SPECIES: Scientific [common]	***Agoseris aurantiaca* var. *aurantiaca* (Synonyms: *Agoseris lackschewitzii, Agoseris aurantiaca* var. *carnea*) [pink agoseris]**
Forest:	**Salmon–Challis National Forest**
Forest Reviewer:	**Brittni Brown; John Proctor**
Date of Review:	**12 February 2018; 22 March 2018**
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	**YES**

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
   Yes_X_ No___

2. Rationale for not concurring is based on (check all that apply):
   Species is not native to the plan area _____
   Species is not known to occur in the plan area _____
   Species persistence in the plan area is not of substantial concern _____

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes_X_ No___

   If no, provide explanation and stop assessment.

2. Is the Species Known to Occur within the Planning Area? Yes_X_ No___

   If no, stop assessment.

Table 1. All Known Occurrences, Years, and Frequency within the Planning Area

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC, etc.)	Source of Information
2012	26-75	Leadore Ranger District Lemhi Range: Grove Creek cattle exclosure area, 9.9 air miles south southwest of Leadore; Township 14 North, Range 25 East, Section 13	IDFG Element Occurrence EO Number: 15 EO_ID: 26707
1984	No data	Leadore Ranger District Upper Mill Creek Basin, 200 yards below uppermost lake, Lemhi Range; accessible via foot	IDFG Element Occurrence EO Number: 4 EO_ID: 654

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC, etc.)	Source of Information
		from jeep trail from Lemhi Valley southwest of Leadore	
1984	No data	Leadore Ranger District Mill Creek, Lemhi Range; accessible from Lemhi Valley southwest of Leadore	IDFG Element Occurrence EO Number: 1 EO_ID: 1398
1984	No data	Leadore Ranger District Northeast of Mogg Mountain 1.3 miles on northeast side of ridge.	Consortium of Pacific Northwest Herbaria. Accession: 105589 Barcode: ID157856,
1981	No data	Leadore Ranger District Above upper lake, Middle Fork Little Timber Creek, Lemhi Range; accessible from Lemhi Valley southwest of Leadore	IDFG Element Occurrence EO Number: 3 EO_ID: 4500
1981	No data	Salmon–Cobalt Ranger District Meadow southwest of Basin Lake; take Basin Creek Road (approximately 8 miles west of Lemhi) to Basin Lake	IDFG Element Occurrence EO Number: 5 EO_ID: 3952
1976	No data	Leadore Ranger District Big Eightmile Creek, Lemhi Range; accessible from Lemhi Valley southwest of Leadore	IDFG Element Occurrence EO Number: 2 EO_ID: 644

a. Are all Species Occurrences Only Accidental or Transient?

Yes___ No_X_

If yes, document source for determination and stop assessment.

b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes_X_ No___

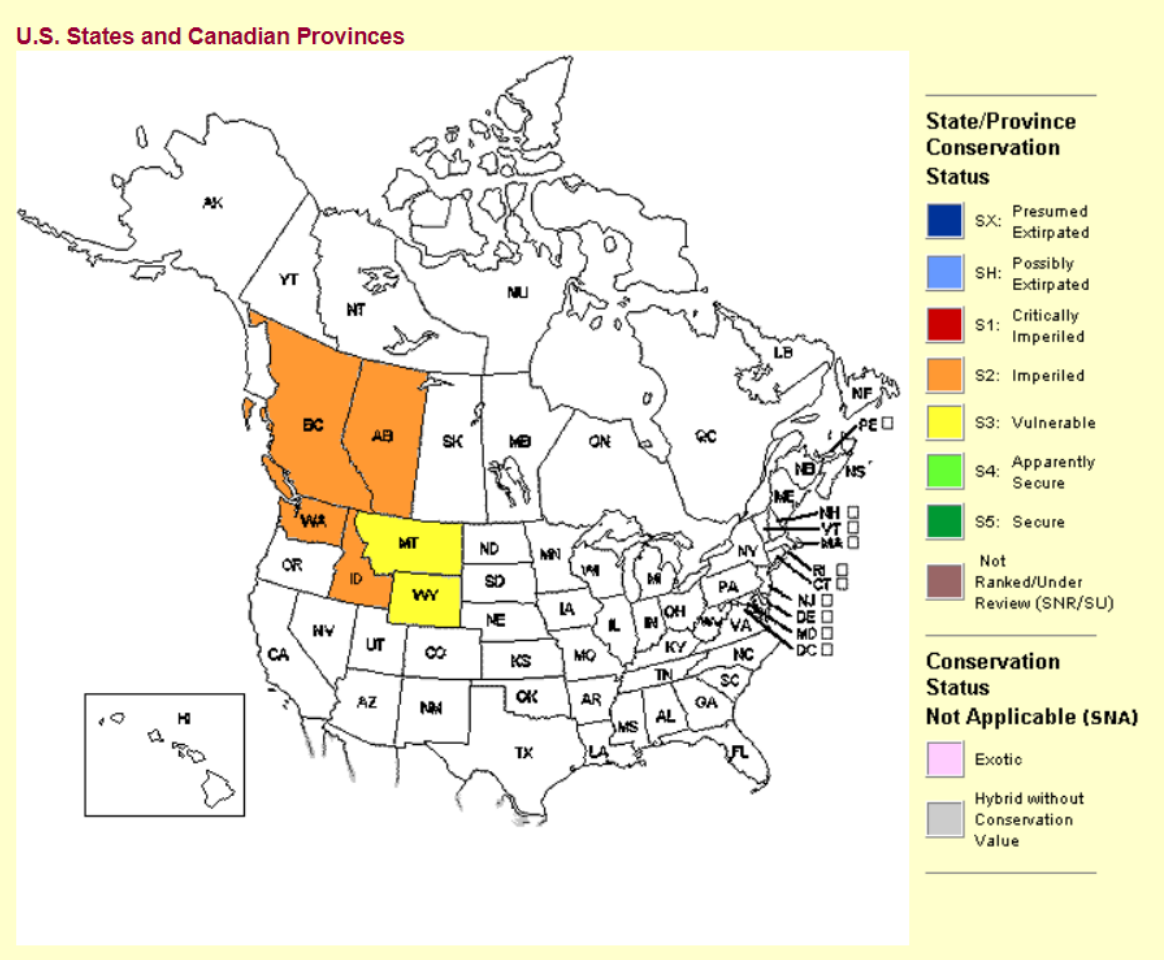
If no, provide explanation and stop assessment

c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

Yes___ No___

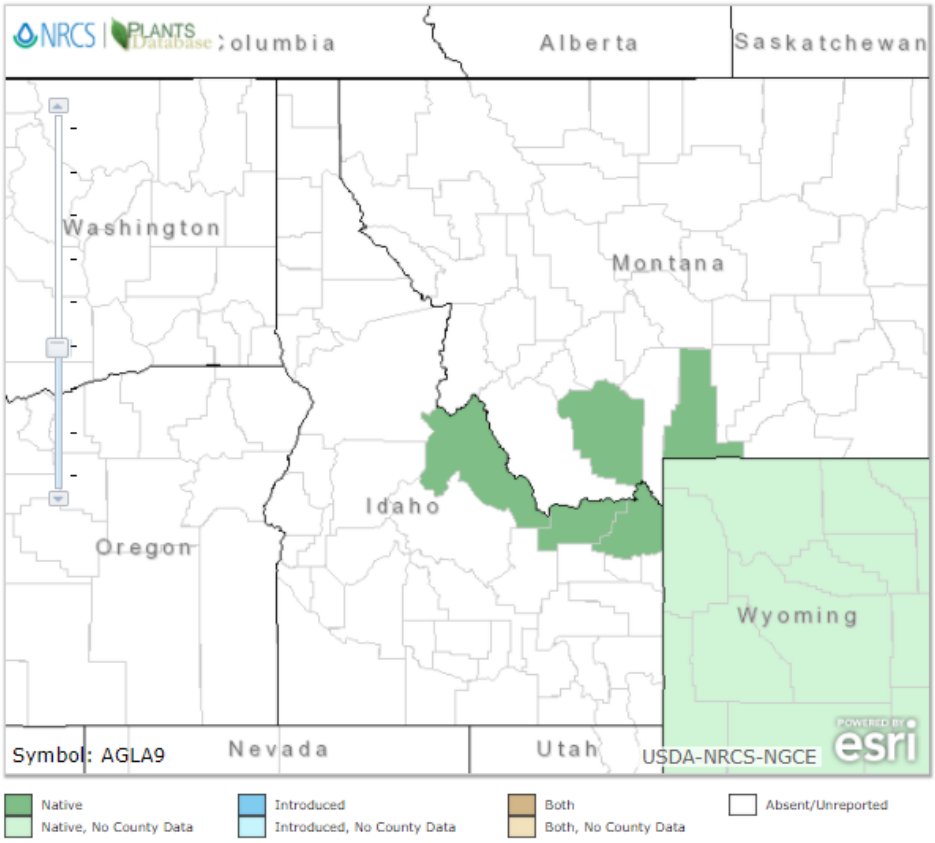
Provide explanation for determination
Not applicable. Species has known occurrences since 1990.
If determination is no, stop assessment

d. **Map 1**, Pink agoseris conservation status in US and Canada (NatureServe 2017)



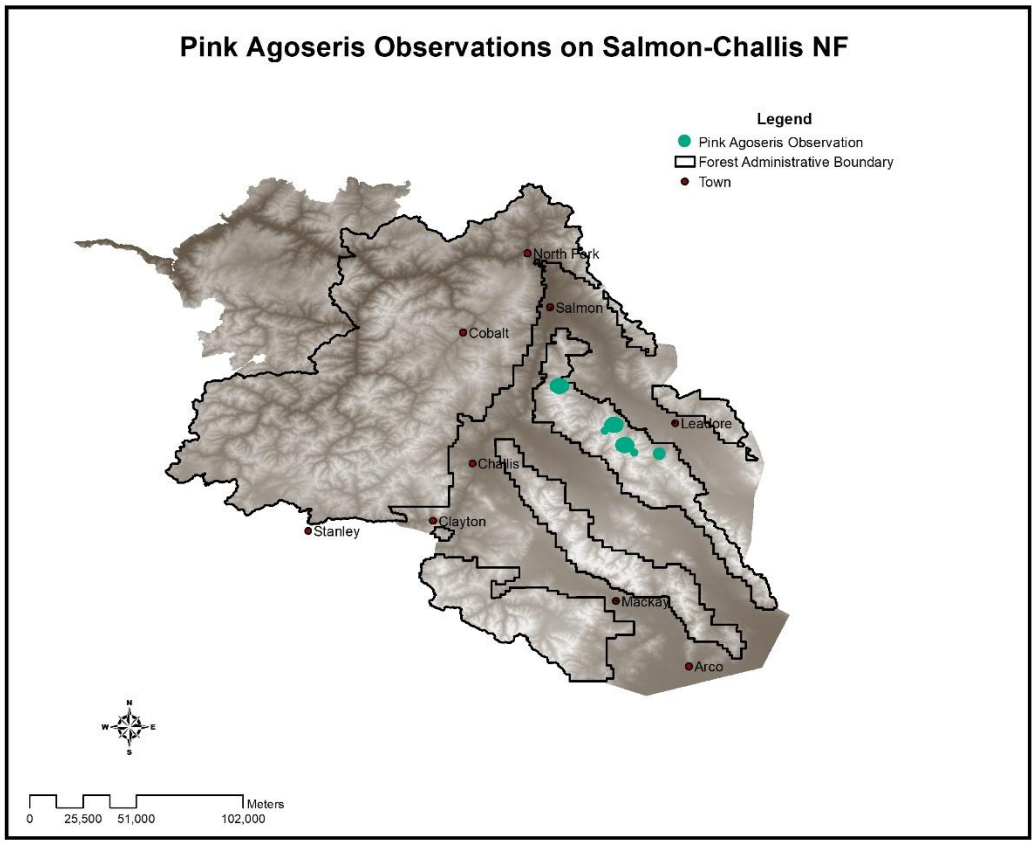
NatureServe. 2017. Conservation Species Report. *Agoseris lackschewitzii*. Internet website. http://explorer.natureserve.org. Accessed on October 6, 2017.

e. **Map 2**, Pink agoseris range in Idaho and surrounding states and provinces (NRCS 2017)



NRCS (United States Department of Agriculture, Natural Resources Conservation Service). 2017. Plants Profile for *Agoseris lackschewitzii*. Internet website: https://plants.usda.gov/core/profile?symbol=AGLA9. Accessed on October 3, 2017.

Map 3, Pink agoseris observations on the Salmon–Challis National Forest (IDFG. 2017. Idaho Fish and Wildlife Information System, Species Diversity Database, Idaho Natural Heritage Data. Accessed on February 27, 2017.)



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition if Other)
Global Rank	G4: Apparently Secure (Uncommon but not rare; some cause for long-term concern due to declines or other factors)[1]
State Rank	S1S2: Critically Imperiled/Imperiled (At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors/Imperiled 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 nation or state/province)[1]
USDA Forest Service	USFS Region 1: Not listed[2] USFS Region 4: Sensitive (Bridger-Teton, Salmon, and Targhee National Forests)[3]
USDI FWS	Not listed as a candidate species[4]
Other	Idaho Native Plant Society: G4S1/S2 - RARE[5] BLM: Type 4—Species of Concern (These are species generally rare in Idaho with small populations or localized distribution and currently have low threat levels; however, due to the small populations and habitat area, certain future land uses in close proximity could significantly jeopardize these species)[6]

1. Idaho Natural Heritage Program. 2016. IDNHP Tracked Plant Species 2016. On file. Accessed January 12, 2018
2. USFS Region 1. 2011. 2011 Sensitive Species List Idaho and Montana. Website: http://fsweb.r1.fs.fed.us/wildlife/wwfrp/TESnew.htm. Accessed January 10, 2017.
3. USFS Region 4. 2016. Proposed, Endangered, Threatened, and Sensitive Species List. On file. Accessed January 11, 2017.
4. USFWS. 2017. Candidate species believed to or known to occur in Idaho. Website: https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=ID&status=candidate. Accessed January 12, 2018.
5. Idaho Native Plant Society. 2016. INPS Rare Plant List May 2016. https://idahonativeplants.org/rare-plants-list/ Accessed January 10, 2018.
6. BLM. 2016. Bureau of Land Management Idaho Special Status Plants List Aug 2016. On file. Accessed 15 January, 2018.

Table 3. Status summary based on best available scientific information.

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
1 Distribution on Salmon–Challis National Forest	B1	Pink agoseris is known from seven locations on the Forest (IDFG 2017, CPNWH 2017), all in the northern Lemhi Range between 7,700 and 9,200 feet.). Although a floristic inventory of the SCNF (Irwin 2014) and a targeted systemic survey for the species on the adjacent Caribou-Targhee National Forest (Miller and Kinter 2014), targeted systematic surveys on the Salmon-Challis National Forest have not been conducted. Potential habitat (see Criterion 6) is moderately abundant, although patchy and/or small and isolated, across the Forest (Rank B1). Confidence in Rank: High, **Medium**, or Low	Consortium of Pacific Northwest Herbaria. 2017. Agoseris aurantiaca var. carnea. Internet website: http://www.pnwherbaria.org/. Accessed on November 8, 2017. IDFG. 2017. Idaho Fish and Wildlife Information System, Species Diversity Database, Idaho Natural Heritage Data. Accessed on February 27, 2017. Irwin, J.J. 2014. A floristic inventory of east-central Idaho, USA Master's thesis, University of Wyoming. Department of Botany. Miller, J.J., Kinter, C.L. 2014. Surveying and occurrence assessments for *Agastache cusickii* (Cusick's giant-hyssop) and *Agoseris lackschewitzii* (pink agoseris) on the Caribou-Targhee National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise.
2 Distribution in surrounding geographic area	C	This species is known to occur in Idaho (S1/S2), Montana (S3), Washington (S2?), and Wyoming (S3). In Canada, this species occurs in Alberta (S2) and British Columbia (S2/S3) (NatureServe 2017). This species has a wide distribution outside the Forest (Rank C). Confidence in Rank: **High**, Medium, or Low	NatureServe. 2017. Conservation Species Report. *Agoseris lackschewitzii*. Internet website. http://explorer.natureserve.org. Accessed on October 4, 2017.

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
3 Dispersal Capability	B	This species reproduces sexually and flowers from July to August (Miller and Kinter 2014), however, the species may go to seed earlier in dry years. Specific methods through which this species disperses have not been studied but likely include dispersal by wind, water, animals, and gravity. The pink agoseris has a double pappus of capillary bristles on the achene, similar to a common dandelion, which may assist in the wind distribution of seeds at, or a short distance from, the parent plant (Montana Natural Heritage Program 1993). As a perennial species, pink agoseris may be less dependent upon a successful dispersal event than an annual species. This species likely has a limited dispersal capability as it only disperses through suitable habitat (Rank B). Confidence in this rank is medium as dispersal mechanisms for this species have not been well studied. Confidence in Rank: High, **Medium**, or Low	Miller, J.J., Kinter, C.L. 2014. Surveying and occurrence assessments for *Agastache cusickii* (Cusick's giant-hyssop) and *Agoseris lackschewitzii* (pink agoseris) on the Caribou-Targhee National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise. Montana Natural Heritage Program. 1993. Status review of *Agoseris lackschewitzii*. USDA Forest Service. Region 1. Gallatin National Forest. Montana. Internet website: http://ia902705.us.archive.org/12/items/lackschewitziiag00paverich/lackschewitziiag00paverich.pdf. Accessed on October 6, 2017.
4 Abundance on the Salmon–Challis National Forest	A	This species is known from seven occurrences consisting of an unknown number of individuals. The population size noted from EO 15 seems to be typical for this species as compared to other occurrences in Montana (Montana Natural Heritage Program 1993), although somewhat smaller than populations observed on the Caribou-Targhee NF (Miller and Kinter 2014). As such, this species could number fewer than 600 individuals on the Forest. This species is rare and the current abundance is low enough that stochastic and other factors could lead to potential imperilment (Rank A). Confidence in this species is low as species specific surveys for this species have not been completed and only one record has been documented in recent years.	Miller, J.J., Kinter, C.L. 2014. Surveying and occurrence assessments for *Agastache cusickii* (Cusick's giant-hyssop) and *Agoseris lackschewitzii* (pink agoseris) on the Caribou-Targhee National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise. Montana Natural Heritage Program. 1993. Status review of *Agoseris lackschewitzii*. USDA Forest Service. Region 1. Gallatin National Forest. Montana. Internet website: http://ia902705.us.archive.org/12/ite

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
		Confidence in Rank: High, Medium, or **Low**	ms/lackschewitziiag00paverich/lackschewitziiag00paverich.pdf. Accessed on October 6, 2017.
5 Population Trend on the Salmon–Challis National Forest	D	There are seven documented occurrences on the Forest but these have not been monitored and no population data is available that would provide an indication as to trends in population size (Rank D). Confidence in Rank: **High**, Medium, or Low	
6 Habitat Trend on the Salmon–Challis National Forest	C	*A. lackschewitzii* is restricted to perennially wet mid-montane to subalpine meadows and streamsides with a variety of forbs and graminoids (although it does not grow in tall, dense vegetation [Montana Natural Heritage Program 1993]), and in ecotones between open, wet meadows and forest (Miller and Kinter 2014). Habitat is described as having a variety of substrates in which the soil is saturated throughout the growing season (Montana Natural Heritage Program 1993). Regionally, most populations are observed on flat to gently sloping sites between 6,500 and 9,500 feet (Montana Natural Heritage Program 1993). Aerial imagery between 1992 and 2014 was assessed at each EO for ground disturbing activities. In addition, an USFS (2016) GIS database of existing grazing allotments, invasive plant populations, historical wildfires, mines, trails, and roads was reviewed for activities that may impact habitat. Notes from historical collections were also reviewed as they contain information on threats to habitat. Ground disturbing activities were not apparent at any of the population locations but the surrounding forest at each EO appears to have been moderately to severely impacted by mountain pine beetle. No wildfires were recorded at any EO.	Google Earth. 2017. Salmon-Challis National Forest. Internet website: https://www.google.com/earth/. Accessed on October 3, 2017. IDFG. 2017. Idaho Fish and Wildlife Information System, Species Diversity Database, Idaho Natural Heritage Data. Accessed on February 27, 2017. IDFG. 2017b. Idaho State Wildlife Action Plan, 2015. Boise, ID. Miller, J.J., Kinter, C.L. 2014. Surveying and occurrence assessments for *Agastache cusickii* (Cusick's giant-hyssop) and *Agoseris lackschewitzii* (pink agoseris) on the Caribou-Targhee National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise. Montana Natural Heritage Program. 1993. Status review of *Agoseris*

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
		A cattle exclosure has been built at EO 15 which may contribute to an increase in habitat quality and the population trend; EO 15 may be trending upwards. Nodding plumeless thistle (*Carduus nutans*), an invasive species, occurs within 500 feet of EO 15. The invasive species Canada thistle (*Cirsium arvense*) and spotted knapweed (*Centaurea stoebe* ssp. *micranthos*) have been mapped as occurring in the foothills of the Lemhi Range but no Canada thistle or spotted knapweed populations were recorded as occurring within a mile of this species. Canada thistle is known to inhabit wetland (wetland indicator rating of FAC – facultative wetland plant) and as such may be of particular concern to *A. lackschewitzii* habitat (NRCS 2017). The Idaho State Wildlife Action Plan reports springs and groundwater dependent wetlands are in poor condition across all landownerships due to historic heavy grazing, continued season-long grazing, development to provide livestock water, and OHV recreation (IDFG 2017b). The Spring Stewardship Institute has documented 669 springs and seeps on the SCNF. These were identified with the aid of the National Hydrography Dataset GIS layer, which typically underestimates the true number of springs (USFS 2017). A recent assessment of spring distribution on the SCNF indicates that 97% of land type associations (LTAs) on the Forest have spring distribution within NRV. Based on Forest Service maps there are roughly 111,000 acres of riparian herbaceous habitat on the SCNF. In general, riparian vegetation has seen past declines, but is largely within or trending towards the natural range of variability (USFS 2017). Conifer encroachment is the most frequent	*lackschewitzii*. USDA Forest Service. Region 1. Gallatin National Forest. Montana. Internet website: http://ia902705.us.archive.org/12/items/lackschewitziiag00paverich/lackschewitziiag00paverich.pdf. Accessed on October 6, 2017. NRCS (United States Department of Agriculture, Natural Resources Conservation Service). 2017. Plants Profile for *Agoseris lackschewitzii*. Internet website: https://plants.usda.gov/core/profile?symbol=AGLA9. Accessed on October 3, 2017. USFS. 2016. SDE RMU Range Allotments. GIS Database Information. Data source: S_R04_SCF.rmu_unit. Last updated March 30, 2016. USFS (United States Department of Agriculture Forest Service). 2017. Salmon-Challis National Forest Plan Revision Assessments. Topics 1& 2: Terrestrial Ecosystems, Aquatic Ecosystems, Watersheds, Air, Soil, Water.

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
		contributor to changes in riparian composition and condition on the Forest. Historic heavy grazing caused a shift in several plant communities (e.g. grassland extent increased) on the SCNF and resulted in shrubland and conifer species expansion into riparian areas (USFS 2017). This has been further exacerbated by fire suppression policies of the 1950s through 1990s. Livestock operations have shifted to more intensively-managed grazing systems to respond to concerns over impacts to riparian ecosystems and distribution of grazing effects across the Forest (USFS 2017). To a lesser extent, upland encroachment (possibly due to roads, diversions, and increased temperatures and drought) and alien plant species have also caused impacts to riparian habitat (USFS 2017). Thus, riparian habitat remains broadly available on the SCNF and spring and seep distribution are within NRV. However, much of the Forest riparian habitat and surface flows have been impacted by management practices, conditions are improving on large extents, but some areas remain outside of NRV. Within the SCNF, there has been historical degradation of suitable habitat for this species. Given this information, and the lack of surveys to assess the quality of potentially suitable habitat, current habitat trends are assumed to be stable and possibly improving. Therefore, this criterion is ranked C with a medium confidence due to recent habitat assessments. Confidence in Rank: High, **Medium**, or Low	
7 Vulnerability of Habitats on the Salmon–Challis National Forest	B	Habitat for *A. lackschewitzii* is most vulnerable to heavy livestock grazing, invasive species, hydrologic alterations, and climate change. Grazing is an important land use on the SCNF contributing economically and socio-culturally to the local communities (USFS 2017b) Grazing	Behrens, P.N., R.E. Keane, D.L. Peterson, and J.J. Ho. 2018. Chapter 6: effects of climatic variability and change on forest vegetation. In Halofsky, J.E., D.L. Peterson, J.J. Ho, N.L. Little, L.A. Joyce, editors. 2018.

Species (Scientific and Common Name): *Agoseris aurantiaca* var*. aurantiaca* (pink agoseris)

Criteria	Rank	Rationale	Literature Citations
		allotments dominate SCNF landscapes outside of wilderness and research natural areas. Although roughly 23% of these allotments are currently vacant, grazing is expected to continue to be a dominant land use on the Forest into the future. Inappropriately managed livestock grazing can adversely affect the biota and hydrology of wetlands and riparian habitats (USFS 2017). Although grazing is not currently a threat in the known habitat of *A. lackschewitzii*, it has been noted as having substantial impacts on habitat on the Caribou-Targhee National Forest (Miller and Kinter 2014). Invasive plant species have been mapped as overlapping a known occurrence of this species (see Criterion 6). Invasive plants have been identified as a major threat to the biological diversity and ecological integrity within and outside the SCNF. Untreated invasive plant infestations have the potential to expand at an average rate of 1.3 to 25 percent per year (USFS 2017). Invasive plants create many adverse environmental effects, including, but not limited to: displacement of native plants; reduction in functionality of habitat and forage for wildlife and livestock; threats to populations of threatened, endangered and sensitive species; alteration of physical and biological properties of soil, including productivity; changes to the intensity and frequency of fires; and loss of recreational opportunities (USFS 2017). To project the future climate and impacts to resources in the Intermountain Region including the Salmon-Challis, the Intermountain Adaptation Partnership (IAP) used Representative Concentration Pathway [RCP] 4.5 and 8.5, which capture a moderate and high future warming, respectively (Halofsky et al. 2018). Although pathways predicting lower warming exist, the 4.5 and 8.5 pathways were chosen by the IAP because they are, in comparison, well studied providing a large	Climate change vulnerability and adaptation in the Intermountain Region. Gen. Tech. Rep. RMRS-GTR-XXX. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Research Station. Halofsky, J.E., D.L. Peterson, J.J. Ho, N.L. Little, L.A. Joyce, editors. 2018. Climate change vulnerability and adaptation in the Intermountain Region. Gen. Tech. Rep. RMRS-GTR-xxx. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Research Station. Hatfield, R., Jepsen, S., Mader, E., Black, S.H., Shepherd, M. 2012. Conserving bumble bees: guidelines for creating and managing habitat for America's declining pollinators. The Xerces Society for Invertebrate Conservation. Joyce, L.A. and M. Talbert. 2018. Chapter 3: Historical and projected climate. In Halofsky, J.E., D.L. Peterson, J.J. Ho, N.L. Little, L.A. Joyce, editors. 2018. Climate change vulnerability and adaptation in the Intermountain Region. Gen. Tech. Rep. RMRS-GTR-xxx. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky

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Criteria	**Rank**	**Rationale**	**Literature Citations**
		set of projections that enhance our understanding of the possible range in future climate. Thus, this represents best available science for our Forest with regard to a warming climate. Although uncertainty exists about the magnitude and rate of climate change (For a discussion of this see Behrens et al. 2018), warming temperatures are the most certain consequence of increased CO2 in the atmosphere. By 2100, median minimum temperature in the Middle Rockies subregion, which includes the Salmon-Challis, is projected to rise about 5˚F under the moderate warming scenario and about 10˚F under the high warming scenario. Regardless of scenario, the greatest departure from historical seasonal minimum temperatures occurs in the summer. Annual precipitation projections are highly variable with no discernible trend under moderate warming and a slight increasing trend with high warming (Joyce and Talbert 2018). Riparian and wetland communities in the Intermountain Region will be moderately to highly vulnerable to climate warming depending on elevation (Halofsky et al. 2018). Plant communities composition and structure will be affected by increased water stress, and this could drive the replacement of riparian and wetland species with drought-tolerant upland species. This will be exacerbated where diversions and dams have been constructed. The adaptive capacity of systems will be greatly reduced where dewatering occurs and in systems impacted by improper grazing, roads, and nonnative species (Halofsky et al. 2018). Changes in flow regimes due to reduced snowpack, earlier snowmelt, and changes in precipitation could also drive changes in wetland species dependence on fluvial geomorphic processes, surface water, and groundwater. Changes in temperature and precipitation may also lead to greater	Mountain Research Station. Miller, J.J., Kinter, C.L. 2014. Surveying and occurrence assessments for *Agastache cusickii* (Cusick's giant-hyssop) and *Agoseris lackschewitzii* (pink agoseris) on the Caribou-Targhee National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise. Miller-Struttmann, N.E., Geib, J.C., Franklin, J.D., Kevan, P.G., Holdo, R.M., Ebert-May, D., Lynn, A.M., Kettenbach, J.A., Hedrick, E., Galen, C. 2015. Functional mismatch in a bumble bee pollination mutualism under climate change. Science, 349(6255): 1541-1544. USFS (United States Department of Agriculture Forest Service). 2017. Salmon-Challis National Forest Plan Revision Assessments. Topics 1& 2: Terrestrial Ecosystems, Aquatic Ecosystems, Watersheds, Air, Soil, Water. USFS (United States Department of Agriculture, Forest Service). 2017b. Salmon–Challis National Forest Data Assessment (Draft). On file at Salmon-Challis National Forest, Salmon, ID.

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)			
Criteria	**Rank**	**Rationale**	**Literature Citations**
		variability in forb flowering, which could create an asynchronistic effect with native pollinator emergence (Halofsky et al. 2018; Miller-Struttmann et al. 2015), leading to decreased reproduction in native plants. As pollinators are critical for successful reproduction and seed set for approximately 85% of flowering species globally (Hatfield et al. 2012), this asynchronistic effect may have profound implications. Populations of *A. lackschewitzii* are assumed to respond poorly to high severity wildlife. As all known populations occur in or near a coniferous forest, high severity wildfire has the potential to impact habitat, especially in forests that have incurred mortalities from mountain pine beetle (MPB) (USFS 2017). MPB has resulted in moderate (10 to 30 trees per acre) to high (greater than 30 trees per acre) tree mortalities across the majority of the Lemhi Range, including areas that support *A. lackschewitzii* populations (USFS 2017). Climatic changes may increase the impacts of mountain pine beetle as higher winter temperatures may decrease winter die-off of populations and increased drought potential will cause greater stress in trees, making them more susceptible to outbreaks (Halofsky et al. 2017). The degree to which both populations and habitats are vulnerable to loss or disturbance on the Forest are dependent upon variability in severity of impacts from climate change, habitat modification, and future grazing management decisions (Rank B). Confidence in Rank: High, **Medium**, or Low	
8 Life History and Demographics		*Agoseris lackschewitzii* is an herbaceous perennial plant that reproduces sexually by seed. There are no reports of specific pollinators for this species but bees and flies have been observed to visit flowers of this species. Seeds are likely dispersed through wind distribution.	Montana Natural Heritage Program. 1993. Status review of *Agoseris lackschewitzii*. USDA Forest Service. Region 1. Gallatin National Forest.

Species (Scientific and Common Name): *Agoseris aurantiaca* var. *aurantiaca* (pink agoseris)

Criteria	Rank	Rationale	Literature Citations
		Other species of plants are known to grow in close proximity to *A. lackschewitzii* but the species does not occur in dense, tall vegetation. Herbivory on this species has been observed as small insect holes in leaves. The life history of this species does not suggest any particular vulnerability to populations. The reproductive rates are likely to be moderate to low but there is no evidence to suggest high mortality. The typically small populations may lead to reduced fitness from a lack of genetic diversity. Also, small populations may be more vulnerable to stochastic events that may cause local extinction. Small populations may also be less able to recover rapidly following a disturbance. The species has life history characteristics that suggest populations may not recover rapidly from disturbance events and this species may also be prone to reduced fitness from a lack of genetic diversity (Rank A). Confidence in this rank is medium as the size of populations on the Forest has not been recorded and population size would affect the ability of a population to recover from disturbance and maintain genetic diversity. Confidence in Rank: High, **Medium**, or Low	Montana. Internet website: http://ia902705.us.archive.org/12/items/lackschewitziiag00paverich/lackschewitziiag00paverich.pdf. Accessed on October 6, 2017.

Summary and recommendations: Globally, *A. lackschewitzii* has an apparently secure rank, while in Idaho it is considered critically imperiled/imperiled. This species is known from seven occurrences in the Lemhi Range – the species is rare both on the Forest and in Idaho. On the Forest *A. lackschewitzii* occurs in low numbers, and known abundance is low enough that the species may be susceptible to stochastic events.

The species is a perennial forb that reproduces sexually by seed, which is likely wind dispersed. The species occurs in montane to subalpine wet meadows, which are vulnerable ecosystems, susceptible to degradation. Riparian

Date: 10/7/2017

Species (Scientific and Common Name): *Agoseris aurantiaca* var*. aurantiaca* (pink agoseris)

Criteria	Rank	Rationale	Literature Citations
ecosystems have experienced historical degradation, but much of the suitable habitat is currently within NRV or thought to be improving. *A. lackschewitzii* populations and habitat is threatened by unrestricted grazing and would be threatened by hydrologic alterations in habitats if they were to occur. Additionally, it is threatened by the invasive species: nodding plumeless thistle, which occurs within 500 feet of an EO, spotted knapweed and Canada thistle, which have been documented in the area but are not currently observed near EO records. The species is also threatened by climate change, especially as it relates to increased risk of high severity wildfires. There is substantial concern for the capability of *Agoseris lackschewitzii* to persist over the long-term on the Salmon-Challis, therefore, it is recommended as a SCC. Evaluator(s): Dan Morta			