

IDFG and OSC SCNF SCC Recommendations 6/29/2018

TERRESTRIAL ANIMALS (excluding bats)	FOREST/REGION Recommendation as SCC	IDFG & OSC Recommendation as SCC	SGCN Tier	Justification for Recommendation
Western Toad	Yes	Yes	T2	<ul style="list-style-type: none"> Data suggest inclusion is warranted. Chytrid fungus detected in WETO pop. on SCNF in 2012. WETO infrequently detected in 2012 amphibian survey. Extent of WETO breeding habitat on Forest is poorly understood, as are stressors/risk factors at these sites.
Greater Sage-grouse	Yes	No	T1	<ul style="list-style-type: none"> USFS development of upcoming plan sage-grouse amendments supporting the State of Idaho's Sage-Grouse Conservation Plan (Management Alignment) that provides durable and enforceable conservation measures to address the key threats from fire and invasive plants, other threats, and provide tiered habitat management conservation guidance should ensure high expectation of persistence within the forest without additional layer of SCC designation. Recommend plan component(s) targeting commitments in updated plan amendments.
Boreal Owl	Yes	No	Not a SGCN	<ul style="list-style-type: none"> 2012 surveys failed to detect Boreal Owls in historical locations, but did detect Barred Owls (colonizing owl species). Barred Owls may be competing with/predating on Boreal Owls. Known Boreal Owl nest sites were unoccupied 2015-2017. IDFG has no recent data to indicate that the species is either established or still occurs on the SCNF.
Black Rosy-finch	Yes	No	T3	<ul style="list-style-type: none"> This species is not being recommended, due to finding in the State Wildlife Action Plan (SWAP 2017), Appendices pages 1041-1042. Restricted distribution, overall low population size. Population size in Idaho is 250-1,000, one of few exclusive alpine habitat nesters in Idaho. No population estimates exist for the Black Rosy-Finch, primarily because of lack of breeding bird survey (BBS) data for this species. Short-term population trends indicate a relatively stable population, but long-term trends are unknown so insufficient information regarding persistence on the SCNF. There are no BBS trend data available for the Black Rosy-Finch, because of the remoteness (high elevation) of breeding sites for this species. Winter population estimates are lacking, due to the nomadic behavior of winter flocks in response to changing weather and snow depth. As a result, there is currently no information on population trend for this species, either throughout its range in general or in Idaho specifically.

				<ul style="list-style-type: none"> IDFG recommends that this species specific habitat requirement be addressed in the building of plan components and when specific land management activities are being considered and/or implemented. Conservation actions are described in the appropriate section plans of the SWAP. Strategies include actively managing high-elevation forests to increase resiliency to disturbance and climate change, increasing the diversity of stand age, size classes, and tree species, retaining and restoring alpine communities, and engaging forest collaboratives to develop and implement forest restoration projects.
Pygmy Rabbit	Yes	No	T2	<ul style="list-style-type: none"> This species is not being recommended, due to finding in the State Wildlife Action Plan (SWAP 2017), Appendices pages 1045-1046. Population size in Idaho 100,000-1,000,000. Populations are widely scattered across the landscape in appropriate habitat. Recent surveys have documented relatively abundant populations in localized areas. Their habitat specificity is narrow but key requirements are common. Short and long-term population trends are unknown and have not been documented. In 2010, the FWS determined the Pygmy Rabbit did not warrant protection under the ESA. IDFG recommends that this species specific habitat requirement be addressed in the building of plan components and when specific land management activities are being considered and/or implemented. Conservation actions are described in the appropriate section plans of the SWAP. Strategies include maintaining sagebrush cover and ecological function in sagebrush systems, managing invasive plants that out compete native plants and serve as fine fuels for range fires, and minimizing habitat destruction from fire.
Fisher	Yes	No	T2	<ul style="list-style-type: none"> This species is not being recommended, due to finding in the State Wildlife Action Plan (SWAP 2017), Appendices pages 1059-1060. The population size in Idaho is unknown. There is no formal estimate of the number of Fishers in Idaho. They are known to be a habitat generalist. Fishers are naturally found at low densities. Population trends in the short-term are relatively stable, but long-term trends are unknown. Data gaps about Fisher ecology and population dynamics limit our ability to draw conclusions about the population effects of potential threats. In 2011, the FWS completed a status review of the Fisher in the Northern Rocky Mountains and concluded the species does not warrant protection

				<p>under the ESA in Idaho, Montana, or Wyoming.</p> <ul style="list-style-type: none"> IDFG recommends that this species specific habitat requirement be addressed in the building of plan components and when specific land management activities are being considered and/or implemented. Conservation actions are described in the appropriate section plans of the SWAP. Strategies include promoting compatible timber management and harvest strategies, expanding the current knowledge of the species distribution, abundance, and habitat requirements.
Mountain Goat	No	Yes	T3	<ul style="list-style-type: none"> IDFG recommends inclusion as an SCC because of populations declines and related habitat factors. Aerial survey data suggest the 1988-2018 goat population trend in the Salmon Region has declined by 27%, (802 => 589 estimated goats). >80% of the modeled Mt. Goat habitat in the Salmon Fish and Game region falls within the SCNF boundary. There are currently 15 goat Hunt Areas (HAs) in the region; 5 HAs are closed to hunting to address population declines, and tag reductions will be proposed for this fall's season-setting process on 4 Has, due to population declines and a higher than recommended female harvest for the last three years. Overall in the Salmon Region, goats are harvested at <3% of the adult segment of the population, well under the allowed 5%. A study conducted in Pahsimeroi Range, 1969-1975 by L. Kuck found no inverse response associated with harvest in the region. If habitat components are missing or compromised, translocations are not effective. Past translocations such as the Tushar Mountain Utah to Lemhi Range in 2007 to boost existing populations have not been successful. Seven goat PMUs have been identified which occur on the Forest. The extirpation of goats in any PMU will exacerbate the further decline and extirpation of all goat populations on the Forest. Mountain goat declines appear related to forage quality/quantity and human disturbance in critical summer/winter habitats. For example, forest succession/encroachment from fire suppression and severe fires have reduced forage in subalpine/alpine meadows, shrub communities, and low elevation cliffs. The future decline of Mountain goats on the Forest is expected to continue without proactive and coordinated management between agencies.

Bighorn Sheep	No	No	T2	<ul style="list-style-type: none"> • Recommend plan component supporting Bighorn Sheep (BHS)-domestic sheep and goat separation strategy at the population management unit (PMU) scale (including trespass grazing, best management practices such as for weed goats, etc.). This accommodates risk exposure at the PMU scale rather than “one size fits all” and from IDFG & OSC perspective, can provide more specific management consideration at PMU scale than overall BHS SCC designation. Rationale follows: <ul style="list-style-type: none"> • There is considerable information demonstrating high disease risk (bacterial pneumonia) at the Bighorn Sheep (BHS) population management scale (population management unit – PMU) associated with contact with domestic sheep and goats (WAFWA Fact Sheet: 2018; Effects of Disease on Bighorn Sheep Management). • IDFG Bighorn Sheep Management Plan and the state’s separation policy and best management practices for separation pursuant to Idaho Code 36-106. IDFG developed the following the 2010 Bighorn Sheep Management Plan, that met requirements of Idaho Code 36-106 (D) and (E) and includes this policy: “The Department will continue to advocate spatial and temporal separation between bighorn sheep and domestic sheep and goats, concurrent with established Commission Policy and WAFWA guidelines.” • Cassirer et al. (2017 Evidence for strain-specific immunity to pneumonia in bighorn sheep) discusses the lack of cross strain immunity to M. ovipneumoniae (Movi) in bighorn sheep, the numerous strains of Movi that typically exist in domestic flocks, and the importance of maintaining separation of bighorn sheep and domestic sheep and goats to prevent new infections (die-offs) in bighorn sheep populations. • Bighorn sheep are listed as and SGCN (2) in the IDFG SWAP document. Tier 2 SGCN are secondary in priority and represent species with high conservation needs – that is, species with longer-term vulnerabilities or patterns suggesting management intervention is needed <u>but not necessarily facing imminent extinction or having the highest management profile</u>. It is also listed in the ecological sections as a species specific target. • NatureServe State Rank S2 – Imperiled – Imperiled in the state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state/province. • Nature Serve Global Rank G4 - Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors. • The Salmon River drainage in central Idaho contains native (never extirpated) populations comprising the largest numbers of bighorn sheep in the state.
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Western Bumble Bee	Yes	Yes	T1	<ul style="list-style-type: none"> Data suggest inclusion is warranted. Tier 1 SGCN due to multiple stressors. Concerns w/livestock grazing intensity, extent, season of use as they affect availability of floral/pollen resources. Floral/pollen resources may become more limited with predicted climate drying and warming.

Suckley's Cuckoo Bumble Bee	Yes	Yes	T1	<ul style="list-style-type: none"> Data suggest inclusion is warranted. Tier 1 SGCN w/complex life history dependent on Western Bumble Bee host populations which are in decline. Concerns w/livestock grazing intensity, extent, season of use as they affect availability of floral/pollen resources. Floral/pollen resources may become more limited with predicted climate drying and warming.
Monarch	Yes	Yes	T3	<ul style="list-style-type: none"> Data suggest inclusion is warranted. Suitable habitat on SCNF is ≤5,000 ft elevation (elev. extent of showy milkweed in ID); common stressors to milkweed populations' ≤5,000 ft include motorized vehicles, camping, river-rafting, cattle traffic, fire suppression, dewatering, invasive plant infestations, and climate change. Milkweed is vulnerable to herbicide use to treat invasive weeds along Forest roadways. Concern that late-season floral/nectar resources are limited for migratory generation of monarchs on SCNF; livestock grazing S&G's need metric for 'standing floral biomass' for monarchs and other pollinators.
AQUATIC ANIMALS	FOREST/REGION Recommendation as SCC	IDFG & OSC Recommendation as SCC	SGCN Tier	Justification for Recommendation
<i>Gonidea angulate</i> (Western Ridged Mussel)	Yes	No	T3	<ul style="list-style-type: none"> "Living specimens have not been observed on the Forest in recent times." Insufficient evidence that this species still occurs on forest.
<i>Ephemera alleni</i> (A Mayfly)	Yes	No	T2	<ul style="list-style-type: none"> Rare with very little known (Documented on Forest in '64, '96, '97, and '14) (Opal Cr, Jordan Cr, BVC -Hayden). "Population trends and abundance of this species are not known."
<i>Bryelmis idahoensis</i> (A Riffle Beetle)	Yes	No	T2	<ul style="list-style-type: none"> Rare with very little known (documented on Forest in '96 and '97) (NFSR and RONRW). "No estimates of population trends or abundance."
<i>Stygobromus idahoensis</i> (Idaho Amphipod)	Yes	No	T2	<ul style="list-style-type: none"> Only documented one time (mouth of Wilson Cr, MFSR, 1986). "Distribution, population trends, and abundance....are unknown." Insufficient evidence that this species still occurs on the forest.
<i>Caurinella idahoensis</i> (Lolo Mayfly)	Yes	No	T2	<ul style="list-style-type: none"> Rare with very little known (documented twice - '97 and '98 - NFSR area only). "Population trends, as well as life history and demographics, are unknown for this species."

<i>Sweltsa durfeeii</i> (Lolo Sawfly)	Yes	No	T3	<ul style="list-style-type: none"> Rare with very little known (1979 - Moose Cr - NFSR only). "No estimates exist for abundance or population trends."
Big Lost River Mountain Whitefish	Yes	No	No Status	<ul style="list-style-type: none"> IDFG Whitefish Conservation and Management Plan for the Big Lost River Drainage (IDFG Plan, included USFS input) addresses conservation actions to support long-term persistence on the SCNF. IDFG recommends a SCNF plan component that supports continued implementation of the IDFG Plan, which specifically identifies application of the Salmon-Challis National Forest grazing strategy on SCNF lands where there is potential for livestock grazing to affect current and historic mountain whitefish habitat and includes additional actions that the USFS has been and should continue to support and implement through the duration of the new SCNF plan.
Pacific Lamprey	Yes	No	T1	<ul style="list-style-type: none"> Region 4 of USFS already signatory to the Conservation Agreement for Pacific Lamprey in the states of Alaska, Washing, Oregon, Idaho and California (2012). Recommend plan component upholding conservation agreement commitments for SCNF as alternative to SCC designation because IDFG does not have sufficient information to justify substantial concern for lamprey persistence on the SCNF.
PLANTS	FOREST/REGION Recommendation as SCC	IDFG & OSC Recommendation as SCC	SGCN Tier	Justification for Recommendation
<i>Agoseris lackschewitzii</i> (Pink Agoseris)	Yes	High rarity ranking but IDFG has insufficient empirical evidence to support determination of substantial concern for long-term persistence within the SCNF. Plan Components may be an alternative to achieving conservation outcomes.	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.

<i>Astragalus amblytropis</i> (Challis Milkvetch)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Astragalus amnis-amissi</i> (Lost River Milkvetch)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Astragalus aquilonius</i> (Lemhi Milkvetch)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Astragalus gilviflorus</i> (Threeleaf Milkvetch)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Astragalus leptaleus</i> (Park Milkvetch)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Botrychium crenulatum</i> (Crenulate Moonwort)	Yes	See above.	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Botrychium lunaria</i> (Moonwort)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Botrychium minganense</i> (Mingan Moonwort)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Botrychium simplex</i> (Least Grapefern)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Calochortus nitidus</i> (Broad-Fruit Mariposa Lily)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Carex abrupta</i> (Abrupt Sedge)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Carex idahoensis</i> (Idaho Sedge)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Carex incurviformis</i> (Maritime Sedge)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.

<i>Carex occidentalis</i> (Western Sedge)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Castilleja lupchella</i> (Beautiful (showy) Indian Paintbrush)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Cladonia luteoalba</i> (Reindeer (Lemon Pixie) Lichen)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Collomia debilis</i> var. <i>camporum</i> (Flexible Alpine Collomia)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Cymopterus douglassii</i> (Douglas' Wavewing)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Cymopterus ibapensis</i> (Ibapah Spring-parsley)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Draba fladnizensis</i> (Austrian Draba)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Epipactis gigantea</i> (Giant Helleborine)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Erigeron humilis</i> (Low Fleabane)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Erigeron salmonensis</i> (Salmon River Fleabane)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Eriogonum capistratum</i> var. <i>welshii</i> (Welsh's Buckwheat)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Eriogonum soliceps</i> (Railroad Canyon Wild Buckwheat)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Gentianella propinqua</i> (Four-parted Gentian)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.

<i>Gentianella tenella</i> (Slender Gentian)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Hackelia davisii</i> (Davis' Stickweed)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List – so are logical to include as a Species of Conservation Concern in the SCNF plan.
<i>Hierochloe odorata</i> (Vanilla Grass)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Ipomopsis polycladon</i> (Lavender Dwarf Standing-Cypress)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List
<i>Juncus hallii</i> (Hall's Rush)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Lewisia sacajaweana</i> (Sacajawea's Bitter-root)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Meesia longiseta</i> (Long-Stalked Thread Moss)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Orthotrichum hallii</i> (Hall's Orthotrichum Moss)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Oxytropis besseyi</i> var. <i>salmonensis</i> (Challis Crazyweed)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Papaver radicum</i> ssp. <i>kluanense</i> (Alpine Poppy)	No	Note technical survey issue and update in ranking See above	NA	<ul style="list-style-type: none"> Alpine poppy is characterized as extirpated on the 'Not Recommended' list, however, the surveys cited by SCNF were conducted at the wrong time of year (too early in the growing season to find the plant), so the previous rank of 'X' (Extirpated) was in error. INPS reevaluated this species in February 2018 and now considers it extant, with a rank of S1. See also attached IDFG detailed species account at the end of SCC List (Appendix B).
<i>Parnassia kotzebuei</i> var. <i>kotzebuei</i> (Kotzebue's Grass-of-Parnassus)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.

<i>Penstemon lemhiensis</i> (Lemhi Penstemon)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Penstemon salmoensis</i> (Salmon River Penstemon)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Phacelia lyallii</i> (Lyll's Phacelia)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Physaria carinata</i> ssp. <i>Paysonii</i> (Payson's Bladderpod)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Physaria didymocarpa</i> var. <i>lyrata</i> (Salmon Twin Bladderpod)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Picea glauca</i> (White spruce)	No	No See above	NA	<ul style="list-style-type: none"> White spruce is not recommended because only two trees are known on the SCNF, and SCNF personnel consider this a relictual, non-viable population. However, it seems plausible that future surveys could identify additional trees for future consideration of SCC eligibility.
<i>Poa abbreviate</i> ssp. <i>Marshii</i> (Marsh's Bluegrass)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Polemonium elusum</i> (Elusive Jacob's Ladder)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Polystichum kruckebergii</i> (Kruckeberg's Swordfern)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Ranunculus gelidus</i> (Arctic Buttercup)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Ranunculus pygmaeus</i> (Pygmy Buttercup)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Salix candida</i> (Sageleaf Willow)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Salix farriarum</i> (Farr's Willow)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.

				List.
<i>Saxifraga adscendens</i> <i>var. oregonensis</i> (Wedge-leaf Saxifrage)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Saxifraga cernua</i> (Nodding Saxifrage)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Sedum borschii</i> (Borsch's Stonecrop)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Silene uralensis</i> <i>var.</i> <i>montana</i> (Apetalous Catchfly)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Thelypodium repandum</i> (Wavy-Leaf Thelypody)	Yes	See above	NA	<ul style="list-style-type: none"> This species has a ranking of either S1 (Critically imperiled), S2 (Imperiled), or S3 (Vulnerable) and are on the Idaho Native Plant Society's Rare Plant List.
<i>Thlaspi idahoense</i> <i>var.</i> <i>aileeniae</i> (Stanley Thlaspi)	Yes	No	NA	<ul style="list-style-type: none"> In 2010, Stanley thlaspi (<i>Thlaspi idahoense</i> <i>var.</i> <i>aileeniae</i>) was combined with <i>T. idahoense</i> <i>var.</i> <i>idahoense</i> into the taxon <i>Noccaea fendleri</i> subsp. <i>idahoensis</i> (Al-Shehbaz 2010, in <i>Flora of North America</i>, Volume 7), and this combined subspecies is more common. So in 2016, Idaho Native Plant Society assigned the "new" subspecies a rank of S4 (Apparently secure), and dropped it from the Idaho Rare Plant List. SCNF personnel may not be aware of this new ranking. SCNF's online information uses a rank of S3 and cites NatureServe's website, but NatureServe's website is not updated frequently. With the updated rank of S4, it's logical to move this taxon to the 'Not Recommended' list.

Appendix A.

Bighorn Sheep background, including historical and current trends on the SCNF and range-wide information.

Extirpation of bighorn sheep populations occurred on the SCNF after European settlement in Idaho. Bighorn sheep were the most numerous game animal in Idaho prior to the major declines in the late 1800's and early 1900's. Early settlers reported seeing thousands of bighorn sheep in their historic range, which encompassed a larger portion of Idaho than where there are current populations. These declines are primarily attributed to unregulated hunting, competition with domestic livestock for forage, and disease. Smith (1954) estimated there were 1,000 bighorn sheep in Idaho in the early 1920's, mostly in the Salmon River drainage. Bighorn sheep were extirpated from populations on the SCNF in the North Lemhi, South Lemhi, North Beaverhead, and Tower-Kriley Population Management Units (PMU). There may have been a few dozen bighorns remaining in the Lost River PMU after the die-offs at the turn of the century.

To examine the extent and lasting effects of the more recent die-off on the SCNF in the late 1980s – early 1990's, it makes the most sense to compare the 5 PMU's on the SCNF that had established bighorn sheep populations prior to that die-off. The PMU's are Middle Fork Salmon, Lower Panther-Main Salmon, Middle Main Salmon, East Fork Salmon, and Lost River Range. IDFG estimated there were approximately 2,313 bighorn sheep in these 5 PMUs on the SCNF (population estimates from 1980, 1987, 1988, 1990). After the pneumonia related die-offs there were approximately 1,135 bighorn sheep in the 5 PMUs on the SCNF in the early 1990's. Since that ~49% reduction in bighorn sheep on the SCNF in those 5 PMUs, populations have not recovered to their pre die-off levels with the exception of the Lost River PMU which was augmented with 62 bighorn sheep in 2005. Approximately 1,278 bighorn sheep were counted during the most recent population estimates from the same 5 PMUs.

The SCNF covers more than 4.3 million acres in east-central Idaho. More than 1.3 million of these acres are Wilderness. There are 9 bighorn sheep PMUs on the SCNF. Approximately 1,600 bighorn sheep were counted during the most recent population surveys in these PMUs. As described in the Idaho Bighorn Sheep Management Plan (2010), modeled habitat in the 9 PMU's on the SCNF could support approximately 9,500 bighorn sheep. This estimate does not include any modeled habitat outside the PMU boundaries on the SCNF.

Bighorn sheep populations on the SCNF have had positive test results for *M. ovipneumoniae* (Movi). However, this does not mean they will not experience another die-off. Cassirer et al. 2017 discusses the lack of cross strain immunity to Movi in bighorn sheep, the numerous strains of Movi that typically exist in domestic flocks, and the importance of maintaining separation of bighorn sheep and domestic sheep and goats to prevent new infections in bighorn sheep populations. This paper also discusses the potential of bighorn sheep infecting other bighorn sheep with different strains of Movi.

The following paragraph is taken directly from Cassirer et al. 2017.

*Lack of cross-strain immunity in the face of recurrent spillovers from reservoir hosts may account for a significant proportion of the disease outbreaks in bighorn sheep that continue to happen regularly despite a century of exposure to domestic sheep and goats. Strain-specific immunity could also complicate efforts to develop vaccines. The results of our study support existing management direction to prevent contacts that could lead to pathogen transmission from domestic small ruminants to wild sheep, even if the wild sheep have previously been exposed. Our data also show that under current management, spillover is continuing to occur, suggesting that enhanced efforts are indicated to avoid introducing new strains of *M. ovipneumoniae* into wild sheep populations. We recommend looking for new management approaches, such as clearing *M. ovipneumoniae* infection from domestic animal reservoirs in bighorn sheep range, and placing greater emphasis on existing strategies to elicit more active cooperation by the public and to increase vigilance on the part of resource managers.*

The following paragraph and figure is taken directly from Cassirer et al. 2018.

*Many, if not most, bighorn sheep populations in the lower 48 states have endured all-age pneumonia die-offs (Western Association of Fish and Wildlife Agencies Wild Sheep Working Group 2012). These epizootics are the most obvious and dramatic manifestation of disease in bighorn sheep populations. During pneumonia outbreaks when animals are clinically ill, disease agents such as *M. ovipneumoniae* and Pasteurellaceae, usually transmitted through direct contact, may become airborne for short distances (Dixon et al. 2002, Besser et al. 2014). Pathogens can spread rapidly and expose nearly all individuals to infection (Bernatowicz et al. 2016, Ramsey et al. 2016, Cassirer et al. 2017). Severe, high mortality epizootics can ultimately cause extirpation or functional extinction of populations (Singer et al. 2000b); however, most pneumonia outbreaks do not kill entire populations. We estimated a median population decline of 48% (range= 5–100%) in 82 bighorn*

sheep disease events reported in 7 states and 2 provinces (Fig. 1, Table S4). Causes of the considerable divergence in mortality rates are not well understood but might be explained by heterogeneity in host immunity, pathogen virulence, and patterns of contact and transmission (Hobbs and Miller 1992).

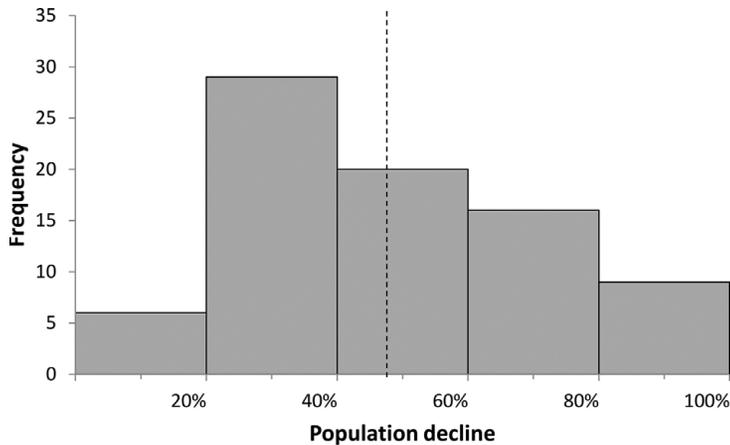


Figure 1. Population declines reported after pneumonia events in bighorn sheep populations in Alberta and British Columbia, Canada; and Idaho, Montana, Nebraska, Nevada, North Dakota, Oregon, Utah, and Washington, USA, 1978–2016. Dashed line represents median mortality of 48% in 82 pneumonia events. Data provided by state and provincial agencies and the Western Association of Fish and Wildlife Agencies Wild Sheep Working Group.

Analysis of genetic data from the historic Carrey Collection (collected 1923-1985) and contemporary genetic samples from the Lower Salmon and Middle Fork Salmon PMUs shows that genetic diversity was higher and there were more unique alleles in the historic samples from the Carrey Collection than contemporary genetic samples. These results were reported in 2018 at the Northern Wild Sheep and Goat Council Symposium and Idaho Wildlife Society meeting.

Genetic and radio-collar data show connectivity between the Lower Panther-Main Salmon, Middle Fork Salmon River, Middle Main Salmon River, East Fork Salmon River, Lost River, and North Lemhi PMUs. No translocations have taken place in the Tower-Kriley PMU and their source is unknown, but was most likely the Lower Panther-Main Salmon PMU. This connectivity demonstrates how these populations of bighorn sheep are acting as a metapopulation on the SCNF. Therefore, a die-off starting in any of the connected populations could spread to the others (also seen in the die-off in the late 1980s-early 1990s). Using the most recent population estimates, a new disease related die-off in PMUs with documented connectivity (Lower Panther-Main Salmon, Middle Fork Salmon River, Middle Main Salmon River, East Fork Salmon River, Lost River, and North Lemhi) could affect 6 of 9 PMUs on the SCNF, which includes 88% (1,407 of 1,598) of the total number of bighorn sheep on the SCNF. IDFG has data showing connectivity between PMUs on the SCNF and the Lower Salmon and South Beaverhead PMUs which are not on the SCNF. The Lower Panther-Main, East Fork, and South Lemhi bighorn sheep populations also occur on other forests. Effects from a BHS die-off on the SCNF would likely impact populations on other forests because of connectivity and because multiple forests have land management responsibilities within some PMUs. There are 9 PMUs on the SCNF and bighorn sheep movements connect them to 2 additional PMUs off the SCNF.

There is a risk of an infection and related die-off from a different strain of Movi than what is currently present in the populations, thus emphasizing need for separation management where there is risk of contact. Spillover of a new Movi strain could come from domestic sheep and goats both on and off the SCNF or

even from bighorn sheep that have a different Movi strain coming into a population on the SCNF due to population connectivity off the SCNF. 75% of Idaho's Rocky Mountain bighorn sheep reside in populations that are on the SCNF. As previously noted, more bighorn sheep are connected to the SCNF through movements.

Literature Cited

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Appendix B

Alpine Poppy – *Papaver radicum* ssp. *kluanense* (D. Löve) D.F. Murray

Poppy family – Papaveraceae

Account by Lynn Kinter, Idaho Department of Fish and Game

22 Feb 2018

Conservation Status:

NatureServe: G5T4 SX

INPS: Rare

BLM: None

FS Reg 1: None

FS Reg 4: None

FS Reg 6: None

FWS: None

Taxonomy:

Löve, Doris, & N.J. Freedman. 1956. A plant collection from the southwestern Yukon. *Botaniska Notiser* 109: 153–211. = Published as *P. kluanense* D. Löve (pp 178-180).

Murray, David F. 1995. New names in *Papaver* section *Meconella* (Papaveraceae). *Novon* 5(3): 294-295. = Published as *P. radicum* ssp. *kluanense*.

Synonyms:

P. kluanense D. Löve, *P. freedmanianum* D. Löve, *P. coloradense* Fedde, *P. nudicaule* var. *coloradense* Fedde, *P. nudicaule* var. *columbianum* Fedde, *P. pygmaeum* Rydb.

Solstad (2009) uses *P. kluanense*; Holmgren & Holmgren (2012) use *P. coloradense*.

Type: Freedman sn, 19 Jun 1953. Yukon Territory: N of Quill Creek camp, 20 mi west of Burwash Landing. Alt. ca. 5000 ft. Holotype, MAN. [MAN = Manokwari, Indonesia. I'd guess the authors meant an herbarium in Manitoba—perhaps University of Manitoba, which is WIN, or the Manitoba Museum, which is MMMN.]

Taxonomic keys: Holmgren & Holmgren (2012), IMF, Vol 2A, pp 28-30. FPNW, p 144. Kiger & Murray (1997) FNA, Vol 3, p 323-333. Not in Davis 1952.

Solstad, H. 2009. Taxonomy and evolution of the diploid to polyploid *Papaver* sect. *Meconella* (Papaveraceae). – Ph.D. Thesis, Univ. Oslo, Oslo.

Species Description: A small yellow-flowered perennial up to 2 dm tall. This is the only native *Papaver* known in Idaho, and is restricted to alpine areas. *Papaver rhoeas*, which is introduced in some low elevation areas, such as the Palouse, is a red-flowered annual up to 8 dm tall.

Biology: Perennial forb; reproduces by seed; flowers in Idaho July to August.

Similar species:

P. rhoeas is naturalized. Other *Papaver* species are in cultivation as ornamentals.

Habitat: “Dry talus, screes, and fell-fields, mostly above timberline” IMF, Vol 2A, p 30. Both Idaho sites were reported to be talus.

Environmental Specificity: Narrow—extreme alpine and arctic.

Cultural and commercial values:

None found, but congeners are known for opioids and poppy seeds.

Landownership: EO 1, Bell Mtn = Salmon-Challis National Forest manages the west face of Bell Mountain, where the poppy was found; Targhee NF manages part of the east face, which contains potential habitat; EO 1 is within the Meadow Canyon Research Natural Area. EO 2, Baker Lake = Sawtooth NF.

Distribution:

Range Extent: Known from only two isolated sites in Idaho. North American extent is southern Alaska south along the Rocky Mountains to northern New Mexico. It seems likely that there are more locations in Idaho.

Area of Occupancy: Probably no more than a few meters total.

Idaho Counties: Lemhi (EO 1-Bell Mtn), Blaine (EO 2-Baker Lake)

Idaho Specimens: Put this on a separate spreadsheet if there are numerous specimens

Record source (Herbarium, IFWIS, person)	Date observed/ collected	Observer	County	Location	Abundance, threats, habitat condition
Specimen at ID	2 Aug 1978	Douglass Henderson 4846, w/ Steve & Pam Brunsfeld	Lemhi	Summit of Bell Mtn, Lemhi Rg	7 to 10 plants, hikers/rock climbers/climate change, rocky summit in intact community
Specimen at U Alaska Fairbanks, or University of Oslo?	9 Jul 2003	Ann DeBolt	Blaine	South side of Baker Lake, Smoky Mtns	1 plant, hikers/climate change, rocky slope in intact community

Literature Records: None

Databases/Herbaria consulted (and query date): CPNWH--9 Nov 2017

Abundance:

Number of Occurrences:

EO 1-Bell Mountain

EO 2-Baker Lake

Population Size: EO 1 = "7 to 10 plants, if that" (Moseley 1989); presumably this quote was from Doug Henderson. Doug's specimen at ID contains 5 plants.

EO 2 = "1 plant, which was collected" (Ann DeBolt pers. comm. 20 Feb 2018)

Number of Occurrences with Good Viability: 0 to 2. Bob Moseley (1989) searched the Bell Mtn summit in July 1984 and July 1989 and did not relocate, but notes that he may have been too early. The Baker Lake EO must be very small, as Ann returned several times within the next few years after discovery and could not relocate the population; unknown if she surveyed widely for the plant, or just at former collection site.

Population trend:

Short: unknown

Long: unknown

Conservation concerns:

Threats (include scope, severity and timing, if known):

- Hikers or rock climbers could cause impacts, but level of use is unknown at the two sites. Henderson (1983) noted that at Bell Mountain, “Although the peak is rugged and inaccessible, there are signs of recent human use. The actions of a single individual could significantly reduce the population in a few minutes.” Moseley (1989) reported that numerous climbers ascend Bell Mountain each year. Baker Lake is a popular hiking destination, but few hikers probably venture upslope away from the lake to where the poppy was found.
- Ann DeBolt mentioned that if firefighters staged at Baker Lake, they could damage the plant. To me, the chance of that occurring seems slim.
- Climate change—limited to alpine sites, which are particularly vulnerable to warming.
- There are likely few other threats due to the remote locations.

Intrinsic Vulnerability: unknown

Proposed rank information:

Date Ranked: Discussed at SIRPWG, 17 Jan 2018. Final materials for RPC, 27 Feb 2018.

Proposed Rank: S1

Proposed INPS Status: Rare

Overall Threat Rank: Medium to Low

Comments: Though little is known about this species in Idaho, it cannot be common, since it is showy and presumably would have been collected when encountered. A rank of S1 is comparable to neighboring states: Montana (S1), Utah (S1), Wyoming (S2), Alberta (S2), British Columbia (S3S4)

Recommended actions:

- 1) Determine the location of Ann DeBolt’s specimen. Michael Mancuso sent it to David Murray, University of Alaska-Fairbanks, in Nov 2003, and Dr. Murray was planning to send it to Heidi Solstad, University of Oslo, Norway. On 20 Feb 2018, Ann said she would contact Dr. Murray.
- 2) Assess the two EOs at flowering (mid-August) to determine if the poppy is extant in Idaho.
- 3) Conduct additional surveys, especially upslope from the Baker Lake collection site. It seems to me that the lone plant Ann collected probably dispersed from a larger population upslope—perhaps at the top of the ridge.

Literature:

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Henderson, D.M. 1983. Rare plants of the Challis National Forest: A summary report. Unpublished report on file at the University of Idaho Herbarium, Moscow. 68 pp.

Moseley, R. 1989. Field Investigations of seven rare Alpine Plant Species in the southern Lemhi Range and Beaverhead Mountains, Dubois Ranger District, Targhee National Forest. Natural Heritage Section, Idaho Department of Fish and Game, Boise. 30 pp plus appendices.