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# Roadless Area Conservation

## National Forest System Lands in Idaho

### TECS PLANTS SPECIALIST REPORT

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## ABSTRACT

This report represents background information and analysis of the rarest elements of the Idaho flora – threatened, endangered, candidate, and sensitive (TECS) plant species for the alternatives analyzed for the Roadless Area Conservation; National Forest Systems Lands in Idaho (DEIS) 2007.

Plant species that are federally listed are protected under the provisions of the Endangered Species Act (ESA) 1973, as amended (16 U.S.C. 1536(c), 50 CFR 402) as well as regulation and policy which requires that the Forest Service conserve and help recover endangered and threatened species. Sensitive species, as designated by the Regional Foresters, are similarly protected by Forest Service policy (FSM 2670.44). National Forests are required to develop programs to maintain viable populations within planning areas and to identify and mitigate potential effects to these species from federal land-disturbing activities. In order to comply with the ESA and Sensitive species policy, Forest botanists and plant specialists conduct inventories during project planning to locate, protect, and mitigate any effects to TECS plants in project areas.

Currently, 69 plant taxa (species, subspecies, or varieties) designated as sensitive by the Regional Foresters occur within Inventoried Roadless Areas based on GIS analysis data; 28 in the Intermountain Region (R4), and 41 in the Northern Region (R1). The Forest Service has no jurisdiction over TEC plant species on private lands.

## ANALYSIS

### Methodology

To make a final determination of effects, this biological evaluation utilized a coarse filter analysis for TEC and Sensitive plants which included the following data:

1. Threatened, Endangered, Proposed or Candidate species combined for R1 and R4 that are known or suspected to occur on NFS lands in Idaho;
2. Regional Sensitive species for Region 1 and Region 4 identified as occurring within inventoried roadless areas (IRAs) through GIS analysis products (see Tables 2 and 3);
3. Current scientific literature on the effects of land disturbance activities (roads, timber harvest, energy development, etc.) that might occur under every management alternative theme and,
4. Review of the types of habitats and species potentially affected by any of the action alternatives.

## Information Used

Data sources used for this analysis includes the Idaho Conservation Data Center's (ICDC) Element Occurrence Database and their extensive information on the biology, demography, and distribution of rare plant species in Idaho; the Region 1 and Region 4 Threatened, Endangered, and Sensitive Species Lists. All other sources of information and literature are cited in the text.

The analysis of direct, indirect, and cumulative effects on sensitive plants used the most recent literature and existing available information, as well as data related to past, present, and reasonably foreseeable events that have occurred or may occur in the sensitive plants analysis area. Applicable past and present, and foreseeable events described in the "Scope of the Analysis" section of Chapter 1 were considered during the evaluation of the affected environment. The condition of the affected environment, together with applicable reasonably foreseeable events as described in the above-mentioned section, were considered during the analysis of the environmental effects of the alternatives.

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## ASSUMPTIONS

- Road construction, reconstruction, and timber harvest in Idaho IRAs over the past five years has been minimal and has not resulted in a change to the roadless character of the IRAs (recent data provided by the Forests). Given current and projected future budgets road construction, reconstruction, and timber harvest is likely to continue in IRAs at low rates similar to the past five years.
- Discretionary mineral activities may increase in some IRAs due to mineral resource demands to meet energy needs.
- Areas with low road densities are better for TECS plant species than areas with higher road densities.
- Areas with less ground disturbance are generally better for TECS than areas with higher ground disturbance.
- Conservation rules of thumb:
  - The larger the population's size, the greater the chance of persistence.
  - Interconnected populations that form a metapopulation are better than fragmented isolated populations.
  - Preserving genetic and phenotypic diversity requires maintaining populations through a wide geographic range in a variety of habitats.
  - Maintaining plant-pollinator relationships and pollinator habitat is critical to reproductive fitness and species persistence.

## Affected Environment

The affected areas for direct and indirect effects on TEC and Sensitive plants are the Inventoried Roadless areas administered by the U.S. Forest Service in Idaho. Currently there are 69 plant taxa known to occur within Roadless areas on NFS lands in Idaho. Populations of these plant species are infrequent and many have a localized distribution across the landscape. They are associated with a wide array of plant communities, unique habitats, and geological formations. The character, distribution, and extent of habitats are dependent on numerous factors: the size of the area, the type, intensity and timing of management-induced and natural disturbances that have occurred; and the landscape context within which they are found. Each species is also different with respect to critical life history characteristics, habitat requirements, and ecological sensitivity. Consequently, it is extremely difficult, and potentially misleading, to generalize the effects of various management activities on all of these species. This is especially true with narrowly endemic species and populations at the fringe of their natural range. Some of the species occurring within certain management themes areas may be highlighted for discussion due to the significance of the potential effects of those activities.

The alternatives evaluated in this document represent different management strategies prescribing the conditions under which road construction/reconstruction, timber cutting, and discretionary mining could occur within Inventoried Roadless Areas in Idaho. All of the alternatives allow these activities within IRAs to some degree, albeit they vary with respect to the circumstances, locations, and extent that these activities are permissible. To present a clear, concise evaluation of these alternatives with respect to impacts on botanical resources, we have organized this section as follows:

- A general discussion on the effects of road construction/reconstruction, timber cutting, and discretionary mining on TECS plant species and their habitats;
- An analysis of the implications of each alternative to TECS species and their habitats;
- A summary that compares across the alternatives based on qualitative and quantitative differences in management strategies.

## Effects Common to All Alternatives

In this section, a discussion of the effects that roads (their construction, reconstruction and maintenance), timber cutting, and discretionary mineral development could have on TECS species and their habitats in Idaho is presented.

**Road Construction, Reconstruction, and Maintenance** - Past, present, and future construction and maintenance of the roads have both adverse and positive effects on roadside plant populations. Road corridors associated with energy development in areas with or without transmission lines reduced the overall survival rate of the endangered Kern mallow (Cypher, 2005). On the other hand, road maintenance may benefit those species that have a competitive edge in disturbed environments or depend

on early seral conditions to establish new individuals and populations. Roads increase access to and provide an avenue for weed invasion. Roads can be placed on ridgetops, in riparian areas, or through scree slopes, which are often important habitats for a number of species. Reconstruction and maintenance of existing roads can directly or indirectly affect plant populations by introducing competitive weeds and altering availability of light, nutrients, and moisture. Maintenance of roads may increase traffic along these roads and thus increase potential for disturbance of plant populations adjacent to roads.

**Habitat Fragmentation.** Habitat fragmentation activities have demographic and genetic consequences for rare plant species through changed interaction with pollinators, decreased migration between fragments, edge effects, and loss of genetic variation through genetic drift or and increased selfing (inbreeding depression). It is important to note, however, that these effects have not resulted in large-scale extinctions of any rare forest plants (Honnay & Bossuyt, 2005). Differential susceptibility to habitat fragmentation is expected to depend on life-history traits related to plant dispersal, establishment or persistence (Kolb and Diekmann, 2005). In the case of long-live perennials long-term persistence of small and isolated forest plant populations may be due to the fact they reproduce clonally and therefore persist for long generation times. However, the consequences of prolonged clonal reproduction (and suppression of sexual reproduction) has been that locally less adapted clones become outcompeted by expanding ramets of more adapted genotypes (Hartnett & Bazzaz, 1985). Almost all (90%) of angiosperms are pollinated by animals, especially insects (Wilcock & Neiland, 2002) and fragmentation can negatively affect pollinator abundance, diversity, and visitation (Steffan -Dewenter & Tschardt, 1999). Although an increasing number of studies conclude that habitat fragmentation is broadly deleterious to native bees, not all evidence points in that direction. There is evidence that fractions of native bee communities can persist in habitats that have been modestly altered by human activities (Marlin and LaBerge 2001) and that we are only now beginning to understand the possible effects of habitat fragmentation on bees (Cane 2001). Fragmentation implies increased edge effects in habitats and that may be as important as isolation (Turner, et al 1996). Edge effects influence plant dynamics such as regeneration, interspecies competition, predation, seed dispersal and pollination (Murcia 1995). In addition, the changed microclimate of increased air and soil temperature, characterized by increased light penetration directly affects plant population dynamics. Edge effects also influence bryophyte community structure of border habitats where abrupt differences in micro-climatic conditions between the matrix and forest remnant exist (Pharo & Zartman, 2007).

**Spread of non-native invasive plants and animals and edge-dwelling species.** Non-native weeds directly affect plants and plant populations through competitive displacement above ground and in the seed bank. Indirect impacts include herbicide spraying and mechanical ground disturbance to control noxious weeds once they gain a foothold. Competition from invasive non-native species and noxious weeds can result

in the loss of habitat, loss of pollinators, and decreased TECS species viability. Roads, trails, and canopy reduction can provide ideal pathways for the introduction of exotic and non-native species. Indirectly, herbicide spraying can destroy populations of native pollinators by contaminating nesting materials and pollen resources (Pierson and Tepedino 2000), further decreasing the viability and reproductive success of TECS species. Some species of non-native plants will alter hydrological regimes, changing and reducing the habitat available to TECS plants.

**Human Access - which can increase the impacts of trampling, herbivory, and congregation.** The most important direct impact related to human access is trampling, both by hikers and newly available routes for ORV use (Liddle 1975, 1991). These types of activities particularly threaten many TECS species. Road building and the development of facilities used by recreationists also contribute to plant impacts, as these developments make more areas accessible and concentrate use. Dispersed camping and recreation have similar impacts, which are more difficult to monitor. Parking areas, particularly undesignated areas, pose similar impacts to plants. An example of the recreational impacts to plants is illustrated by *Castilleja christii*. After a road bisecting the population was paved, ORV use, dispersed recreation, and user accessibility increased. Plants next to the roadbed were lost. The long-term impacts of bisecting the population to functions such as reproduction and dispersal are still unknown. Other recreational impacts include ORV use, which can also disturb soil, affecting both habitat and potential habitat. Roads often provide easy access to plant hobbyists and collectors. Roads and trails can contribute to the spread of noxious weeds, and increase the accessibility of areas to native ungulates and livestock,

**Timber Harvest/vegetation management impacts -** Timber harvesting, road construction, and associated infrastructure development may alter the hydrologic processes for sensitive plants such as Ute Ladies' tresses orchid (*Spiranthes diluvialis*) and rare moss species of wetland-associated habitat groups (aquatic, fens and fen margins, riparian, and wet coniferous forest). Changes to the hydrologic processes at wetlands may result in both a decrease and increase of wetland water levels. Timber harvest activities create sudden changes in seral stage, or an abundance of early seral stages, and also reduce the available habitats for those plants that require mid-late seral stages (e.g. clustered lady-slipper orchid). However, those species that prefer openings, early-seral conditions, or some ground disturbance, could benefit from moderate levels of mechanical activities. Changing patch dynamics across the landscape could also have beneficial or adverse effects to TECS plant species and their pollinators. Restoration of historical fire regimes and conditions for different potential vegetation groups may benefit some TECS species in the long term.

**Phosphate development.** About 9,100 acres of phosphate deposits can be found in seven roadless areas (Dry Ridge, Huckleberry Basin, Meade Peak, Sage Creek, Schmid Peak, Stump Creek and Mount Jefferson) and are under existing lease. Some of these acres have been mined to date (the total amount is unknown). About 1,100 acres, associated with the Smoky Canyon mine expansion, are reasonably foreseeable to be

developed within the next 15 years. The Smoky Canyon mine expansion would affect the Sage Creek and Meade Peak roadless areas.

It is also reasonable to assume that the remaining phosphate deposits currently under lease, roughly 8,000 acres within the seven roadless areas would likely be permitted and developed sometime in the extended future (50 years or more). Using the Smoky Canyon expansion as an example of the level of activity expected, an estimated 17 miles of haul road construction and other surface mining disturbance would ultimately take place within the seven roadless areas. Prior to mining plant surveys would be conducted and any special protection measures would be applied.

**Threatened, Endangered and Candidate Plants.** Federal land management agencies are responsible for implementing the ESA within their authorities. These responsibilities include, but are not limited to, promote the conservation and recovery of listed species and conserve the ecosystems upon which listed species depend. The U.S. Fish and wildlife Service (USFWS) monitors and prescribes management for federally listed threatened and endangered plant species. The National Forest Management Act and Forest Service policy require that National Forest System lands be managed to maintain populations of all existing native animal and plant species at or above minimum viable populations levels.

In implementing the ESA, the Forest Service must ensure its activities promote the conservation and recovery of listed species and the ecosystems upon which they depend. Table 1 provides a list of plants that have federal status as Threatened or Candidate species. There are no plants listed as Endangered; nor any Proposed for listing under the ESA within National Forest systems lands in Idaho.

**Table 1. Threatened/Endangered/Proposed and Candidate Species on NFS lands in Idaho: Federal and State status, Occurrence within IRAs, and National Forest Distribution**

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Federal Status <sup>3</sup>	Occurrence within IRAs <sup>4</sup>	National Forest Distribution <sup>5</sup>
<i>Botrychium lineare</i>	Slender Moonwort	G1	SH	Candidate	no	Sawtooth (ph on all Idaho forests)
<i>Castilleja christii</i>	Christ's Indian paintbrush	G1	S1	Candidate	yes	Sawtooth
<i>Howellia aquatilis</i>	Water Howellia	G2	S1	Threatened	no	ph (Nez-Perce, Clearwater, Idaho-Panhandle)
<i>Mirabilis macfarlanei</i>	MacFarlane's four-o'clock	G2	S1	Threatened	yes	Nez-Perce (administered by Wallowa-Whitman NF)
<i>Silene spaldingii</i>	Spalding's silene	G2	S1	Threatened	no	Nez-Perce; (ph on Clearwater)
<i>Spiranthes diluvialis</i>	Ute ladies'-tresses	G2	S1	Threatened	Yes	Caribou-Targhee

**Global** - Global ranking as assigned by Idaho Natural Heritage Program, **G1** – Globally critically imperiled, **G2** – Globally imperiled. **State** - Idaho State ranking, **SH** = State Historical Occurrence, **S1** = State critically imperiled, **NF Distributions<sup>5</sup> =ph** =potential habitat.

**Ute ladies tresses (*Spiranthes diluvialis*)** – Five populations (EO's) within IRAs are found on the Caribou-Targhee NF in Bonneville County. This species is jointly managed by the FS and BLM under the South Fork Activity Plan. Habitat for this species is found along mesic meadows and floodplains in low gradient valley bottoms along the South Fork of the Snake River.

**Water howellia (*Howellia aquatilis*)** - A regional endemic which grows in seasonal pools, ponds and old river oxbows. No occurrences have been found on NFS lands within Roadless areas in Idaho. Potential habitat for this species occurs on the Panhandle, Clearwater, and Nez-Perce NFs.

**Macfarlane's four-o'clock (*Mirabilis macfarlanei*)** - This species is a local endemic found on terraces and slopes supporting bluebunch wheatgrass in the Hell's Canyon National Recreation Area. The 6 occurrences found within Roadless areas in Idaho are on lands administered by Wallowa-Whitman NF in Oregon.

**Spalding's catchfly (*Silene spaldingii*)** – This species is a Palouse prairie grasslands endemic. In Idaho, several populations occur in west-central portion of the state, including two occurrences on the Nez-Perce NF. No occurrences of this species are found within Roadless areas in Idaho.

**Dainty moonwort (*Botrychium lineare*)** - may occur within the proposed action area in montane forest or meadow habitats on all Forests. The only known population occurs at higher elevations on the Sawtooth National Forest, not within an IRA.

**Christ Indian paintbrush (*Castilleja christii*)** -is found only on the top of Mount Harrison, Cassia County on the Sawtooth NF. The species occurs within the Mt. Harrison Interpretive Area with portions of the population occurring within a Research Natural Area. Although portions of the population(s) fall within several IRAs, management of this species is guided by a Conservation Agreement recently renewed (2005) by the Sawtooth NF with the USFWS.

**Table 2. Global and State Status, Distribution, National Forest Distribution and Habitat Group for TES plant species within Roadless areas in the Intermountain Region (Boise, Sawtooth, Payette, Salmon-Challis, Caribou-Targhee NFs)**

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Distribu- tion <sup>3</sup>	National Forest Distribution	Habitat Group
<i>Spiranthes diluvialis</i>	Ute Ladies' tresses orchid	Threatened G2	S1	sd	Caribou	Riparian –wet meadows
<i>Castilleja christii</i>	Christ's Indian paintbrush	Candidate G1	S1	le	Sawtooth	Subalpine grassland
<i>Agoseris lackschewitzii</i>	Pink Agoseris	G4	S2	re	S-C, Targhee	Wet meadows
<i>Allium madidum</i>	Swamp onion	G3	S3	re	Payette	Riparian -vernally wet
<i>Allium tolmiei</i> var. <i>persimile</i>	Tolmie's onion	G4/T3	S3	le	Payette	Grassland, low elev.
<i>Allotropa virgata</i>	Candystick	G4	S3	d	Payette	Forest-understory
<i>Astragalus amnis-amissi</i>	Lost River milkvetch	G3	S3	re	S-C	Cracks and ledges on vertical cliffs
<i>Astragalus aquilonius</i>	Lemhi milkvetch	G3	S3	le	S-C	Rock-unstable slopes
<i>Astragalus vexilliflexus</i> var. <i>nubilus</i>	White Cloud milkvetch	G4/T2	S2	le	Sawtooth	Subalpine/alpine
<i>Calamagrostis tweedii</i>	Cascade reedgrass	G3	S2	re	Payette	Forest-open gap
<i>Chrysothamnus parryi</i> ssp. <i>montanus</i>	Centennial Rabbitbrush	G5T1	S1	re	Targhee	Talus slopes & soils
<i>Collomia debilis</i> var. <i>camporum</i>	Flexible alpine collomia	G5T2	S2	le	S-C	Talus slopes and soils
<i>Cymopterus davisii</i>	Davis' wavewing	G3	S3	le	Sawtooth	Subalpine, grassland
<i>Cymopterus douglassii</i>	Douglas' wavewing	G3	S3	le	S-C	Subalpine meadows
<i>Douglasia idahoensis</i>	Idaho Douglasia	G3	S2	re	Boise	Subalpine, open
<i>Draba globosa</i>	Pointed draba	G3	S2	d	Sawtooth	Alpine
<i>Halimolobos perplexa</i> var. <i>perplexa</i>	Puzzling Halimolobos	G4/T3	S3	le	Payette	Grassland, forest
<i>Haplopappus insecticruris</i>	Bugleg Goldenweed	G3	S3	le	Sawtooth	Shrubland
<i>Lesquerella paysonii</i>	Payson's bladderpod	G3	S2	p	C-T	Sparsely vegetated ridges & openings
<i>Mimulus clivicola</i>	Bank monkeyflower	G4	S3	re	Payette	Shrubland, forest gap
<i>Oxytropis besseyi</i> var.	Challis crazyweed	G5T3	S3	re	Salmon-	Sagebrush and

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Distribu- tion <sup>3</sup>	National Forest Distribution	Habitat Group
<i>salmonensis</i>					Challis	desert scrub
<i>Penstemon lemhiensis</i>	Lemhi Penstemon	G3	S3	re	S-C	Sagebrush and desert scrub
<i>Phacelia minutissima</i>	Least Phacelia	G3	S2	re	Sawtooth	Shrubland, woodland, riparian
<i>Poa abbreviata ssp. marshii</i>	Marsh's bluegrass	G5/T2	S1	re	Salmon- Challis	Alpine
<i>Rubus bartonianus</i>	Bartonberry	G2	S2	le	Payette	Riparian streamside
<i>Saxifraga bryophora var. tobiasiae</i>	Tobias' saxifrage	G5T2	S2	le	Payette	Subalpine
<i>Thelypodium repandum</i>	Wavy-leavef Thelypody	G3	S3	re	Salmon- Challis	Steep shale banks of volcanic origin; low elevation
<i>Thlaspi idahoense var. aileeniae</i>	Stanley Thlaspi	G3G4/T3	S3	le	Sawtooth	Decomposed granitic outcrops

**Global<sup>1</sup>** = Global ranking as assigned by Natural Heritage Program and Idaho Native Plant Society. **T** = USFWS threatened, **PT** = USFWS proposed threatened, **C** = USFWS candidate

**State<sup>2</sup>** = Idaho State ranking, Idaho Native Plant Society Rare Species list 2007

**Distribution<sup>3</sup>** = **d** = disjunct, **le** = local endemic (< 100 square miles), **re** = regional endemic (distribution 100-10,000), **sd** = sparsely distributed (isolated populations), **p** = peripheral, **w** = widespread, **cb** = circumboreal, circumpolar.

**Table 3. Global and State Status, Distribution, National Forest Distribution and Habitat Group for TES plant species within Roadless areas in the Idaho portion of the Northern Region (Idaho-Panhandle, Nez-Perce, Clearwater NFs)**

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Distribution <sub>3</sub>	National Forest Distribution <sup>4</sup>	Habitat Group
<i>Mirabilis macfarlanei</i>	MacFarlan's four- o'clock	<b>Threatened G2</b>	S2	re	Wallowa- Whitman	Grassland, steep slopes
<i>Astragalus paysonii</i>	Payson's milkvetch	G3	S3	re	NP	Forest-open gap
<i>Blechnum spicant</i>	Deer-fern	G5	S3	d	C, IP	Forest-understory
<i>Botrychium ascendens</i>	Triangular-lobed moonwort	G2G3	S1	sd	IP	Grasslands
<i>Botrychium lanceolatum var. lanceolatum</i>	Lance-leaved moonwort	G5T4	S3	w	C, IP, NP	Moist meadows
<i>Botrychium lineare</i>	Linear-leaved moonwort	G1	SH	sd	IP	Forest-understory, grasslands
<i>Botrychium minganense</i>	Mingan moonwort	G4	S3	w	C, IP	Forest-understory, shrublands
<i>Botrychium montanum</i>	Mountain moonwort	G3	S2	sd	IP	Forest-understory
<i>Botrychium pedunculatum</i>	Stalked moonwort	G2G3	S1	sd	IP	Forest-open gap
<i>Botrychium pinnatum</i>	Northern	G4?	S2	sd	NP	Forest-understory,

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Distribution <sub>3</sub>	National Forest Distribution <sup>4</sup>	Habitat Group
	moonwort					grasslands
<i>Buxbaumia viridis</i>	Green bug moss (moss)	G3G4	S3	cb	IP	Forest-understory
<i>Calochortus nitidus</i>	Broad-fruit mariposa	G3	S3	re	C, NP	Grasslands, Forest-open gap
<i>Cardamine constancei</i>	Constance's bittercress	G3	S3	re	C, IP, NP	Forest-understory
<i>Carex leptalea</i>	Bristle-stalked sedge	G5	S2	w	IP	Fens
<i>Cornus nuttallii</i>	Pacific dogwood	G5	S1	d	C, NP	Forest-understory, shrublands
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper	G4	S3	sd	C, IP, NP	Forest-understory
<i>Dasynotus daubenmirei</i>	Daubenmire's dasynotus	G3	S3	le	C, NP	Subalpine, open
<i>Douglasia idahoensis</i>	Idaho Douglasia	G3	S2	re	NP	Subalpine, open
<i>Drosera intermedia</i>	Spoon-leaved sundew	G5	S1	d	IP	Fens
<i>Dryopteris cristata</i>	Crested shield-fern	G5	S2	p	IP	Wet meadows, forested wetlands
<i>Epilobium palustre</i>	Swamp willow-weed	G5	S3	w	IP	Wet sites
<i>Gaultheria hispidula</i>	Creeping snowberry	G5	S2	p	IP	Fens
<i>Hookeria lucens</i>	Light hookeria (moss)	G5	S1	w	C	Forest-understory
<i>Hypericum majus</i>	Large Canadian St. John's-wort	G5	S3	w	IP	Wetlands
<i>Iris versicolor</i>	Blueflag	G5	S2	d	IP	Wetlands
<i>Lycopodiella inundata</i>	Northern bog clubmoss	G5	S2	p	IP	Fens
<i>Lycopodium dendroideum</i>	Groundpine	G5	S2	p	IP	Forest-understory
<i>Mimulus alsinoides</i>	Chickweed monkeyflower	G5	S1	d	C	Moist cliffs
<i>Mimulus ampliatus</i>	Spacious monkeyflower	G1	S1	sd	C, NP	Moist cliffs, wet sites
<i>Phegopteris connectilis</i>	Northern beechfern	G5	S2	p	IP	Forest-understory
<i>Polystichum braunii</i>	Braun's sword-fern	G5	S1	cb	IP	Forest-understory
<i>Rhizomnium nudum</i>	Naked mniium (moss)	G4	S1	d	C, IP	Forest-understory
<i>Salix pedicellaris</i>	Bog willow	G5	S2	p	IP	Fens
<i>Scheuchzeria palustris</i>	Pod grass	G5	S2	w	IP	Fens

Species Name	Common Name	Global <sup>1</sup>	State <sup>2</sup>	Distribution <sup>3</sup>	National Forest Distribution <sup>4</sup>	Habitat Group
<i>Schoenoplectus subterminalis</i>	Water clubrush	G4G5	S3	w	IP	Wetlands
<i>Streptopus streptopoides</i>	Krushea	G5	S2	p	IP	Forest-understory
<i>Synthyris platycarpa</i>	Evergreen kittentail	G3	S3	re	C, NP	Forest-understory
<i>Thelypteris nevadensis</i>	Sierra wood-fern	G4	S1	d	C	Moist forests, streambanks
<i>Trientalis arctica</i>	Northern starflower	G5T5	S3	p	IP	Fens
<i>Vaccinium oycoccos</i>	Bog cranberry	G5	S2	cb	IP	Fens
<i>Waldsteinia idahoensis</i>	Idaho strawberry	G3	S3	re	C, NP	Forest-understory

**Global<sup>1</sup>** = Global ranking as assigned by Natural Heritage Program and Idaho Native Plant Society. **T** = USFWS threatened, **PT** = USFWS proposed threatened, **C** = USFWS Candidate

**State<sup>2</sup>** = Idaho State ranking, Idaho Native Plant Society Rare Species list 2007

**Distribution<sup>3</sup>** = **d** = disjunct, **le** = local endemic (< 100 square miles), **re** = regional endemic (distribution 100-10,000 square miles), **sd** = sparsely distributed (isolated populations), **p** = peripheral, **w** = widespread, **cb** = circumboreal, circumpolar.

**National Forest Distribution<sup>4</sup>** = **C** = Clearwater, **IP** = Idaho Panhandle, **NP** = Nez Perce

**Habitat Guilds** - TECS Plant species are often characterized by high habitat and microsite affinity. Due to the large number of rare species within Idaho, TECS plants can be assigned to one or more rare plant guilds, groupings based on similar habitat characteristics and life history requirements that are useful for the purposes of this analysis. The groupings or habitat associations used for this analysis are: aquatic, riparian, fens, grasslands, wetlands & moist meadows, forest understory, shrublands & woodlands, subalpine meadows, alpine, and rock outcrops/talus slopes. Before any action alternative would be implemented, field surveys would be conducted in all areas slated for project activities that contain high potential suitable habitat.

**Table 4. TECS species within Roadless areas in Idaho - distribution by Habitat Guilds**

<b>RIPARIAN/FOREST STREAMBANKS</b>	<b>MOIST CLIFFS, SEEPS &amp; BANKS</b>
<i>Allium madidum</i>	<i>Mimulus alsinoides</i>
<i>Rubus bartonianus</i>	<i>Mimulus ampliatus</i>
<i>Spiranthes diluvialis</i>	
<i>Thelypteris nevadensis</i>	<b>WETLANDS &amp; MOIST MEADOWS</b>
	<i>Agoseris lackschewitzii</i>
<b>FENS &amp; FEN MARGINS</b>	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>
<i>Carex leptalea</i>	<i>Dryopteris cristata</i>
<i>Drosera intermedia</i>	<i>Epilobium palustris</i>
<i>Gaultheria hispidula</i>	<i>Hypericum majus</i>
<i>Lycopodiella inundada</i>	<i>Iris versicolor</i>
<i>Meesia longiseta</i>	<i>Schoenoplectus subterminalis</i>
<i>Salix pedicellaris</i>	

<i>Scheuchzeria palustris</i>	<b>FOREST UNDERSTORY &amp; GAPS</b>
<i>Trientalis arctica</i>	<i>Allotropa virgata</i>
<i>Vaccinium oycoccos</i>	<i>Astragalus paysonii</i>
	<i>Blechnum spicant</i>
<b>AQUATIC</b>	<i>Botrychium lineare</i>
<i>Howellia aquatica</i>	<i>Botrychium minganense</i>
	<i>Botrychium montanum</i>
<b>GRASSLANDS</b>	<i>Botrychium pedunculatum</i>
<i>Allium tolmiei</i> var. <i>persimile</i>	<i>Botrychium pinnatum</i>
<i>Botrychium ascendens</i>	<i>Buxbaumia viridis</i>
<i>Calochortus nitidus</i>	<i>Calamagrostis tweedii</i>
<i>Halimolobos perplexa</i> var. <i>perplexa</i>	<i>Cardamine constancei</i>
<i>Mirabilis Macfarlanei</i>	<i>Cornus nuttallii</i>
<i>Silene spaldingii</i>	<i>Cypripedium fasciculatum</i>
	<i>Hookeria lucens</i>
<b>SHRUBLANDS/WOODLANDS</b>	<i>Lycopodium dendroideum</i>
<i>Haplopappus insecticruris</i>	<i>Phegopteris connectilis</i>
<i>Mimulus clivicola</i>	<i>Polystichum braunii</i>
<i>Oxytropis besseyi</i> var. <i>salmonensis</i>	<i>Rhizomnium nudum</i>
<i>Penstemon lemhiensis</i>	<i>Streptopus streptopoides</i>
<i>Phacelia minutissima</i>	<i>Syntherisma platycarpa</i>
	<i>Waldsteinia idahoensis</i>
<b>SUBALPINE OPENINGS, MEADOWS &amp; GRASSLANDS</b>	
<i>Botrychium lineare</i>	<b>ALPINE</b>
<i>Castilleja christii</i>	<i>Astragalus vexilliflexus</i> var. <i>nubilis</i>
<i>Cymopterus davisii</i>	<i>Draba globosa</i>
<i>Cymopterus douglasii</i>	<i>Lesquerella paysonii</i>
<i>Dasynotus daubenmirei</i>	<i>Poa abbreviate</i> ssp. <i>marshii</i>
<i>Douglasia idahoensis</i>	
<i>Saxifraga bryophora</i> var. <i>tobiasiae</i>	
<b>CLIFFS, ROCKY OUTCROPS &amp; TALUS SLOPES</b>	
<i>Astragalus amnis-amissi</i>	<i>Collomia debilis</i> var. <i>camporum</i>
<i>Astragalus aquilonius</i>	<i>Thelypodium repandum</i>
<i>Chrysothamnus parryi</i> ssp. <i>montanus</i>	<i>Thlaspi idahoense</i> var. <i>ailenicae</i>

## Alternatives Discussion

### 2001 ROADLESS RULE –ALTERNATIVE 1

This Alternative provides the same permissions and prohibitions for all IRAs as guided by the 2001 Roadless Rule (2001 Rule). The purpose of the 2001 Rule was to ensure that inventoried roadless areas sustain their values for this and future generations.

This alternative prohibits road construction and reconstruction in inventoried roadless areas except for reasons other than timber cutting. There are seven exceptions that permit road construction and reconstruction (see Chapter 2 for a detailed description of the alternatives). The projected yearly average for road construction and reconstruction in IRAs under this alternative is 1 mile. This projected estimate is for road miles constructed (permanent and temporary) for activities permitted by the 2001 Rule under the 7 exceptions. This estimate is based on information provided from the forests in relation to previous levels of activities in the IRAs over the past 6 years and information projected forward over 5 years. There would be no roads constructed related to timber cutting. TECS plant species would be benefited by low amount of road construction/reconstruction under this alternative.

This Alternative prohibits timber cutting, sale, or removal except as provided in four exceptions. Of the three alternatives this one projects the least amount of timber cutting in IRAs (0.5 MMBF yearly average over approximately 100 acres). Alternatives 2 and 3 respectively project 32X and 8X more timber cutting than Alternative 1. With the added prohibition against non-stewardship timber cutting, this alternative presents a lower risk to TECS plant resources than Alternatives 2 and 3 of additional degradation or loss of habitat quality, quantity, and distribution resulting from timber cutting.

Alternative 1 does not address mineral resources except to limit road construction and reconstruction to reserved or outstanding rights, or as provided for by statute or treaty; or for the continuation, extension, or renewal of a mineral lease.

By restricting timber harvest to activities necessary for resource stewardship, many of the adverse effects of timber harvest would be minimized, while maintaining a management tool potentially needed for ecological restoration. Projected timber volume under this alternative is 0.5 MMBF per year which would be the result of timber cutting for stewardship and not commercial product. This estimate is based on information provided from the forests in relation to previous levels of activities in the IRAs over the past 6 years and information projected forward over 5 years. Mechanical vegetation manipulation to reduce fuel loading may be desirable in some areas where there is an abnormally high risk of high intensity, large-scale fires. Fuels reduction stewardship activities may be beneficial to some sensitive plant populations if impacts to their habitats are not excessive or permanent. Other types of stewardship timber harvest to meet objectives for watershed restoration and enhancement of riparian vegetation could benefit species such as Ute Ladies' tresses orchid.

It is likely that fuel reduction activities in most inventoried roadless areas would not receive a strong emphasis. The priorities for fuels treatments would likely remain in areas where there is a risk to life and property. With the possible exception of some local site-specific examples, the prohibitions on road construction, road reconstruction and most timber harvest activities are not likely to affect the overall amount or severity of wildfires. As a result, the effects of wildfires on TECS plant species are likely to be similar with or without the prohibitions. This alternative would not measurably affect the current ability of the Agency to manage TECS plant populations or their habitat.

### **Summary of Effects –**

No adverse environmental effects to TECS plant species or their habitats would be expected from this alternative, since it does not directly authorize any ground disturbing activities. Ground disturbing activities allowed under this alternative include very limited road construction/reconstruction and very limited timber cutting across the entire 9.3 million acres of IRAs. Overall, the effects on biodiversity would be beneficial. This Agency and other government agencies with jurisdictional responsibilities would retain the tools necessary to manage these resources.

### **T&E species determination for Alternative 1 –**

May affect, but is not likely to adversely affect *Spiranthes diluvialis* or *Mirabilis Macfarlanei* populations or their habitat, or potential habitat for *Howellia aquatilis* and *Silene spaldingii*. Furthermore, Alternative 1 may beneficially affect these species.

### **Sensitive species determination for Alternative 1 –**

May impact individuals, but is not likely to cause a trend towards Federal listing or a loss of viability for any sensitive species. Furthermore, Alternative 1 may beneficially affect sensitive species and their habitat.

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## **EXISTING FOREST PLANS – ALTERNATIVE 2**

Alternative 2 would have the greatest potential for impacts to TECS plant species through direct mortality, habitat loss, degradation, and disturbance associated with roads, timber harvest, discretionary mining, and other activities. Approximately 83% of the 9.3 million acres of inventoried roadless areas are included in land-management plan prescriptions (does not include recommended wilderness or special areas) that would allow road construction, road reconstruction, and timber harvest. Projected road construction and reconstruction in IRAs under this alternative is 14 miles per year. This estimate includes both permanent and temporary roads for timber cutting and non-timber related activities. The projected timber harvest offer of 14 MMBF is estimated to occur annually on 2,800 acres. About 500 Element Occurrences (EO's) are known to occur in management prescriptions similar to the Backcountry theme (table 5). About 1,262,400 acres are in prescriptions similar to the General Forest theme, where road

construction / reconstruction and timber cutting are allowed; about 100 Element Occurrences (EO's) are known to occur within GFRG (table 5).

Due to the higher level of allowed ground disturbing activities, Alternative 2 would most likely fragment TECS populations and habitat, disrupt plant-pollinator interactions, and provide corridors for non-native species invasion of the three alternatives analyzed.

**Table 5. Overlap of known sensitive plant Element Occurrences (EO's) with themes under Existing Plans**

Idaho Roadless Area	Scientific name	Common name	Number of occurrences					Total
			WLR*	Primitive	BCR	GFRG	FP5A	
Beetop	<i>Polystichum braunii</i>	Braun's sword-fern	0	0	1	0	0	1
Bernard	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	0	5	0	0	5
Big Canyon Idaho	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	4	0	0	4
Big Creek	<i>Cardamine constancei</i>	Constance's bittercress	0	1	3	0	0	4
Bighorn-Weitas	<i>Cardamine constancei</i>	Constance's bittercress	0	6	1	0	0	7
Blacktail Mountain #122	<i>Blechnum spicant</i>	Deer-fern	0	0	0	0	1	1
Blacktail Mountain #122	<i>Gaultheria hispidula</i>	Creeping snowberry	0	0	0	0	1	1
Blacktail Mountain #122	<i>Lycopodiella inundata</i>	Northern bog clubmoss	0	0	0	0	1	1
Blacktail Mountain #122	<i>Scheuchzeria palustris</i>	Pod grass	0	0	0	0	1	1
Blacktail Mountain #122	<i>Schoenoplectus subterminalis</i>	Water clubrush	0	0	0	0	1	1
Blacktail Mountain #122	<i>Vaccinium oxycoccos</i>	Bog cranberry	0	0	0	0	1	1
Blacktail Mountain #161	<i>Hypericum majus</i>	Large Canadian St John's-wort	0	0	0	1	0	1
Borah Peak	<i>Astragalus amnis-amissi</i>	Lost River milkvetch	0	0	6	0	0	6
Borah Peak	<i>Cymopterus douglassii</i>	Douglass' wavewing	11	0	0	0	3	14
Borah Peak	<i>Poa abbreviata ssp. marshii</i>	Marsh's bluegrass	1	0	0	0	0	1
Boulder-White Clouds	<i>Astragalus vexilliflexus var. nubilus</i>	White Clouds milkvetch	16	0	17	0	1	34
Boulder-White Clouds	<i>Draba globosa</i>	Pointed draba	3	0	0	0	0	3
Boulder-White Clouds	<i>Thelypodium repandum</i>	Wavy-leaf thelypody	0	1	0	0	0	1
Cache Peak	<i>Cymopterus davisii</i>	Davis' wavewing	0	0	1	0	0	1
Camas Creek	<i>Collomia debilis var. camporum</i>	Flexible alpine collomia	0	0	0	1	0	1
Caribou City	<i>Lesquerella paysonii</i>	Payson's bladderpod	0	0	0	0	1	1
Continental	<i>Botrychium</i>	Lance-leaved	0	0	1	0	0	1

Idaho Roadless Area	Scientific name	Common name	----- Number of occurrences -----						Total
			WLR*	Primitive	BCR	GFRG	FPSA		
Mountain	<i>lanceolatum</i> var. <i>lanceolatum</i>	moonwort							
Continental Mountain	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1	
Cottontail Point/ Pilot Peak	<i>Allotropa virgata</i>	Candystick	0	0	21	0	0	21	
Cottontail Point/ Pilot Peak	<i>Calamagrostis tweedyi</i>	Cascade reedgrass	0	5	6	0	0	11	
Council Mountain	<i>Allium madidum</i>	Swamp onion	0	13	0	0	0	13	
Council Mountain	<i>Mimulus clivicola</i>	Bank monkeyflower	0	13	0	0	0	13	
Cuddy Mountain	<i>Allium tolmiei</i> var. <i>persimile</i>	Tolmie's onion	0	0	0	0	1	1	
Cuddy Mountain	<i>Mimulus clivicola</i>	Bank monkeyflower	0	0	0	1	0	1	
Diamond Peak	<i>Astragalus amnis-amissi</i>	Lost River milkvetch	0	0	1	0	1	2	
Diamond Peak	<i>Astragalus aquilonius</i>	Lemhi milkvetch	0	0	0	0	1	1	
Diamond Peak	<i>Poa abbreviata</i> ssp. <i>marshii</i>	Marsh's bluegrass	1	0	0	0	0	1	
Dixie Summit- Nut Hill	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	1	0	0	1	
Duck Peak	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1	
East Meadow Creek	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	4	0	0	0	4	
Eldorado Creek	<i>Botrychium minganense</i>	Mingan moonwort	0	0	0	1	0	1	
French Creek	<i>Saxifraga bryophora</i> var. <i>tobiasiae</i>	Tobias' saxifrage	0	16	8	0	1	25	
Garfield Mountain	<i>Chrysothamnus parryi</i> ssp. <i>montanus</i>	Centennial rabbitbrush	0	7	0	4	0	11	
Gibson	<i>Penstemon compactus</i>	Compact penstemon	0	0	2	0	0	2	
Goat Mountain	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	2	0	2	
Gospel Hump	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	3	9	0	12	
Hanson Lakes	<i>Thlaspi idahoense</i> var. <i>aileeniae</i>	Stanley thlaspi	0	0	1	0	0	1	
Hells Canyon/ 7 Devils Scenic	<i>Rubus bartonianus</i>	Bartonberry	0	2	0	0	0	2	
Hoodoo	<i>Botrychium minganense</i>	Mingan moonwort	0	0	10	0	0	10	
Hoodoo	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	2	0	0	2	
Hoodoo	<i>Waldsteinia idahoensis</i>	Idaho strawberry	1	0	0	0	0	1	
Indian Creek	<i>Mimulus clivicola</i>	Bank monkeyflower	0	1	0	0	0	1	
Italian Peak	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	2	0	2	
Jesse Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	3	0	3	

Idaho Roadless Area	Scientific name	Common name	Number of occurrences						Total
			WLR*	Primitive	BCR	GFRG	FPSA		
Jureano	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1	
Katka Peak	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1	
Klopton Creek – Corral Creek	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	3	0	0	3	
Klopton Creek – Corral Creek	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	2	0	0	2	
Lemhi Range	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	5	0	0	5	
Lick Point	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	27	3	0	30	
Lick Point	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	7	0	0	7	
Lime Creek	<i>Phacelia minutissima</i>	Small phacelia	0	1	0	0	0	1	
Lionhead	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	0	0	1	1	
Little Grass Mountain	<i>Carex leptalea</i>	Bristle-stalked Sedge	0	0	3	0	0	3	
Little Grass Mountain	<i>Salix pedicellaris</i>	Bog willow	0	0	1	0	0	1	
Lochsa Face	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1	
Lochsa Face	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	1	0	0	1	
Lochsa Face	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	3	0	0	0	3	
Lochsa Face	<i>Waldsteinia idahoensis</i>	Idaho strawberry	0	0	0	0	1	1	
Long Tom	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	1	0	0	1	2	
Mallard	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	7	2	0	9	
Mallard Larkins	<i>Blechnum spicant</i>	Deer-fern	2	0	2	0	1	5	
Mallard Larkins	<i>Mimulus alsinoides</i>	Chickweed monkeyflower	0	0	2	0	0	2	
Mallard Larkins	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	8	2	14	0	24	
Mallard Larkins	<i>Thelypteris nevadensis</i>	Sierra wood-fern	1	0	3	0	0	4	
Mallard-Larkins	<i>Cardamine constancei</i>	Constance's bittercress	5	4	18	0	0	27	
Mallard-Larkins	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	4	3	10	1	1	19	
Mount Harrison	<i>Castilleja christii</i>	Christ's Indian paintbrush	0	0	0	2	0	2	
Mount Harrison	<i>Cymopterus davisii</i>	Davis' wavewing	0	0	0	0	1	1	
Mount Naomi	<i>Penstemon compactus</i>	Compact penstemon	5	0	1	0	0	6	
Mt Jefferson	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	1	0	0	1	

Idaho Roadless Area	Scientific name	Common name	Number of occurrences						Total
			WLR*	Primitive	BCR	GFRG	FPSA		
Mt. Willard Lake Estelle	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1	
Mt. Willard-Lake Estelle	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	4	0	0	4	
Mt. Willard-Lake Estelle	<i>Botrychium pinnatum</i>	Northern moonwort	0	0	2	0	0	2	
Needles	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	12	6	0	0	18	
North Fork	<i>Botrychium minganense</i>	Mingan moonwort	0	0	4	0	0	4	
North Fork	<i>Cypripedium fasciculatum</i>	Clustered Lady's slipper	0	5	0	0	1	6	
North Fork Slate Creek	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	2	12	0	14	
North Lochsa Slope	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	0	0	1	1	
North Lochsa Slope	<i>Cardamine constancei</i>	Constance's bittercress	0	0	0	0	1	1	
North Lochsa Slope	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	11	0	26	37	
North Lochsa Slope	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	10	1	9	20	
North Lochsa Slope	<i>Dasynotus daubenmirei</i>	Daubenmire's dasynotus	0	0	1	0	0	1	
North Lochsa Slope	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	1	0	0	1	
O'Hara-Falls Creek	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	1	0	0	1	
O'Hara- Falls Creek	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	0	1	0	1	
O'Hara-Falls Creek	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	1	0	3	4	
O'Hara-Falls Creek	<i>Cardamine constancei</i>	Constance's bittercress	0	0	6	0	33	39	
O'Hara-Falls Creek	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	6	0	8	14	
Palisades	<i>Lesquerella paysonii</i>	Payson's bladderpod	6	0	1	0	0	7	
Patrick Butte	<i>Halimolobos perplexa</i> var. <i>perplexa</i>	Puzzling halimolobos	0	6	0	0	1	7	
Patrick Butte	<i>Saxifraga bryophora</i> var. <i>tobiasiae</i>	Tobias' saxifrage	0	8	0	0	0	8	
Peace Rock	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	11	6	0	0	17	
Perreau Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	1	0	1	
Pot Mountain	<i>Blechnum spicant</i>	Deer-fern	0	0	2	0	0	2	
Pot Mountain	<i>Cardamine constancei</i>	Constance's bittercress	0	1	6	0	0	7	
Pot Mountain	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	11	0	0	11	

Idaho Roadless Area	Scientific name	Common name	Number of occurrences					Total
			WLR*	Primitive	BCR	GFRG	FPSA	
Pot Mountain	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	1	0	0	1
Pot Mountain	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	1	0	0	1
Rackliff-Gedney	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	2	0	0	2
Rackliff-Gedney	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved Moonwort	0	0	1	0	0	1
Rackliff-Gedney	<i>Botrychium pinnatum</i>	Northern moonwort	0	0	1	0	0	1
Rackliff-Gedney	<i>Cardamine constancei</i>	Constance's bittercress	0	0	11	0	9	20
Rackliff-Gedney	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	10	0	59	69
Rackliff-Gedney	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	5	0	6	11
Rackliff-Gedney	<i>Dasynotus daubenmirei</i>	Daubenmire's dasynotus	0	0	1	0	0	1
Rackliff-Gedney	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	3	9	0	0	12
Railroad Ridge	<i>Astragalus vexilliflexus</i> var. <i>nubilus</i>	White clouds milkvetch	0	0	11	0	0	11
Rapid River	<i>Halimolobos perplexa</i> var. <i>perplexa</i>	Puzzling halimolobos	0	1	19	0	14	34
Red Hill	<i>Astragalus aquilonius</i>	Lemhi milkvetch	0	0	1	0	0	1
Red Hill	<i>Oxytropis besseyi</i> var. <i>salmonensis</i>	Challis crazyweed	0	0	1	0	0	1
Red Hill	<i>Thelypodium repandum</i>	Wavy-leaf thelypody	0	0	2	0	0	2
Saddle Mountain	<i>Streptopus streptopoides</i>	Krushea	0	0	40	0	0	40
Salmo Priest	<i>Epilobium palustre</i>	Swamp willow-weed	0	0	0	0	1	1
Salmo Priest	<i>Polystichum braunii</i>	Braun's Sword-fern	0	0	0	0	1	1
Salmo Priest	<i>Streptopus streptopoides</i>	Krushea	1	0	0	0	1	2
Secesh	<i>Allotropa virgata</i>	Candystick	1	0	1	0	0	2
Secesh	<i>Halimolobos perplexa</i> var. <i>perplexa</i>	Puzzling halimolobos	0	0	1	0	0	1
Secesh	<i>Saxifraga bryophora</i> var. <i>tobiasiae</i>	Tobias' saxifrage	0	4	7	0	0	11
Selkirk	<i>Drosera intermedia</i>	Spoon-leaved sundew	0	0	0	0	1	1
Selkirk	<i>Streptopus streptopoides</i>	Krushea	1	2	1	0	0	4
Selkirk	<i>Trientalis arctica</i>	Northern starflower	1	0	0	0	1	2
Sheep Mountain – State Line	<i>Botrychium ascendens</i>	Triangular-lobed moonwort	0	0	0	1	0	1

Idaho Roadless Area	Scientific name	Common name	Number of occurrences						Total
			WLR*	Primitive	BCR	GFRG	FPSA		
Sheep Mountain – State Line	<i>Botrychium minganense</i>	Mingan moonwort	0	0	0	4	0	4	
Sheep Mountain – State Line	<i>Botrychium montanum</i>	Mountain moonwort	0	0	0	1	0	1	
Sheepeatter	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	0	5	5	
Silver Creek Pilot Knob	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	1	0	0	0	1	
Siwash	<i>Cardamine constancei</i>	Constance's bittercress	0	0	4	0	0	4	
Smoky Mountains	<i>Haplopappus insecticruris</i>	Bugleg goldenweed	0	0	0	0	1	1	
Steel Mountain	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	12	0	0	0	12	
Stony Meadows	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	3	3	0	0	6	
Ten Mile/ Black Warrior	<i>Douglasia idahoensis</i>	Idaho Douglasia	67	6	0	0	0	73	
Trestle Peak	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	1	0	0	1	
Upper Priest	<i>Blechnum spicant</i>	Deer-fern	0	0	1	0	0	1	
Upper Priest	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	1	4	2	7	
Upper Priest	<i>Botrychium lineare</i>	Narrowleaf grapefern	0	0	0	0	1	1	
Upper Priest	<i>Botrychium minganense</i>	Mingan moonwort	0	0	2	1	4	7	
Upper Priest	<i>Botrychium montanum</i>	Mountain moonwort	0	0	0	0	1	1	
Upper Priest	<i>Botrychium pedunculosum</i>	Stalked moonwort	0	0	0	0	1	1	
Upper Priest	<i>Carex leptalea</i>	Bristle-stalked sedge	0	0	0	1	0	1	
Upper Priest	<i>Dryopteris cristata</i>	Crested Sheild-fern	0	0	0	4	0	4	
Upper Priest	<i>Epilobium palustre</i>	Swamp willow-weed	0	0	0	1	0	1	
Upper Priest	<i>Gaultheria hispidula</i>	Creeping snowberry	0	0	0	3	0	3	
Upper Priest	<i>Iris versicolor</i>	Blueflag	0	0	0	0	1	1	
Upper Priest	<i>Lycopodium dendroideum</i>	Groundpine	0	0	0	0	5	5	
Upper Priest	<i>Phegopteris connectilis</i>	Northern beechfern	0	0	0	0	9	9	
Upper Priest	<i>Polystichum braunii</i>	Braun's sword-fern	0	0	0	0	28	28	
Upper Priest	<i>Salix pedicellaris</i>	Bog willow	0	0	0	1	0	1	
Upper Priest	<i>Streptopus streptopoides</i>	Krushea	0	0	23	0	5	28	
Upper Priest	<i>Trientalis arctica</i>	Northern starflower	0	0	0	1	3	4	

Idaho Roadless Area	Scientific name	Common name	----- Number of occurrences -----					
			WLR*	Primitive	BCR	GFRG	FPSA	Total
Upper Priest	<i>Vaccinium oxycoccos</i>	Bog cranberry	0	0	0	1	0	1
West Big Hole	<i>Collomia debilis</i> var. <i>camporum</i>	Flexible alpine collomia	0	2	1	0	1	4
West Big Hole	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1
West Meadow Creek	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	3	0	0	3
West Meadow Creek	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	1	0	0	1
West Meadow Creek	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	71	0	1	72
West Panther Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	8	0	0	8
Worm Creek	<i>Penstemon compactus</i>	Compact penstemon	0	0	1	0	0	1
<b>Totals</b>			<b>127</b>	<b>166</b>	<b>523</b>	<b>84</b>	<b>265</b>	<b>1165</b>

WLR – Wild Land Recreation

BCR – Backcountry/Restoration

GFRG – General Forest, Rangeland and Grassland

FPSA – Forest Plan Special Areas

### **Summary of Effects –**

With the projected trend that roaded entry and timber harvest will highest under this alternative, and given the numerous negative direct, indirect, and cumulative effects identified in the literature associated with these activities, Alternative 2 has the greatest potential for increased risk of adverse effects to TEPCS plant species and habitat, relative to Alternatives 1 and 3.

The Caribou Forest Plan permits leasing of the estimated 6,500 acres of known unleased phosphate deposits and/or other possible roadless areas that contain undiscovered phosphate resources. These known unleased phosphate deposits occur in six roadless areas (Dry Ridge, Huckleberry Basin, Meade Peak, Sage Creek, Schmid Peak, and Stump Creek) and would likely be developed over an extended period of time (50 years or more). In addition, there are 6,900 acres of unleased phosphate deposits on the Targhee portion of the forest within the Bald Mountain, Bear Creek and Poker Creek roadless areas. An environmental analysis would have to be completed to determine how much of the 6,900 acres could actually be leased. There is a potential risk to sensitive plant species habitat on these 13,400 when and if this development occurs. Site-specific analysis would occur prior to any future leasing and mitigations applied.

Existing Plans may allow road construction/reconstruction for geothermal development in Backcountry and GFRG. It is unknown where and to what degree geothermal resources would be developed; however, because about half the Idaho Roadless Areas in these themes have high to moderate potential it is likely some development would eventually occur. Currently lease applications have been submitted for geothermal exploration within 7,000 acres of the Peace Rock Roadless Area on the Boise National Forest and 33 acres of the West Panther Roadless Area on the Salmon National Forest. If fully developed, roads, transmission lines, and other facilities would likely be constructed (see appendix I for a description of general development of geothermal resources). Plant resources such as TCS would be considered during site-specific analysis, and mitigations would be applied.

### **T&E species determination for Alternative 2 –**

Implementation of Alternative 2 is not likely to have any additional effects beyond what has already been consulted on for the Forest Plans.

### **Sensitive species determination for Alternative 2 –**

May impact individuals, but is not likely to cause a trend towards Federal listing or a loss of viability for any sensitive species.

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## IDAHO ROADLESS PETITION – ALTERNATIVE 3 (PROPOSED ACTION)

Building upon each forest's existing or proposed Forest Plan, the Idaho Roadless Petition categorizes individual IRAs into five broad management themes. The petition addresses activities related to road construction/reconstruction, timber cutting, sale, and removal, and discretionary mineral materials and where and when such activities are precluded or permitted. As in the Roadless Rule, road construction/reconstruction and timber cutting activities are identified as having the greatest likelihood of altering landscapes, and so causing immediate changes in roadless area values and characteristics. The Petition also addresses discretionary mineral materials because of their potential association with roads and their potential effects on roadless characteristics. The Petition does not address grazing, travel management, or wildland fire use. Management direction related to those activities would be regulated by existing analysis processes (for example, travel planning). The five theme areas are:

*Backcountry/Restoration (BCR)* - the intent of this management theme's direction is to provide a variety of recreation opportunities and ensure flexibility to maintain forest health, preserve biological strongholds for TECS species, and protect the ecological integrity of the areas. As in the 2001 Roadless Rule, it would allow timber cutting, sale, or removal as long as it maintains roadless characteristics and is done for the benefit of TECS species, maintain or restore ecosystem structure/composition, and reduce significant wildfire effects. Road construction and reconstruction are allowed under the similar provisions as in 2001 Roadless Rule (see Chapter 2).

*General Forest, Rangeland and Grassland (GFRG)* - These areas include locations that may show high levels of human use including roads, facilities, mineral exploration/extraction, grazing and evidence of tree cutting. These areas encompass a broad range of vegetative types and include forest, grassland, and rangeland or a combination thereof. General forest areas will be managed to provide a variety of goods and services, broad range of recreational opportunities, and also to ensure the adequate flexibility to maintain forest, rangeland and grassland health. However, these areas are likely to still retain some of their roadless qualities. Road construction/reconstruction and timber cutting is allowed. There would be no constraints on mineral activities except as addressed in existing or proposed plans.

*Primitive* - These areas are generally of the primitive character and provide primitive recreation opportunities. There is minimal evidence of historical or human use; they appear natural and undisturbed. The intent of the management theme's direction is to manage these areas to protect and maintain both the primitive character and accompanying primitive recreation opportunities. Approximately 1,656,300 acres have been identified as primitive. Timber cutting, sale, or removal is prohibited except for personal or administrative use; or where incidental to other management actions (trail clearing); or unless existing roads or aerial systems are used and the activity is needed improve TECS species habitat or to reduce significant fire risk. Road construction/reconstruction is prohibited except if it is provided for by statute or treaty.

The Forest Service will not recommend, authorize, or consent to road construction/reconstruction associated with new mineral leases, or authorize surface occupancy except those permitted pursuant to the Geothermal Steam Act. The sale of common variety minerals is prohibited.

*Special Areas of Historic and Tribal Significance (SAHTS)*- these area are managed to be realitively undisturbed by human management activities in order to maintain their unique Tribal or historic characteristics. SAHTS would be managed in a manner similar to the Primitive theme.

*Wild Land Recreation (WLR)*- In these Wild Land recreation areas natural processes are predominant and show little evidence of historical or human use. These areas have been recommended as wilderness in current or proposed Forest Plans. The intent of the management theme's direction is to manage these areas to protect the wilderness characteristics and primitive recreation opportunities if and until Congress exercises its authority pursuant to the Wilderness Act to formally designate the area "Wilderness." Approximately 1, 378,600 acres have been identified as wild land recreation areas. Timber cutting, sale, or removal is prohibited except for personal or administrative use. Road construction/reconstruction is prohibited except if it is provided for by statue or treaty; or it is needed pursuant to reserved or outstanding rights.

Discretionary mineral activities: the Forest Service will not recommend, authorize, or consent to surface occupancy, or road construction/reconstruction associated with new mineral leases. The sale of common variety minerals is also prohibited.

*Forest Plan Special Areas (FPSA)*- These include special area designations under existing or proposed plans such as Research Natural Areas, recommended or designated Wild and Scenic Rivers, Geological Special Interest Areas. These areas will be managed according to existing or proposed forest plan direction, or specific direction provided by Congress.

**Table 6. Overlap of known sensitive plant Element Occurrences (EO's) with themes under the Idaho Roadless Rule**

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Beetop	<i>Polystichum braunii</i>	Braun's sword-fern	0	0	1	0	0	1
Bernard	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	0	5	0	0	5
Big Canyon Idaho	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	4	0	0	4
Big Creek	<i>Cardamine constancei</i>	Constance's bittercress	0	0	4	0	0	4
Bighorn-Weitas	<i>Cardamine constancei</i>	Constance's bittercress	0	0	7	0	0	7
Blacktail Mountain #122	<i>Blechnum spicant</i>	Deer-fern	0	0	0	0	1	1
Blacktail Mountain #122	<i>Gaultheria hispidula</i>	Creeping snowberry	0	0	0	0	1	1
Blacktail	<i>Lycopodiella inundata</i>	Northern bog clubmoss	0	0	0	0	1	1

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Mountain #122								
Blacktail Mountain #122	<i>Scheuchzeria palustris</i>	Pod grass	0	0	0	0	1	1
Blacktail Mountain #122	<i>Schoenoplectus subterminalis</i>	Water clubrush	0	0	0	0	1	1
Blacktail Mountain #122	<i>Vaccinium oxycoccos</i>	Bog cranberry	0	0	0	0	1	1
Blacktail Mountain #161	<i>Hypericum majus</i>	Large Canadian St John's-wort	0	0	1	0	0	1
Borah Peak	<i>Astragalus amnis-amissi</i>	Lost river milkvetch	0	0	6	0	0	6
Borah Peak	<i>Cymopterus douglassii</i>	Douglass' wavewing	11	0	0	0	3	14
Borah Peak	<i>Poa abbreviata ssp. marshii</i>	Marsh's bluegrass	1	0	0	0	S	1
Boulder-White Clouds	<i>Astragalus vexilliflexus var. nubilus</i>	White clouds milkvetch	16	0	17	0	1	34
Boulder-White Clouds	<i>Draba globosa</i>	Pointed draba	3	0	0	0	0	3
Boulder-White Clouds	<i>Thelypodium repandum</i>	Wavy-leaf thelypody	1	0	0	0	0	1
Cache Peak	<i>Cymopterus davisii</i>	Davis' wavewing	0	0	1	0	0	1
Camas Creek	<i>Collomia debilis var. camporum</i>	Flexible alpine collomia	0	0	1	0	0	1
Caribou City	<i>Lesquerella paysonii</i>	Payson's bladderpod	0	0	0	0	1	1
Continental Mountain	<i>Botrychium lanceolatum var. lanceolatum</i>	Lance-leaved moonwort	0	0	1	0	0	1
Continental Mountain	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1
Cottontail Point/Pilot Peak	<i>Allotropa virgata</i>	Candystick	0	0	21	0	0	21
Cottontail Point/Pilot Peak	<i>Calamagrostis tweedyi</i>	Cascade reedgrass	0	5	6	0	0	11
Council Mountain	<i>Allium madidum</i>	Swamp onion	0	13	0	0	0	13
Council Mountain	<i>Mimulus clivicola</i>	Bank monkeyflower	0	13	0	0	0	13
Cuddy Mountain	<i>Allium tolmiei var. persimile</i>	Tolmie's onion	0	0	0	0	1	1
Cuddy Mountain	<i>Mimulus clivicola</i>	Bank monkeyflower	0	0	0	1	0	1
Diamond Peak	<i>Astragalus amnis-amissi</i>	Lost river milkvetch	0	0	1	0	1	2
Diamond Peak	<i>Astragalus aquilonius</i>	Lemhi milkvetch	0	0	0	0	1	1
Diamond Peak	<i>Poa abbreviata ssp. marshii</i>	Marsh's bluegrass	1	0	0	0	0	1
Dixie Summit-Nut Hill	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	1	0	0	1
Duck Peak	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1
East Meadow Creek	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	4	0	0	0	4

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Eldorado Creek	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1
French Creek	<i>Saxifraga bryophora</i> <i>var. tobiasiae</i>	Tobias' saxifrage	0	16	8	0	1	25
Garfield Mountain	<i>Chrysothamnus parryi</i> <i>ssp. montanus</i>	Centennial rabbitbrush	0	7	0	4	0	11
Gibson	<i>Penstemon compactus</i>	Compact penstemon	0	0	2	0	0	2
Goat Mountain	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	2	0	0	2
Gospel Hump	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	12	0	0	12
Hanson Lakes	<i>Thlaspi idahoense</i> <i>var.</i> <i>aileeniae</i>	Stanley thlaspi	0	0	1	0	0	1
Hells Canyon/ 7 Devils Scenic	<i>Rubus bartonianus</i>	Bartonberry	0	2	0	0	0	2
Hoodoo	<i>Botrychium minganense</i>	Mingan moonwort	10	0	0	0	0	10
Hoodoo	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	2	0	0	0	0	2
Hoodoo	<i>Waldsteinia idahoensis</i>	Idaho strawberry	1	0	0	0	0	1
Indian Creek	<i>Mimulus clivicola</i>	Bank monkeyflower	0	1	0	0	0	1
Italian Peak	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	2	0	0	2
Jesse Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	3	0	0	3
Jureano	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1
Katka Peak	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1
Klopton Creek – Corral Creek	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	3	0	0	3
Klopton Creek – Corral Creek	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	2	0	0	2
Lemhi Range	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	5	0	0	5
Lick Point	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	30	0	0	30
Lick Point	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	7	0	0	7
Lime Creek	<i>Phacelia minutissima</i>	Small phacelia	0	1	0	0	0	1
Lionhead	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	0	0	1	1
Little Grass Mountain	<i>Carex leptalea</i>	Bristle-stalked sedge	0	0	3	0	0	3
Little Grass Mountain	<i>Salix pedicellaris</i>	Bog willow	0	0	1	0	0	1
Lochsa Face	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1
Lochsa Face	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	1	0	0	1
Lochsa Face	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	3	0	0	0	3
Lochsa Face	<i>Waldsteinia idahoensis</i>	Idaho strawberry	0	0	0	0	1	1
Long Tom	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	1	2
Mallard	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	9	0	0	9
Mallard Larkins	<i>Blechnum spicant</i>	Deer-fern	2	0	2	0	1	5

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Mallard Larkins	<i>Mimulus alsinoides</i>	Chickweed monkeyflower	0	0	2	0	0	2
Mallard Larkins	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	24	0	0	24
Mallard Larkins	<i>Thelypteris nevadensis</i>	Sierra Wood-fern	1	0	3	0	0	4
Mallard-Larkins	<i>Cardamine constancei</i>	Constance's bittercress	5	0	22	0	0	27
Mallard-Larkins	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	4	0	14	0	1	19
Mount Harrison	<i>Castilleja christii</i>	Christ's Indian paintbrush	0	0	0	2	0	2
Mount Harrison	<i>Cymopterus davisii</i>	Davis' wavewing	0	0	0	0	1	1
Mount Naomi	<i>Penstemon compactus</i>	Compact penstemon	5	0	1	0	0	6
Mt Jefferson	<i>Agoseris lackschewitzii</i>	Pink agoseris	0	0	1	0	0	1
Mt. Willard Lake Estelle	<i>Botrychium minganense</i>	Mingan moonwort	0	0	1	0	0	1
Mt. Willard-Lake Estelle	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	4	0	0	4
Mt. Willard-Lake Estelle	<i>Botrychium pinnatum</i>	Northern moonwort	0	0	2	0	0	2
Needles	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	12	6	0	0	18
North Fork	<i>Botrychium minganense</i>	Mingan moonwort	0	0	4	0	0	4
North Fork	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	5	0	1	6
North Fork Slate Creek	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	14	0	0	14
North Lochsa Slope	<i>Calochortus nitidus</i>	Broad-fruit mariposa	0	0	0	0	1	1
North Lochsa Slope	<i>Cardamine constancei</i>	Constance's bittercress	0	0	0	0	1	1
North Lochsa Slope	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	11	0	26	37
North Lochsa Slope	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	11	0	9	20
North Lochsa Slope	<i>Dasynotus daubenmirei</i>	Daubenmire's dasynotus	0	0	1	0	0	1
North Lochsa Slope	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	1	0	0	1
O'Hara-Falls Creek	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	1	0	0	1
O'Hara- Falls Creek	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	1	0	0	1
O'Hara-Falls Creek	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	1	0	3	4
O'Hara-Falls Creek	<i>Cardamine constancei</i>	Constance's bittercress	0	0	6	0	33	39
O'Hara-Falls Creek	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	6	0	8	14
Palisades	<i>Lesquerella paysonii</i>	Payson's bladderpod	6	0	1	0	0	7
Patrick Butte	<i>Halimolobos perplexa</i> var. <i>perplexa</i>	Puzzling halimolobos	0	6	0	0	1	7

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Patrick Butte	<i>Saxifraga bryophora</i> <i>var. tobiasiae</i>	Tobias' saxifrage	0	8	0	0	0	8
Peace Rock	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	11	6	0	0	17
Perreau Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	1	0	1
Pot Mountain	<i>Blechnum spicant</i>	Deer-fern	0	0	2	0	0	2
Pot Mountain	<i>Cardamine constancei</i>	Constance's bittercress	0	0	7	0	0	7
Pot Mountain	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	11	0	0	11
Pot Mountain	<i>Mimulus ampliatus</i>	Spacious monkeyflower	0	0	1	0	0	1
Pot Mountain	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	1	0	0	1
Rackliff-Gedney	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	2	0	0	2
Rackliff-Gedney	<i>Botrychium lanceolatum</i> <i>var. lanceolatum</i>	Lance-leaved moonwort	0	0	1	0	0	1
Rackliff-Gedney	<i>Botrychium pinnatum</i>	Northern moonwort	0	0	1	0	0	1
Rackliff-Gedney	<i>Cardamine constancei</i>	Constance's bittercress	0	0	11	0	9	20
Rackliff-Gedney	<i>Cornus nuttallii</i>	Pacific dogwood	0	0	10	0	59	69
Rackliff-Gedney	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	5	0	6	11
Rackliff-Gedney	<i>Dasynotus daubenmirei</i>	Daubenmire's dasynotus	0	0	1	0	0	1
Rackliff Gedney	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	12	0	0	12
Railroad Ridge	<i>Astragalus vexilliflexus</i> <i>var. nubilus</i>	White clouds milkvetch	0	0	11	0	0	11
Rapid River	<i>Halimolobos perplexa</i> <i>var. perplexa</i>	Puzzling halimolobos	0	20	0	0	14	34
Red Hill	<i>Astragalus aquilonius</i>	Lemhi milkvetch	0	0	1	0	0	1
Red Hill	<i>Oxytropis besseyi</i> <i>var. salmonensis</i>	Challis crazyweed	0	0	1	0	0	1
Red Hill	<i>Thelypodium repandum</i>	Wavy-leaf thelypody	0	0	2	0	0	2
Saddle Mountain	<i>Streptopus streptopoides</i>	Krushea	0	0	40	0	0	40
Salmo Priest	<i>Epilobium palustre</i>	Swamp willow-weed	0	0	0	0	1	1
Salmo Priest	<i>Polystichum braunii</i>	Braun's sword-fern	0	0	0	0	1	1
Salmo Priest	<i>Streptopus streptopoides</i>	Krushea	1	0	0	0	1	2
Secesh	<i>Allotropa virgata</i>	Candystick	1	0	1	0	0	2
Secesh	<i>Halimolobos perplexa</i> <i>var. perplexa</i>	Puzzling halimolobos	0	0	1	0	0	1
Secesh	<i>Saxifraga bryophora</i> <i>var. tobiasiae</i>	Tobias' saxifrage	0	4	7	0	0	11
Selkirk	<i>Drosera intermedia</i>	Spoon-leaved sundew	0	0	0	0	1	1
Selkirk	<i>Streptopus streptopoides</i>	Krushea	2	0	2	0	0	4

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
Selkirk	<i>Trientalis arctica</i>	Northern starflower	1	0	0	0	1	2
Sheep Mountain – State Line	<i>Botrychium ascendens</i>	Triangular-lobed moonwort	0	0	1	0	0	1
Sheep Mountain – State Line	<i>Botrychium minganense</i>	Mingan moonwort	0	0	4	0	0	4
Sheep Mountain – State Line	<i>Botrychium montanum</i>	Mountain moonwort	0	0	1	0	0	1
Sheepeatte	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	0	0	5	5
Silver Creek Pilot Knob	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	1	0	0	0	1
Siwash	<i>Cardamine constancei</i>	Constance's bittercress	0	0	4	0	0	4
Smoky Mountains	<i>Haplopappus insecticuriis</i>	Bugleg goldenweed	0	0	0	0	1	1
Steel Mountain	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	12	0	0	0	12
Stony Meadows	<i>Douglasia idahoensis</i>	Idaho Douglasia	0	3	3	0	0	6
Ten Mile/ Black Warrior	<i>Douglasia idahoensis</i>	Idaho Douglasia	67	6	0	0	0	73
Trestle Peak	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	1	0	0	1
Upper Priest	<i>Blechnum spicant</i>	Deer-fern	0	0	1	0	0	1
Upper Priest	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	Lance-leaved moonwort	0	0	5	0	2	7
Upper Priest	<i>Botrychium lineare</i>	Narrowleaf grapefern	0	0	0	0	1	1
Upper Priest	<i>Botrychium minganense</i>	Mingan moonwort	0	0	2	1	4	7
Upper Priest	<i>Botrychium montanum</i>	Mountain moonwort	0	0	0	0	1	1
Upper Priest	<i>Botrychium pedunculosum</i>	Stalked moonwort	0	0	0	0	1	1
Upper Priest	<i>Carex leptalea</i>	Bristle-stalked sedge	0	0	1	0	0	1
Upper Priest	<i>Dryopteris cristata</i>	Crested shield-fern	0	0	4	0	0	4
Upper Priest	<i>Epilobium palustre</i>	Swamp willow-weed	0	0	1	0	0	1
Upper Priest	<i>Gaultheria hispidula</i>	Creeping snowberry	0	0	3	0	0	3
Upper Priest	<i>Iris versicolor</i>	Blueflag	0	0	0	0	1	1
Upper Priest	<i>Lycopodium dendroideum</i>	Groundpine	0	0	0	0	5	5
Upper Priest	<i>Phegopteris connectilis</i>	Northern beechfern	0	0	0	0	9	9
Upper Priest	<i>Polystichum braunii</i>	Braun's sword-fern	0	0	0	0	28	28
Upper Priest	<i>Salix pedicellaris</i>	Bog willow	0	0	1	0	0	1
Upper Priest	<i>Streptopus streptopoides</i>	Krushea	0	0	22	1	5	28
Upper Priest	<i>Trientalis arctica</i>	Northern starflower	0	0	1	0	3	4
Upper Priest	<i>Vaccinium oxycoccos</i>	Bog cranberry	0	0	1	0	0	1

Idaho Roadless Area	Scientific name	Common name	WLR*	Primitive SAHTS	BCR	GFRG	FPSA	Total
West Big Hole	<i>Collomia debilis var. camporum</i>	Flexible alpine collomia	0	0	3	0	1	4
West Big Hole	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	1	0	0	1
West Meadow Creek	<i>Astragalus paysonii</i>	Payson's milkvetch	0	0	3	0	0	3
West Meadow Creek	<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	0	0	1	0	0	1
West Meadow Creek	<i>Synthyris platycarpa</i>	Evergreen kittentail	0	0	71	0	1	72
West Panther Creek	<i>Penstemon lemhiensis</i>	Lemhi penstemon	0	0	8	0	0	8
Worm Creek	<i>Penstemon compactus</i>	Compact penstemon	0	0	1	0	0	1
<b>Totals</b>			<b>141</b>	<b>148</b>	<b>601</b>	<b>10</b>	<b>265</b>	<b>1165</b>

\*WLR – Wild Land Recreation

BCR – Backcountry/Restoration

GFRG – General Forest, Rangeland and Grassland

FPSA – Forest Plan Special Areas

SAHTS – Special Areas of Tribal and Historic Significance

### Summary of Effects –

Under this Alternative fewer acres are managed under General Forest category than under the Existing Forest Plans (Alternative 2). Projected timber cutting under this alternative would average 4 MMBF under the combined themes of General forest, Backcountry Restoration and Primitive, as compared to the 14 MMBF allowed under existing Forest plans. Road construction/reconstruction associated with timber harvest would average 3 miles annually compared to 11 miles under existing Forest plans. Annual harvest acres are projected to average approximately 800 acres per year. This is about .1% of the total inventoried acres over 15 years.

The Idaho Roadless Rule would permit road construction/reconstruction and surface occupancy within the Backcountry and General Forest themes to access unleased phosphate deposits. There are 13,400 acres of known unleased phosphate deposits on the Caribou-Targhee National Forest. About 12,100 acres (90 percent) are located within the Backcountry and GFRG themes. These deposits are located within nine roadless areas (Dry Ridge, Huckleberry Basin, Meade Peak, Sage Creek, Schmid Peak, and Stump Creek on the Caribou portion of the forest and Bald Mountain, Bear Creek, and Poker Creek on the Targhee portion of the forest) and could eventually be mined over an extended period of time (50 years or more). There is a potential risk to sensitive plant species habitat on these 12,100 acres when and if this development occurs. Site-specific analysis would occur prior to any future leasing and mitigations applied.

About 1,300 acres of unleased phosphate deposits are in the Primitive theme. The Primitive theme prohibits road construction/reconstruction or surface occupancy for

phosphates; therefore this area would likely not be developed (see Minerals Specialists Report); and there would be no effect to plant species found in this area.

The Idaho Roadless Rule would also allow road construction/reconstruction for geothermal development in the General Forest theme. About 7 percent of Idaho Roadless Areas are in this theme, and about 4 percent could be developed because of slope restrictions (see Minerals Specialists Report). It is likely some of these areas would be developed over time; however, except for two pending lease applications there is no information about where or when the activity would occur. If fully developed, roads, transmission lines, and other facilities would likely be constructed. Plant resources would be considered during site-specific analysis, and mitigations would be applied.

Currently lease applications have been submitted for geothermal exploration within 7,000 acres of the Peace Rock Roadless Area on the Boise National Forest and 33 acres of the West Panther Roadless Area on the Salmon National Forest. Both these areas are in either the Primitive or Backcountry theme; therefore, they would not be developed because of the inability to construct roads to access the area (see Minerals Specialists Report). No plant resources would be affected in these areas.

Potential adverse impacts to TECS plant species through direct mortality, habitat loss, degradation, and disturbance associated with roads, timber harvest, discretionary mining, and other activities would be intermediate between those under the 2001 Roadless rule and Existing Forest Plan alternative(s). Road construction/reconstruction and timber cutting would be permitted in limited situations in Backcountry (5,246,100 acres) and would be permissible in GFRG (609,500 acres). Ten sensitive plant Element Occurrences (EO's) are known to occur in GFRG and about 600 EO's occur in the Backcountry theme. At the programmatic level, it is difficult to determine effects to individual populations or specific habitat niches, except on a very broad scale. As such, this Agency and other government agencies with jurisdictional responsibilities would retain the tools necessary to manage these resources. The proposed action would not change current TES plant direction and would require site-specific analysis prior to implementing projects on the ground.

### **T&E species determination for Alternative 3 –**

May affect, but is not likely to adversely affect *Spiranthes diluvialis* or *Mirabilis Macfarlanei* populations or habitat, or potential habitat for *Howellia aquatilis* and *Silene spaldingii*.

### **Sensitive species determination for Alternative 3 –**

May impact individuals, but is not likely to cause a trend towards Federal listing or a loss of viability for any sensitive species.

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**CUMULATIVE EFFECTS -**

The proposed action is expected to have minimal affects on any known occurrences of Regional Foresters' sensitive plants within IRAs in Idaho, and indirect effects are expected to be unappreciable. Since all foreseeable federal actions within the project areas are required to be evaluated for impacts to threatened, endangered, and sensitive plant species, foreseeable actions would be modified to mitigate anticipated impacts resulting from project activities as required by Forest Service policy (FSM 2670) and the ESA. Due to the varying nature of potential risks of direct and indirect impacts to individual species and populations within IRAs, the implementation of the proposed action will not result in any significant influences on the scope or magnitude of cumulative effects as currently assessed.

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