wales flying squirrel | Evaluated. Threats do not appear substantial. |
| Mammals | <i>Lasionycteris noctivagans</i> | Silver-haired bat | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Lontra canadensis mira</i> | Prince of Wales river otter | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Marmota caligata vigilis</i> | Glacier Bay hoary marmot | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Martes caurina</i> | Pacific marten | Evaluated. Threats may be substantial. |
| Mammals | <i>Microtus longicaudus coronarius</i> | Coronation Island vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Microtus oeconomus sitkensis</i> | Sitka tundra vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Microtus oeconomus yakutatensis</i> | Yakutat root vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Microtus pennsylvanicus admiraltiae</i> | Admiralty Island vole | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Mustela erminea initis</i> | Baranof Island ermine | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Mustela erminea salva</i> | Admiralty Island ermine | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Mustela erminea seclusa</i> | Suemez Island ermine | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Myotis evotis</i> | Long-eared myotis | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Myotis keenii</i> | Keen's myotis | Under initial review. |
| Mammals | <i>Myotis lucifugus</i> | Little brown myotis | Under initial review. |

| Sub-taxa | Species | Common name | Preliminary findings |
|----------------|--|---------------------------|--|
| Mammals | <i>Myotis volans</i> | Long-legged myotis | Under initial review. |
| Mammals | <i>Ochotona collaris</i> | Collared Pika | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Oreamnos americanus</i> | Mountain goat | Evaluated. Threats may be substantial. |
| Mammals | <i>Sorex pacificus malitiosus</i> | Warren Island dusky shrew | Evaluated. Lack of basic scientific information. |
| Mammals | <i>Tamiasciurus hudsonicus picatus</i> | Kupreanof red squirrel | Evaluated. Lack of basic scientific information. |

Table 3. Species under review: Aquatic species of the Tongass National Forest. The list is organized by taxa and species in alphabetical order. Species that have been evaluated, and for which threats may be substantial and raise potential concern about their long-term persistence in the plan area, are in bold. These species will be evaluated further.

| Sub-taxa | Species | Common name | Preliminary findings |
|---------------|--|---|--|
| Fish | <i>Esox lucius (pop. 1)</i> | Northern pike- Pike Lake | Evaluated. Threats do not appear substantial. |
| Fish | <i>Lampetra richardsoni</i> | Western brook lamprey | Evaluated. Lack of basic scientific information. |
| Fish | <i>Lampetra ayresi</i> | River lamprey | Evaluated. Lack of basic scientific information. |
| Fish | <i>Onchorhynchus tshawytscha (pop. 4)</i> | Chinook Salmon - Wheeler Creek | Evaluated. Lack of basic scientific information. |
| Fish | <i>Onchorhynchus tshawytscha (pop. 5)</i> | Chinook Salmon - King Salmon River | Evaluated. Threats may be substantial. |
| Fish | <i>Oncorhynchus keta (pop.1)</i> | Chum Salmon - Fish Creek | Evaluated. Threats do not appear substantial. |
| Fish | <i>Thaleichthys pacificus</i> | Eulachon/Hooligan smelt | Under initial review. |
| Invertebrates | <i>Caudatella jacobi</i> | Jacob's spiny crawler mayfly | Under initial review. |
| Invertebrates | <i>Limnephilus atercus</i> | Fort Dick limnephilus caddisfly | Under initial review. |
| Invertebrates | <i>Rhyacophila rickeri</i> | Ricker's free-living caddisfly | Under initial review. |
| Invertebrates | <i>Stygobromus quatsinensis</i> | Cave obligate amphipod | Evaluated. Lack of basic scientific information. |

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References

- Baer, K.C., Wen, J., and Nelson, K.N. In prep. Chapter 5- Climate change effects on vegetation and disturbance regimes. Pp. **. In ** (eds.) Climate change vulnerability in southeast Alaska and Tongass National Forest. USDA Forest Service, Northwest Climate Hub, Technical Report **
- Bennetsen, B.M.B., Brockmann, S., and Marcot, B.G., In prep. Chapter 6- Wildlife climate change vulnerability assessment for the Tongass National Forest. Pp. **. In ** (eds.) Climate change vulnerability in southeast Alaska and Tongass National Forest. USDA Forest Service, Northwest Climate Hub, Technical Report **
- DellaSala, D.A., Gorelik, S.R. and Walker, W.S., 2022. The Tongass National Forest, Southeast Alaska, USA: A natural climate solution of global significance. *Land*, 11(5), p.717.
- Droghini, A., Christie, K.S., Kely, R.R., Schuette, P.A. and Gotthardt, T., 2022. Conservation status, threats, and information needs of small mammals in Alaska. *Conservation Science and Practice*, 4(6), p.e12671.
- Hayward, G. D., C. H. Flather, M. M. Rowland, R. Terney, K. Mellen-McLean, K. D. Malcolm, C. McCarthy, and D. A. Boyce. 2016. Applying the 2012 Planning Rule to conserve species: a practitioner's reference. Unpublished paper, USDA Forest Service, Washington, D.C.
- Halofsky, Jessica E.; Prendeville, Holly R.; Peterson, David L.; Parrish, Robert. eds. DRAFT. Climate change vulnerability and adaptation in the
Tongass National Forest. Gen. Tech. Rep. PNW-GTR-XXX. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.
- Oliver, T.H., Heard, M.S., Isaac, N.J., Roy, D.B., Procter, D., Eigenbrod, F., Freckleton, R., Hector, A., Orme, C.D.L., Petchey, O.L. and Proença, V., 2015. Biodiversity and resilience of ecosystem functions. *Trends in ecology & evolution*, 30(11), pp.673-684.
- Schwoerer, T. and Dawson, N.G., 2022. Small sight—Big might: Economic impact of bird tourism shows opportunities for rural communities and biodiversity conservation. *Plos one*, 17(7), p.e0268594.
- Smith, M.A. (ed.). 2016. *Ecological Atlas of southeast Alaska*. Audubon Alaska. 223 pp.
- Smith, W.P. and Flaherty, E.A., 2023. Wildlife studies on the Tongass National Forest challenge essential assumptions of its wildlife conservation strategy. *The Journal of Wildlife Management*, 87(6), p.e22450.
- [USDA] United States Department of Agriculture. 2023. *Relevance and Need for the Tongass Old-Growth Conservation Strategy: A Forest Plan Revision Pre-Assessment Report*. USDA Forest Service, Alaska Region, Tongass National Forest. 68 pp.
- [USDA] United States Department of Agriculture. 2024. *Species of Conservation Concern identification process for Land Management Plan Revision*. USDA Forest Service, Alaska Region, Tongass National Forest. 27 pp.

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Glossary

At-risk species: Species that are endangered, threatened, proposed, or candidate, as determined by the Endangered Species Act (ESA); and species of conservation concern (see below), as determined by the 2012 Planning Rule and Directives FSH 1909.12, Chapter 10, Section 12.5.

Best available scientific information (BASI): the most accurate, reliable, and relevant scientific information to the issues being considered. FSH 1909.12 zero code, section 07.

Ecological integrity is defined as the quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

Known to occur in the plan area: A species is known to occur in a plan area if, at the time of plan development, the best available scientific information indicates that a species is established or is becoming established in the plan area. A species with individual occurrences in a plan area that are merely “accidental” or “transient,” or are well outside the species’ existing range at the time of plan development, is not established or becoming established in the plan area. If the range of a species is changing so that what is becoming its "normal" range includes the plan area, an individual occurrence should not be considered transient or accidental. FSH 1909.12, Chapter 10, Section 12.52c

Native species: An organism that was historically or is present in a particular ecosystem as a result of natural migratory or evolutionary processes; and not as a result of an accidental or deliberate introduction into that ecosystem. An organism's presence and evolution (adaptation) in an area are determined by climate, soil, and other biotic and abiotic factors. 36 CFR 219.19

NatureServe Global (G) and State (S) ranks: These ranks apply at the global or state rank. Sometimes the state rank and the global rank are different from one another depending on more local factors.

| | |
|----------|---|
| G1 or S1 | Critically imperiled – at very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. |
| G2 or S2 | Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. |
| G3 or S3 | Vulnerable — At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. |
| G4 or S4 | Apparently Secure — At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. |
| G5 or S5 | Secure — At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. |

Need to change: In the context of at-risk species, the need to change the plan is identified where current plan content is found to be insufficient to maintain a viable population of each species of conservation concern within the plan area, except where the responsible official determines that it is beyond the authority of the Forest Service or not within the inherent capability of the plan area to maintain or restore the ecological conditions to maintain a viable population. 36 CFR 219.9(b)

Persistence: Continued existence. 36 CFR 219.19

Potential SCC List: : Species for which preliminary analysis shows that they are native and known to occur, and evaluations show that there *may be* substantial concern regarding the species ability to persist in the long term in the planning area. is the identified potential SCC lista list that includes species that have been screened for inclusion in , but have not yet been reviewed by the Regional Forester,

Regional Forester’s SCC list: Species identified by the Regional Forester that are found to have substantial concern for long-term persistence in the plan area (see definition of SCC below).

Species Evaluations: Detailed synthesis of BASI and analysis of the 8 evaluation criteria as well including substantial concern rationales and recommendation determinations.

Species groups: this term is meant to indicate a group of species that have common ecological conditions or habitat requirements (e.g., guilds), and/or have common threats. The intent is to develop these groups to inform the need to change process, and plan content development.

Species of Conservation Concern (SCC): Species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the Regional Forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long-term in the plan area.” (2012 Planning Rule, 36 CFR 219.9(c) and Directives, FSH 1909.12, Chapter 10, Section 12.5).

Species to Consider as Potential SCC: all species that meet the “must” and “should” consider categories in FSH 1909.12, 12.52d. Species in the following categories must be considered:

*Species in the following categories **must** be considered:*

a. Species with status ranks of G/T1 or G/T2 on the NatureServe ranking system. See exhibit 01 for description of NatureServe Conservation Status Ranks.

Note: Species with NatureServe G/T1 or G/T2 status ranks are expected to be included unless it can be demonstrated and documented that known threats for these species, such as those threats listed for the species by NatureServe, are not currently present or relevant in the plan area.

b. Species that were removed within the past 5 years from the Federal list of threatened or endangered species, and other delisted species that the regulatory agency still monitors.

*Species in the following categories **should** be considered:*

a. Species with status ranks of G/T3 or S1 or S2 on the NatureServe ranking system. See exhibit 01 for description of NatureServe Conservation Status Ranks.

b. Species listed as threatened or endangered by relevant States, federally recognized Tribes, or Alaska Native Corporations.

c. Species identified by Federal, State, federally recognized Tribes, or Alaska Native Corporations as a high priority for conservation.

d. Species identified as species of conservation concern in adjoining National Forest System plan areas (including plan areas across regional boundaries).

e. Species that have been petitioned for Federal listing and for which a positive “90-day finding” has been made.

f. Species for which the best available scientific information indicates there is local conservation concern about the species' capability to persist over the long-term in the plan area due to:

(1) Significant threats, caused by stressors on and off the plan area, to populations or the ecological conditions they depend upon (habitat). These threats include climate change.

(2) Declining trends in populations or habitat in the plan area.

(3) Restricted ranges (with corresponding narrow endemics, disjunct populations, or species at the edge of their range).

(4) Low population numbers or restricted ecological conditions (habitat) within the plan area.

Viable population: A population of a species that continues to persist over the long term with sufficient distribution to be resilient and adaptable to stressors and likely future environments. 36 CFR 219.19

Appendix A

List of species that were considered as SCC (*List of Species to Consider*), but that were screened out from further consideration. Species were screened out because they were either not native or not known to occur on the Tongass National Forest, were listed or proposed to be listed under the Endangered Species Act or were deemed too common in the planning area by local experts (the latter only applies to botanical species). The list is organized by taxa group, sub-taxa and species in alphabetical order.

| Sub-taxa | Species | Common name | Preliminary findings |
|---------------|-------------------------------------|-------------------------|---|
| Fish | <i>Catostomus catostomus</i> | Longnose sucker | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Coregonus clupeaformis</i> | Lake whitefish | Assessed. Not known to occur on the planning area. |
| Fish | <i>Cottus aleuticus</i> | Coastrange sculpin | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Cottus asper</i> | Prickly sculpin | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Cottus cognatus</i> | Slimy sculpin | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Entosphenus tridentatus</i> | Pacific lamprey | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Gasterosteus aculeatus</i> | Three-spine stickleback | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Isocapnia agassizi</i> | Agasiz snowfly | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Onchorhynchus tshawytscha</i> | Chinook Salmon | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus clarkii clarkii</i> | Coastal cutthroat trout | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus gorbuscha</i> | Pink salmon | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus keta</i> | Chum salmon | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus kisutch</i> | Coho salmon | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus mykiss</i> | Steelhead/Rainbow trout | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Oncorhynchus nerka</i> | Sockeye salmon | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Osmerus mordax</i> | Rainbow smelter | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Prosopium cylindraceum</i> | Round whitefish | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Salvelinus fontinalis</i> | Brook trout | Assessed. Not known to occur on the planning area. |
| Fish | <i>Salvelinus malma</i> | Dolly varden | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Spirinchus thaleichthys</i> | longfin smelt | Assessed. Does not meet initial criteria for consideration. |
| Fish | <i>Thymallus arcticus</i> | Arctic grayling | Assessed. Not known to occur on the planning area. |
| Invertebrates | <i>Anodonta kennerlyi</i> | Western floater | Assessed. Does not meet initial criteria for consideration. |
| Invertebrates | <i>Beringiana beringiana</i> | Yukon Floater | Assessed. Not known to occur on the planning area. |
| Invertebrates | <i>Haliotis kamtschatkana</i> | Pinto abalone | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|---------------|-------------------------------------|--------------------------------|--|
| Invertebrates | <i>Margaritifera falcata</i> | Western Pearlshell | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Andreaea megistospora</i> | Big-spored Rock Moss | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Bryoerythrophyllum wallichii</i> | a moss | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Buxbaumia piperi</i> | Piper's Shield Moss | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Buxbaumia viridis</i> | Green Shield Moss | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Cephaloziella massalongoi</i> | a liverwort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Cephaloziella phyllacantha</i> | a liverwort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Dicranella pacifica</i> | Pacific Forklet Moss | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Eremonotus myriocarpus</i> | a clubwort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Gymnomitrium pacificum</i> | a liverwort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Haplodontium macrocarpum</i> | Porsild's Bryum | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Lejeunea alaskana</i> | Alaska Pouncewort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Peltolepis quadrata</i> | a liverwort | Assessed. Not known to occur on the planning area. |
| Bryophytes | <i>Tetrodontium brownianum</i> | Brown's Four-toothed Moss | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Amanita alaskensis</i> | Alaskan Alder Ringless Amanita | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Boletopsis grisea</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Hydnellum cyanopodium</i> | Bleeding Blue Tooth | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Hydnellum geogenium</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Hygrophorus saxatilis</i> | Waxgill of the Rockies | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Lactarius cordovaensis</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Polyozellus atrolazulinus</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Polyozellus purpureoniger</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Fungi | <i>Ramaria gelatiniaurantia</i> | A fungus | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Ameliella andreaeicola</i> | A lichen | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Anaptychia bryorum</i> | Ascending Fringed Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Aspicilia caesiopruinosa</i> | A lichen | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Bryoria friabilis</i> | Friable Horsehair Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Bryoria pikei</i> | Pike's Horsehair Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Bryoria subcana</i> | a horsehair Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Cavernularia lophyrea</i> | Fruiting Honeycomb Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Cladonia luteoalba</i> | Lemon Pixie Lichens | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|----------|-----------------------------------|-------------------------------|--|
| Lichens | <i>Epigloea medioincrassata</i> | A lichen | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Erioderma pedicellatum</i> | Boreal Felt Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Evernia prunastri</i> | Valley Oakmoss Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Fuscopannaria ahlneri</i> | Corrugated Shingles Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Fuscopannaria alaskana</i> | Alaska Shingle Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Fuscopannaria globigera</i> | A lichen | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Heterodermia sitchensis</i> | Seaside Centipede Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Hypogymnia inactiva</i> | Mottled Tube Lichens | Assessed. Deemed too common by local experts. |
| Lichens | <i>Hypogymnia oceanica</i> | Seaside Tube Lichens | Assessed. Deemed too common by local experts. |
| Lichens | <i>Hypogymnia pulverata</i> | Tube Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Leptogium parculum</i> | A lichen | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Pannaria rubiginella</i> | Shingle Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Parmeliella parvula</i> | Poor-man's Shingle Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Peltigera cinnamomea</i> | Cinnamon Pelt Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Phaeophyscia kairamoi</i> | Least Shadow Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Pilophorus clavatus</i> | Tapered Matchstick Lichens | Assessed. Deemed too common by local experts. |
| Lichens | <i>Placynthium stenophyllum</i> | Pale-bellied Ink Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Pseudocyphellaria mallota</i> | Disjunct Lung Lichens | Assessed. Deemed too common by local experts. |
| Lichens | <i>Pycnothelia papillaria</i> | Nipple Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Pyrrhospora querneae</i> | Sulphured Crimson Dot Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Rhizocarpon cumulatum</i> | A lichen | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Stereocaulon nanodes</i> | Pixie-scale Foam Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Stereocaulon octomerum</i> | a foam Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Stereocaulon pileatum</i> | Pixie Foam Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Stereocaulon saviczii</i> | a foam Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Stereocaulon spathuliferum</i> | Chalk Foam Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Sticta oroborealis</i> | Half Moon Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria angulata</i> | Starred Rocktripe Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Umbilicaria aprina</i> | Tentacled Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria decussata</i> | Netted Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria havaasii</i> | Havaas' Rocktripe Lichens | Assessed. Lack of basic information to evaluate. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|--|---------------------------------|--|
| Lichens | <i>Umbilicaria hirsuta</i> | Granulating Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria krascheninnikovii</i> | Lesser Salted Rocktripe Lichens | Assessed. Lack of basic information to evaluate. |
| Lichens | <i>Umbilicaria lyngei</i> | Puckered Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria rigida</i> | Roughened Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Umbilicaria scholanderi</i> | Scholander's Rocktripe Lichens | Assessed. Not known to occur on the planning area. |
| Lichens | <i>Vestergrenopsis elaeina</i> | Eyed Brownette Lichens | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Abies lasiocarpa</i> | Subalpine Fir | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Adiantum aleuticum</i> | Aleutian Maidenhair Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Androsace alaskana</i> | Alaska Dwarf-primrose | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Antennaria alpina</i> | Alpine Pussytoes | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Antennaria monocephala</i> | Single-head Pussytoes | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Antennaria pulcherrima</i> | Handsome Pussytoes | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Antennaria rosea</i> | Rosy Pussytoes | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Aphragmus eschscholtzianus</i> | Aleutian-cress | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Arctagrostis latifolia</i> | Broadleaf Arctagrostis | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Arnica ovata</i> | Rayless Arnica | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Artemisia tilesii</i> | Tilesius Wormwood | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Aspidotis densa</i> | Dense Lace Fern | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Asplenium viride</i> | Green Spleenwort | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Bolboschoenus maritimus paludosus</i> | Alkali Bulrush | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Botrychium ascendens</i> | Upward-lobed Moonwort | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Botrychium campestre</i> | Prairie Dunewort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Botrychium lanceolatum</i> | Triangle Grapefern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Botrychium lunaria</i> | Common Moonwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Botrychium minganense</i> | Mingan Moonwort | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Botrychium montanum</i> | Mountain Moonwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Botrypus virginianus</i> | Rattlesnake Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Bromus pacificus</i> | Pacific Brome | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Calamagrostis deschampsoides</i> | Circumpolar Small-reedgrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Calamagrostis stricta</i> | Slim-stem Small-reedgrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Carex arctiformis</i> | Polar Sedge | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|----------------------------------|--------------------------------|--|
| Vascular Plants | <i>Carex athrostachya</i> | Jointed-spike Sedge | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Carex gynocrates</i> | Northern Bog Sedge | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Carex hoodii</i> | Hood's Sedge | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Carex membranacea</i> | Fragile-seed Sedge | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Carex ramenskii</i> | Ramensk's Sedge | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Carex stipata</i> | Awl-fruit Sedge | Assessed. Probably introduced (not native). |
| Vascular Plants | <i>Cassiope mertensiana</i> | Western Bell-heather | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Cassiope tetragona</i> | Arctic Bell-heather | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Castilleja chrymactis</i> | Panhandle Indian-paintbrush | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Castilleja miniata</i> | Greater Red Indian-paintbrush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Castilleja parviflora</i> | Small-flower Indian-paintbrush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Catabrosa aquatica</i> | Brook Grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Ceratophyllum demersum</i> | Common Hornwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Chrysosplenium tetrandrum</i> | Northern Golden-carpet | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Cirsium brevistylum</i> | Short-style Thistle | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Clintonia uniflora</i> | Single-flowered Clintonia | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Cochlearia sessilifolia</i> | Sessile-leaf Scurvy-grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Coptis aspleniifolia</i> | Spleenwortleaf Goldthread | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Crataegus gaylussacia</i> | Suksdorf's Hawthorn | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Cypripedium guttatum</i> | Spotted Lady's-slipper | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Cypripedium passerinum</i> | Sparrow's-egg Lady's-slipper | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Dactylorhiza aristata</i> | Key Flower | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Delphinium brachycentrum</i> | Northern Larkspur | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Diphasiastrum complanatum</i> | Trailing Clubmoss | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Douglasia laevigata</i> | Cliff Dwarf-primrose | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Draba cinerea</i> | Grayleaf Whitlow-grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Draba lonchocarpa</i> | Lance-pod Whitlow-grass | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Draba praealta</i> | Tall Whitlow-grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Dryopteris fragrans</i> | Fragrant Cliff Woodfern | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Eleocharis acicularis</i> | Least Spikerush | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Eleocharis quinqueflora</i> | Few-flower Spikerush | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|--|-------------------------------|--|
| Vascular Plants | <i>Eleocharis uniglumis</i> | Creeping Spikerush | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Elymus glaucus</i> | Smooth Wild Rye | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Elymus villosus</i> | Hairy Wild Rye | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Enemion savilei</i> | Haida Gwaii False Rue-anemone | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Equisetum scirpoides</i> | Dwarf Scouring-rush | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Equisetum sylvaticum</i> | Woodland Horsetail | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Erigeron glacialis var. glacialis</i> | Subalpine Fleabane | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Erythranthe tilingii</i> | Tiling's Monkeyflower | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Festuca occidentalis</i> | Western Fescue | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Festuca subulata</i> | Nodding Fescue | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Festuca viviparoidea viviparoidea</i> | Northern Fescue | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Galium kamtschaticum</i> | Boreal Bedstraw | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Gaultheria shallon</i> | Salal | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Geum aleppicum</i> | Yellow Avens | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Geum schofieldii</i> | Haida Gwaii Avens | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Glyceria striata</i> | Fowl Mannagrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Goodyera repens</i> | Dwarf Rattlesnake-plantain | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Hymenophyllum wrightii</i> | Wright's Filmy Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Hypericum anagalloides</i> | Tinker's-penny | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Hypopitys monotropa</i> | American Pinesap | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Iris setosa</i> | Beachhead Iris | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Isoetes occidentalis</i> | Western Quillwort | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Juncus dudleyi</i> | Dudley's Rush | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Juncus effusus</i> | Soft Rush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Juncus falcatus</i> | Sickleleaf Rush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Juncus tenuis</i> | Slender Rush | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Juncus triglumis</i> | Three-flower Rush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Juniperus horizontalis</i> | Creeping Juniper | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Lathyrus ochroleucus</i> | Pale Vetchling | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Luzula groenlandica</i> | Greenland Woodrush | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Luzula kjellmaniana</i> | Kjellman's Woodrush | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|---|--------------------------|--|
| Vascular Plants | <i>Luzula multiflora</i> | Common Woodrush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Luzula wahlenbergii</i> | Wahlenberg's Woodrush | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Lycopodiella inundata</i> | Bog Clubmoss | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Lycopodium dendroideum</i> | Treelike Clubmoss | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Lycopus uniflorus</i> | Northern Bugleweed | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Malaxis paludosa</i> | Bog Adder's-mouth Orchid | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Micranthes occidentalis</i> | Western Saxifrage | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Micranthes porsildiana</i> | Porsild's Saxifrage | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Mitella nuda</i> | Naked Mitrewort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Mitella pentandra</i> | Five-point Bishop's-cap | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Myriophyllum verticillatum</i> | Whorled Water-milfoil | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Neottia convallarioides</i> | Broad-lip Twayblade | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Oreopteris quelpaertensis</i> | Queen's-veil Maid fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Osmorhiza berteroi</i> | Chilean Sweet-cicely | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Osmorhiza depauperata</i> | Blunt-fruit Sweet-cicely | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Papaver alboroseum</i> | Pale Poppy | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Pedicularis macrodonta</i> | Muskeg Lousewort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Penstemon serrulatus</i> | Cascade Beardtongue | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Phyllospadix scouleri</i> | Scouler's Surf-grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Phyllospadix serrulatus</i> | Serrulate Surf-grass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Pinus contorta</i> var. <i>latifolia</i> | Tall Lodgepole Pine | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Plagiobothrys orientalis</i> | Oriental Popcorn-flower | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Poa laxiflora</i> | Loose-flower Bluegrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Poa leptocoma</i> | Bog Bluegrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Poa macrantha</i> | Sand-dune Bluegrass | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Poa macrocalyx</i> | Large-glume Bluegrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Podagrostis humilis</i> | Alpine Bentgrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Podagrostis thurberiana</i> | Thurber's Bentgrass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Polygonum fowleri fowleri</i> | Fowler's Knotweed | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Polystichum andersonii</i> | Anderson's Holly Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Polystichum kwakiutlii</i> | Kwakiutl's hollyfern | Assessed. Not known to occur on the planning area. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|--|----------------------------|--|
| Vascular Plants | <i>Polystichum lonchitis</i> | Northern Holly Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Polystichum munitum</i> | Western Swordfern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Potamogeton robbinsii</i> | Flatleaf Pondweed | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Potentilla drummondii</i> | Drummond's Cinquefoil | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Potentilla glaucophylla</i> | Blueleaf Cinquefoil | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Psilocarphus elatior</i> | Tall Woolly-heads | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Pteridium aquilinum</i> | Bracken Fern | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Puccinellia phryganodes</i> | Creeping Alkali Grass | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Ranunculus cooleyae</i> | Cooley's Buttercup | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Ranunculus occidentalis var. nelsonii</i> | Western Buttercup | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Salix pulchra</i> | Tealeaf Willow | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Salix setchelliana</i> | Setchell's Willow | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Saxifraga bracteata</i> | Bract Saxifrage | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Saxifraga serpyllifolia</i> | Thymeleaf Saxifrage | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Saxifraga taylorii</i> | Taylor's Saxifrage | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Sceptridium robustum</i> | a moonwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Scheuchzeria palustris</i> | Marsh Scheuchzeria | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Sedum divergens</i> | Spreading Stonecrop | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Sedum lanceolatum</i> | Lanceleaf Stonecrop | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Selaginella sibirica</i> | Northern Spikemoss | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Selaginella wallacei</i> | Wallace's Spikemoss | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Shepherdia canadensis</i> | Canada Buffaloberry | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Sidalcea hendersonii</i> | Henderson's Checker-mallow | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Sinosenecio newcombei</i> | Newcombe's Butterweed | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Sparganium natans</i> | Small Bur-reed | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Spiraea douglasii</i> | Douglas' Spiraea | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Spiraea stevenii</i> | Steven's Spiraea | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Stellaria ruscifolia aleutica</i> | Circumpolar Starwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Stellaria umbellata</i> | Umbellate Stitchwort | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Symphoricarpos albus</i> | Snowberry | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Symphotrichum boreale</i> | Boreal Aster | Assessed. Lack of basic information to evaluate. |

| Sub-taxa | Species | Common name | Preliminary findings |
|-----------------|---|--------------------------|---|
| Vascular Plants | <i>Taxus brevifolia</i> | Pacific Yew | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Tephrosia frugida</i> | Dark Purple Groundsel | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Thuja plicata</i> | Western Red-cedar | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Tofieldia coccinea</i> | Purple Featherling | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Veronica wormskjoldii</i> | Alpine Speedwell | Assessed. Deemed too common by local experts. |
| Vascular Plants | <i>Viola biflora</i> | Northern Violet | Assessed. Lack of basic information to evaluate. |
| Vascular Plants | <i>Viola selkirkii</i> | Great-spurred Violet | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Woodsia oregana</i> | Western Cliff Fern | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Woodsia scopulina</i> | Mountain Cliff Fern | Assessed. Not known to occur on the planning area. |
| Vascular Plants | <i>Zannichellia palustris</i> | Horned Pondweed | Assessed. Not known to occur on the planning area. |
| Birds | <i>Calidris ptilocnemis ptilocnemis</i> | Pribilof rock sandpiper | Assessed. Not known to occur on the planning area. |
| Birds | <i>Cypseloides niger</i> | Black swift | Assessed. Not known to occur on the planning area. |
| Birds | <i>Limosa fedoa beringiae</i> | Beringian marbled godwit | Assessed. Not known to occur on the planning area. |
| Invertebrates | <i>Speyeria zerene</i> | Zerene fritillary | Assessed. Not known to occur on the planning area. |
| Mammals | <i>Callorhinus ursinus</i> | Northern fur seal | Assessed. Not known to occur on the planning area. |
| Mammals | <i>Castor canadensis phaeus</i> | Admiralty beaver | Assessed. Does not meet initial criteria for consideration. |
| Mammals | <i>Clethrionomys rutilus insularis</i> | Island red-backed vole | Assessed. Not known to occur on the planning area. |
| Mammals | <i>Myotis californicus</i> | California myotis | Assessed. Not known to occur on the planning area. |
| Mammals | <i>Neotoma cinerea</i> | Bushy-tailed woodrat | Assessed. Does not meet initial criteria for consideration. |
| Reptiles | <i>Dermochelys coriacea</i> | Leatherback | ESA-listed. No further review recommended. |

