

Appendix I

Final Environmental Impact Statement

Tripod Fire Salvage Project

SENSITIVE PLANTS

CHANGES BETWEEN DRAFT EIS AND FINAL EIS

No change

Figure I-1: Sensitive Plants And Species Of Concern Found Within The Fire Perimeter And Project Area.

EO #s in Project Area	EO #s in Fire Area	Scientific Name	Common Name	Species Code	Fed Status *	WNHP Status *	R-6 Status *	Habitat Requirements
26, 42	19, 22, 23, 24, 26, 29, 42	<i>Agoseris elata</i>	Tall Agoseris	AGEL		S	S	On the Okanogan this species is primarily found between 4000-7760' in moist meadows in the subalpine and alpine habitats. Habitat in Washington is associated w/ moist to dry meadows, open woods, and exposed rocky ridge tops on various aspects from low elevations to timberline between 2900 and 7800'.
	3	<i>Agrostis borealis</i>	Northern Bentgrass	AGBO2		S	S	Known on the Okanogan from mainly alpine meadows above 7000' elevation. Mesic to moist meadow habitats near streams and wetlands.
	54	<i>Botrychium crenulatum</i>	Crenulate Moonwort	BOCR	SC	S	S	On the Okanogan this species is found in moist riparian habitats comprised of dense red osier dogwood (COST) and cottonwood (POTR2) and is associated with moist coniferous riparian zones dominated by western red cedar (THPL), Engelmann spruce (PIEN), and subalpine fir (ABLA) from 3100' to 5800' in elevation.

EO #s in Project Area	EO #s in Fire Area	Scientific Name	Common Name	Species Code	Fed Status *	WNHP Status *	R-6 Status *	Habitat Requirements
	8	<i>Botrychium paradoxum</i>	Two-spiked Moonwort	BOPA9	SC	T	S	On the Okanogan NF. This species is known to be associated with dry meadows, in floodplains w/ gentle to flat terrain between 5600' and 6450' elevation. In other areas of the state it is found between 2800' and 6550' elevation in a variety of habitats which include sagebrush (<i>Artemisia</i>) habitat, dry meadow communities associated with floodplains and stream terraces, and moist coniferous forests in association with western red cedar (THPL), western hemlock (TSHE), and grand fir (ABGR).
	3	<i>Carex capillaris</i>	Hair-like Sedge	CACA12		S	S	Known from two sites on the Okanogan and is associated with moist meadows along sandy lake shores from 3800' to 6500'. Other habitat includes stream banks, wet ledges in moderate to high elevations up to about timberline.
7, 10	3, 4, 6, 7, 8, 9, 10, 12, 13, 17, 18, 21, 22, 23, 25	<i>Carex heteroneura</i>	Different Nerve Sedge	CAHE8		R2	S	Known to occur in moist rich forb alpine and subalpine meadows between 6000' to 7100' frequently associated with <i>Agoseris elata</i> , <i>Trollius laxus</i> , <i>Caltha leptosepala</i> , <i>Festuca viridula</i> , <i>Potentilla</i> spps, and <i>Phleum alpinum</i> .
	4, 12, 19, 21, 22, 24, 25, 28, 29, 35, 36	<i>Carex magellanica ssp. irrigua</i>	Poor Sedge	CAMA12		S		It is found in fens, bogs, shady wet meadows, shrub wetlands, and marshes, often growing in peat soil, between 1640 to 7000'. Some associated species include sphagnum, cotton grass, woodrush, willows, rushes, Labrador tea, with spruce and lodgepole as overstory conifers.

EO #s in Project Area	EO #s in Fire Area	Scientific Name	Common Name	Species Code	Fed Status *	WNHP Status *	R-6 Status*	Habitat Requirements
18	6, 10, 11, 12, 15, 17, 18, 19	<i>Carex norvegica</i>	Scandinavian Sedge	CANO2		S	S	Wet stream banks, subalpine and alpine rich moist forb meadows. Often associated with wet site <i>Salix</i> species, <i>Trollius laxus</i> , <i>Caltha leptosepala</i> , <i>Carex</i> species, and <i>Senecio paciflorus</i> .
	8	<i>Carex scirpoidea</i> var. <i>scirpoidea</i>	Canadian Single-spike Sedge	CASCS7		S	S	Moist alpine meadows bordering talus slopes, dry to moist meadows, and talus with some soil development between 5900' and 7600'. Associated species are: <i>Carex breweri</i> , <i>Anemone drummondii</i> , <i>Haploppus Lyalii</i> , <i>Erigeron compositos</i> , <i>Carex nigricans</i> , <i>Juniperus communis</i> , and <i>Pinus albicalus</i> .
	1	<i>Carex tenuiflora</i>	Sparse-leaved Sedge	CATE5		T	S	One known site occurs at 5800' in a bog/fen wetland. Dominant associate is sphagnum moss and other associates are: <i>Carex limosa</i> , <i>Carex utriculata</i> , <i>Carex canescens</i> .
	3, 5, 7	<i>Carex vallicola</i>	Valley Sedge	CAVA3		S	S	In the state, this species is only known on the Okanogan. It is primarily found in dry meadow communities with big sagebrush (ARTR) between 4300' and 6800' in elevation. Habitat in general is described as moist to moderately dry slopes from the foothills to moderate elevations in the mountains, often with sagebrush or aspen.

EO # s in Project Area	EO # s in Fire Area	Scientific Name	Common Name	Species Code	Fed Status *	WNHP Status *	R-6 Statu s*	Habitat Requirements
1 pop EO not known	1 pop EO not known	<i>Mimulus patulus</i>	Stalk-leafed Monkey-flower	MIPA14		T	P	There are 2 populations on the Okanogan both below 4000' located in vernal seeps in rock outcrops and seasonally moist depressions in dry ponderosa pine (PIPO) and Douglas-fir (PSME) forests. It is thought to be endemic to basaltic seeps in the one population in the corner of SE Washington and NE Oregon. In Idaho there are less than five populations, also associated with basaltic landforms. It is taxonomically similar to <i>Mimulus washingtonensis</i> which is thought to be extirpated due to habitat loss.
	New find no EO	<i>Mimulus suksdorfii</i>	Suksdorf's Mimulus	MISU2		S	S	Known from a steep talus and scree slope above timberline at 7100' with a south aspect on the Okanogan. It is suspected to occur in wet to dry open places from the lowlands to high in the mountains.
	2	<i>Parnassia kotzebuei</i>	Kotzebue's Grass-of-parnassus	PAKO3		S	S	From moderate to high elevations in the mountains. Known from 2 sites on the Okanogan ranging from 4800' to 6700' elevation on north aspects in moderate to steep terrain associated with cliff edges and at the base of talus slopes in moist seeps.
	9	<i>Poa arctica</i> ssp. <i>arctica</i>	Gray's Bluegrass	POARA2		R2		Alpine to subalpine, on scree, open ridges, meadows and streambanks.
	1	<i>Polytrichum strictum</i>	A Hair Cap Moss	POST70		MWL		Found in bogs, often with sphagnum
	2	<i>Rubus acaulis</i>	Nagoonberry	RUAC		T	S	Found in open wetlands and wet meadows within spruce dominated forests at 5900' on hummocks around the wetlands and bogs.

EO # s in Project Area	EO # s in Fire Area	Scientific Name	Common Name	Species Code	Fed Status *	WNHP Status *	R-6 Status *	Habitat Requirements
7	2, 6, 7,	<i>Salix glauca</i>	Glaucous Willow	SAGL		S	S	Habitat is associated with perennial streams, stream banks, and marshes in draws, floodplains, and glacial cirques and valleys between 5200' and 5850' in gentle to flat topography. It is known to occur with <i>Salix candida</i> .
7, 9, 14	2, 5, 9, 10, 11, 12, 14, 21, 22, 23, 24, 28, 32	<i>Salix tweedyi</i>	Tweedy's Willow	SATW		S	S	Often found along stream banks associated with moderate to swift moving streams in glacial valleys and cirques with gentle sloping topography, perennially wet areas associated with springs, seeds, fens, bogs, and lakeshores between 4620' and 7200' in elevation.
	3	<i>Saxifraga cernua</i>	Nodding Saxifrage	SACE2		S	S	Known to occur in boulder talus above 6500' in elevation in thin moist soils and moist scree.
	2, 25, 27	<i>Saxifraga rivularis</i>	Pygmy Saxifrage	SARI8		S		Found on damp granitic cliffs, basaltic rock crevices, and talus near snowbanks, and moss covered detritus, as well as alpine slopes, cracks, and shaded cliffs.
	12	<i>Spiranthes porrifolia</i>	Western Ladies-tresses	SPPO7		S	S	On the Okanogan NF it occurs between 5400' and 6800' in glacial cirque wetlands, bogs, and fens. It is associated with <i>Leptarrhena pyrolifolia</i> , <i>Caltha biflora</i> , <i>Trollius laxus</i> , <i>Carex</i> spps, <i>Eleocharis pauciflora</i> , <i>Pinus contorta</i> , <i>Pinus engelmanni</i> , and <i>Ledum glandulosum</i> . It is found on both sides of the Cascades but is mainly east of the crest. It is generally thought to be associated with wet meadows, along streams, in bogs, and in seeps along slopes.

*Status codes are: SC – Species of Concern, T – Threatened, S – Sensitive, R2 – Review Group 2, P—Proposed, MWL—Moss Working List

Figure I-2: R6 Sensitive Plant Species List July 2004 Revision

SPECIES NAME	OKA NF.	WNHP STATUS	USFWS STATUS
<i>Agroseris elata</i>	D	Sensitive	
<i>Agrostis borealis</i>	D	Sensitive	
<i>Anemone nuttalliana</i>	S	Sensitive	
<i>Astragalus microcystis</i>	S	Sensitive	
<i>Botrychium ascendens</i>	D	Sensitive	Species of Concern
<i>Botrychium campestre</i>	S	Sensitive	
<i>Botrychium crenulatum</i>	D	Sensitive	Species of Concern
<i>Botrychium hesperium</i>	D	Sensitive	
<i>Botrychium lineare</i>	S	Sensitive	Proposed Candidate for Threatened
<i>Botrychium paradoxum</i>	D	Sensitive	Species of Concern
<i>Botrychium pedunculosum</i>	S	Sensitive	Species of Concern
<i>Carex atrata var. atosquama</i>	D	Sensitive	
<i>Carex atrata var. erecta (C. heteroneura)</i>	D	Sensitive	
<i>Carex capillaris</i>	D	Sensitive	
<i>Carex chordorrhiza</i>	D	Sensitive	
<i>Carex comosa</i>	S	Sensitive	
<i>Carex dioca var. gynocrates</i>	D	Sensitive	
<i>Carex flava</i>	S	Sensitive	
<i>Carex hystericina</i>	S	Sensitive	
<i>Carex norvegica</i>	D	Sensitive	
<i>Carex rostrata</i>	S	Sensitive	
<i>Carex saxatilis var. major</i>	D	Sensitive	
<i>Carex scirpoidea var. scirpoidea</i>	D	Sensitive	
<i>Carex stenophylla (C. eleocharis)</i>	D	Sensitive	
<i>Carex sychnocephala</i>	D	Sensitive	
<i>Carex tenuifolia</i>	D	Sensitive	
<i>Carex vallicola</i>	D	Sensitive	
<i>Carex xerantica</i>	D	Sensitive	
<i>Chrysosplenium tetrandrum</i>	D	Sensitive	
<i>Cicuta bulbifera</i>	S	Sensitive	
<i>Cryptogramma stelleri</i>	D	Sensitive	
<i>Cypripedium fasciculatum</i>	S	Threatened	Species of Concern
<i>Cypripedium parviflorum</i>	D	Endangered	
<i>Draba aurea</i>	D	Sensitive	
<i>Draba cana</i>	D	Sensitive	
<i>Dryas drummondii</i>	S	Sensitive	
<i>Eleocharis atropurpurea</i>	S	Extirpated	

SPECIES NAME	OKA NF.	WNHP STATUS	USFWS STATUS
<i>Erigeron salishii</i>	D	Sensitive	
<i>Eriophorum viridicarinatum</i>	D	Sensitive	
<i>Eritrichium nanum var. elongatum</i>	D	Sensitive	
<i>Gentiana glauca</i>	D	Sensitive	
<i>Gentianella tenella</i>	D	Sensitive	
<i>Geum rivale</i>	D	Sensitive	
<i>Howellia aquatilis</i>	S	Threatened	Threatened
<i>Iliamna longisepala</i>	S	Sensitive	
<i>Loiseleuria procumbens</i>	S	Sensitive	
<i>Luzula arcuata</i>	D	Sensitive	
<i>Lycopodium dendroideum</i>	S	Sensitive	
<i>Mimulus pulsiferae</i>	D	Sensitive	
<i>Mimulus suksdorfii</i>	D	Sensitive	
<i>Nicotiana attenuata</i>	S	Sensitive	
<i>Oxytropis campestris var. gracillia</i>	S	Sensitive	
<i>Parnassia kotzebuei</i>	D	Sensitive	
<i>Pellaea brachyptera</i>	S	Sensitive	
<i>Platanthera obtusata</i>	D	Sensitive	
<i>Polemonium viscosum</i>	D	Sensitive	
<i>Potentilla diversifolia var. perdissecta</i>	S	Sensitive	
<i>Potentilla nivea</i>	D	Sensitive	
<i>Potentilla quinquefolia</i>	S	Sensitive	
<i>Rubus acaulis</i>	D	Threatened	
<i>Salix glauca</i>	D	Sensitive	
<i>Salix tweedyi</i>	D	Sensitive	
<i>Sanicula marilandica</i>	D	Sensitive	
<i>Saxifraga cernua</i>	D	Sensitive	
<i>Sisyrinchium septentrionale</i>	D	Sensitive	
<i>Spiranthes diluvialis</i>	S	Threatened	Threatened
<i>Spiranthes porrifolia</i>	D	Sensitive	
<i>Talinum sediforme</i>	D	Sensitive	
<i>Teucrium canadense ssp. viscidum</i>	S	Sensitive	
<i>Thalictrum dasycarpum</i>	S	Sensitive	
<i>Trimorpha elata</i>	S	Sensitive	
<i>Vaccinium myrtilloides</i>	D	Sensitive	

Figure I-3: R6 Sensitive Plants Suspected To Occur Within The Fire Perimeter Or Project Area.

Scientific Name	Habitat
<i>Anemone nuttalliana</i> Pasqueflower	In Washington it is known to occur around 5700' to 6000' growing in more open areas on small benches where soil has been exposed in rocky areas. Habitat range prairies, open meadows, and mountain slopes mostly on well drained soil.
<i>Astragalus microcystis</i> Least Bladdery Milk-vetch	In eastern Washington the species occurs on gravelly to sandy areas from riverbanks to open woods from 1400' to 6200' elevation. Associated species include <i>Gaillardia aristata</i> , <i>Gilia aggregate</i> , and <i>Melilotus alba</i> .
<i>Botrychium ascendens</i> Triangular-lobed Moonwort	On the Oka. this species is found on most aspects (S, SW, SE, W) with gentle to flat topography between 5800' to 6300' in moist meadows in glacial cirques. Habitat in Washington ranges from 2100' to 6000' in moist micro-sites in meadows and moist deciduous and conifer forests,
<i>Botrychium compestre</i> Prairie Moonwort	Moist to dry meadows from low elevation prairies to alpine meadows.
<i>Botrychium hesperium</i> Western Moonwort	Moist to dry meadows from low elevation prairies to alpine meadows. Documented on the Okanogan in a small opening at the base of a glacial moraine in an alpine larch (LALY) forest at 6900'. On the Colville NF it is known from moist to dry meadow openings in dry forest habitats between 2900' and 3700'.
<i>Botrychium lineare</i> Skinny Moonwort Proposed Federal Candidate Threatened	This is species and the Federal Register describes the habitat as being found in a variety of montane forest or meadow habitats. Known occupied habitats include deep grass and forb meadows, under trees in woods, and on shelves on limestone cliffs, mainly at higher elevations. It also occurs as an early seral species in open habitats dominated by low-growing forbs. In open forest habitats it is associated with strawberry (FRVI), pussy-toes (<i>Antennaria</i> spp), northern bedstraw (GABO), cinquefoil (<i>Potentilla</i>), snowberry (SYAL), reedgrass (<i>Calamagrostis</i> spp), fescue (<i>Festuca</i> spp), Engelmann spruce (PIEN), w. red cedar (THPL), Douglas-fir (PSME), ponderosa pine (PIPO), lodgepole (PICO), and aspen (POTR). Generally thought to be associated with moist to dry meadows from low elevation prairies to alpine meadows.
<i>Botrychium penduculosum</i> Stalked Moonwort	Known sites in the state occur between 2460' and 6200' elevation in moist riparian, moist to dry meadows found in a moist forest mix of species such as PIEN, PICO, POTR, COST, THPL, ABGR, LAOC, and ABLA. Generally thought to be associated with moist to dry meadows from low elevation prairies to alpine meadows.
<i>Carex atosquama</i> (<i>C. atrata</i> var <i>atosquama</i>) Blackened Sedge	Wet to moist soils along outlet streams, in wet subalpine and alpine meadows above 6100'. Frequently associated species are <i>Trollius laxus</i> , <i>Caltha leptosepala</i> , <i>Carex scopulorum</i> , <i>Phleum alpinum</i> , and <i>Valeriana sitchensis</i> .
<i>Carex chordorrhiza</i> Cordroot Sedge	One population known in the State. It occurs in wetland at 4480' in the Subalpine fir forest zone. Dominant conifers in the area are Engelmann spruce, Subalpine fir, and lodgepole pine. It grows in muck soils hummocks interspersed in predominantly a <i>Carex lasiocarpa</i> community with other associates including <i>Carex magellanica</i> ssp. <i>irrigua</i> , <i>Spiranthes romanzoffiana</i> , and <i>Galium trifidum</i> .
<i>Carex comosa</i> Bristly Sedge	In the state it known to be associated with floating mats of vegetation in muck and peat wetlands. General habitats are marshes, lake-shores, and wet meadows from 50' to 2000' elevation. Associated spps may include <i>Carex utriculata</i> , <i>Potentilla palustris</i> , <i>Typha latifolia</i> , <i>Spirraea douglasii</i> , <i>Dulichium arundinaceum</i> and <i>Phalaris arundinacea</i> .
<i>Carex dioica</i> var <i>gynocrates</i> Yellow Bog Sedge	In the state it is found on the tops of hummocky terrain in wet PIEN habitats between 3500' and 5400' elevation. Washington habitats include sphagnum bogs, forested wetlands and other wet marshy places between 2600' and 3800'. Associated species include <i>Carex disperma</i> , <i>C. lanuginose</i> , <i>C. capillaris</i> , <i>C. leptalea</i> , <i>Equisetum arvense</i> , <i>Rubus pubescens</i> , <i>Ledum groenlandicum</i> , <i>Betula glandulosa</i> , <i>Alnus incan</i> , <i>Salix</i> spps, PIEN, and PICO.
<i>Carex flava</i> Yellow Sedge	Wet meadows, forested wetlands, bogs, and shores of streams and lakes from the foothills and lowlands to moderate elevations between 2000' and 4300'. Associated spps include <i>Sphagnum</i> , <i>Carex utriculata</i> , <i>C. lenticularis</i> , <i>C. aurea</i> , <i>C. aenea</i> , <i>Eriophourm</i> sp, <i>Equisetum arvense</i> , <i>Scirpus</i> sp, <i>Juncus ensifolius</i> , <i>Potentilla palustris</i> , <i>Mentha arvense</i> , <i>Geum rivale</i> , and <i>Geum macrophyllum</i> .

Scientific Name	Habitat
<i>Carex hystricina</i> Porcupine Sedge	Occurs in wet depressions, spring fed marshes, ponds, along creeks, drainages, and along hillside seeps between 500' and 2600' elevation. Often associated with <i>Carex lasiocarpa</i> , <i>Eleocharis palustris</i> , <i>Eleocharis rostellata</i> , <i>Juncus balticus</i> , <i>Typhya latifolia</i> , <i>Mimulus guttatus</i> , <i>Epipactis gigantea</i> , <i>Drosera anglica</i> , <i>Carex amplifolia</i> , <i>C. stipata</i> , and <i>Phalaris arundinacea</i> . Surrounding habitats range from dry canyon grassland habitats dominated by <i>Agropyron spicatum</i> to warm dry forested habitats with inclusions of <i>Thuja plicata</i> on the Colville. It appears to favor warm spring/water sources.
<i>Carex rostrata</i> Beaked Sedge	In Washington sites are associated with quaking or floating peat in w/ <i>Carex lasiocarpa</i> along lake shorelines between 4500' and 5000' elevation. Other associated species include <i>Carex limosa</i> , <i>Menyanthes _rifoliata</i> , <i>Pedicularis groenlandica</i> , <i>Droser anglica</i> , <i>Eriophorum polystachion</i> , <i>Nuphar polysephalum</i> and <i>Equisetum fluviatile</i> . Generally habitat is thought to be around ponds and swampy meadows, mid to high elevations.
<i>Carex saxatilis</i> var. <i>major</i> Russet Sedge	On the Okanogan it is found above 5000' in shallow wetlands, bogs, margins of ponds and streams with shallow standing water. Sites may become dry during drought years. Often forms monoculture stands in shallow water.
<i>Carex stenophylla</i> (<i>C. eleocharis</i>) Narrow-leafed Sedge	Open, dry to moderately moist, often grassy places, from the plains to fairly high elevations in the mountains. but not reaching to timberline. The only known site is near Conconully.
<i>Carex sychnocephala</i> Many-headed Sedge	Habitats, which include the known sites, are associated with permanently saturated, moist, or wet soils along lake shores and marshes from 1000' to 3000' elevation. Some sites are somewhat alkaline. Substrates vary from rather rocky to sandy and silty soils. Associated species include <i>Scirpus maritimus</i> , <i>Cyperus aristatus</i> , <i>Polygonum persicaria</i> , <i>Rumex maritimus</i> , <i>Coryza Canadensis</i> , <i>Aster brachyactis</i> , <i>Ranunculus sceleratus</i> , <i>Epilobium spp</i> , <i>Cirsium vulgare</i> and <i>C. arvense</i> .
<i>Carex xerantica</i> White-scaled Sedge	On the Oka it occurs in open dry meadow habitats in dry ponderosa pine (PIPO) and Douglas-fir (PSME) coniferous forests, open dry meadows often with sagebrush between 2850' and 5440' in elevation. Habitat in general is described as grasslands, open slopes, and mountain parks from the high plains to the spruce-fir zone in the mountains.
<i>Cryptogramma stelleri</i> Steller's Rockbrake	Seeps and moist shaded places in cliff crevices in moderate to steep slopes 3000' to 6000'. Most frequently sited on calcareous substrates, growing in mats of moss and along seepage cracks, at bases of overhanging cliffs.
<i>Chrysosplenium tetrandrum</i> Northern Golden-carpet	Found in gentle terrain along steam banks and seeps where water accumulates or other wet sites in woods with densely vegetated creek bottoms, damp mossy hummocks. <i>Picea engelmannii</i> dominated riparian often associated with <i>Alnus incana</i> , <i>Ribes lacustre</i> , <i>Equisetum</i> , and <i>Cornus stoloniferous</i> .
<i>Circuta bulbifera</i> Bulb-bearing Water Hemlock	It is known to occur between 1930'-3700' in elevation in muck soils or standing water associated with marshes, stream, lake, or pond margins where <i>Carex utriculata</i> is often the dominant sedge.
<i>Cypridepium parviflorum</i> Yellow Lady's Slipper State Endangered	It is found in bogs, wet forest habitats, and in the channeled scablands of eastern Wash. it occurs around the periphery of ponds and in low, moist areas, generally in close association with red osier dogwood (COST) and aspen (POTR). It is also known to be associated with snowberry (SYAL) that is adjacent to COST communities with a ponderosa pine (PIPO) overstory between 2100' and 3440' elevation.
<i>Cypripedium fasciculatum</i> Clustered Lady's Slipper State Threatened	Habitat is mid to late seral PSME or PIPO stands with a dense closed herbaceous layer and various shrub layer. Mostly on northern aspects. Elevations range from 1200' to 5000'. Associated species are <i>Pachystima myrsinites</i> , <i>Holodiscus discolor</i> , <i>Spiraea betulifolia</i> , <i>Berberis nervosa</i> , <i>Calamagrostis rubescens</i> , <i>Arnica cordifolia</i> and <i>Carex geyeri</i> . In moist to rather dry and rocky open coniferous forests east of the cascades.
<i>Draba aurea</i> Golden Draba	Well drained alpine meadows that are seasonally moist, krumholz, dry meadow, and talus slope habitats between 6800' to 7400'. Favors southerly aspects. Associated species: <i>Draba cana</i> , <i>Elmera racemosa</i> , <i>Potentilla spp.</i> , <i>Carex spp</i> , <i>Vaccinium scoparium</i> , <i>Vaccinium caespitosum</i> , <i>Penstemon davidsonii</i> , <i>Arctostaphylos uva-ursi</i> , <i>Lupinus lepidus</i> , <i>Polemonium elegans</i> , <i>Festuca ovina</i> , and <i>Juniperus communis</i> .

Scientific Name	Habitat
<i>Draba cana</i> Lance-leafed Draba	Found in alpine fellfields on mid to upper slopes frequently in steep terrain from 5900' to 7800'. <i>Draba cana</i> appears to favor dry rocky exposures. Associated species are <i>Antennaria alpina</i> , <i>Carex phaeocephala</i> , <i>Erigeron compositus</i> , <i>Lupinus lepidus</i> , <i>Potentilla</i> spps, <i>Arenaria obtusiloba</i> . <i>Penstemon davidsonii</i> , <i>Juniperus communis</i> and/or <i>Arctostaphylos uva-ursi</i>
<i>Dryas drummondii</i> Yellow Mountain Avens	Thought to be associated with calcium rich areas. Known to occur between 2000' and 6750' in elevation in open gravelly areas often above timberline or at lower elevations along streams.
<i>Eleocharis atropurpurea</i> Purple Spike Rush	Wet places associated with low elevation dry forests habitats similar to those found along Lake Chelan. Thought to be extinct by Washington Natural Heritage Program.
<i>Erigeron salishii</i> Salish Fleabane	Alpine species found on typically flat, southerly exposed ridge lines, mountain tops, fellfields, and upper slopes from 6800' to 8690'. Associated species are often <i>Potentilla nivea</i> , <i>Potentilla uniflora</i> , <i>Lupinus lepidus</i> , <i>Erigeron compositus</i> , and lichens.
<i>Eriophorum viridicarinatum</i> Green-keeled Cottongrass	Only known from one location on the Okanogan at 6000' elevation in fens/bogs, wet meadows, and wetland margins.
<i>Eritrichium nanum var elongatum</i> Pale Alpine Forget-me-not	Alpine ridges in relatively stable granitic scree associated with alpine cushion plant communities on gentle slopes, in exposed gravelly soil between 7300'-8300'. Some associated species are <i>Lupinus lepidus</i> , <i>Smelowskia calycina</i> , <i>Phlox hoodii</i> , <i>Carex breweri</i> .
<i>Gentiana glauca</i> Inky Gentian	Frequently associated with wetland transition zones on hummock topography, seeps, wetlands in basins and on alpine benches between 6800 and 8000' in the northeast portion of the Pasayten Wilderness.
<i>Gentiana tenella</i> Slender Gentian	Appears to favor subalpine and alpine meadows and wetlands with gently sloping terrain between 6800' and 7100' with southerly aspects. Frequently associated with <i>Sibbaldia procumbens</i> , <i>Vaccinium cespitosum</i> , <i>Potentilla</i> and <i>Carex</i> spps.
<i>Geum rivale</i> Water Avens	On the Oka this species is found in an open stand of lodgepole pine (PICO) and Engelmann spruce (PIEN) with an understory of skunkleaf polemonium (POPU9) at 6440'. In other places in the state it is associated with saturated lakeshores, streambanks, marshes, and meadows often with rich organic soils between 2500 and 6400' in elevation. It does not occur under heavy shrub cover. In general the habitat is described as along streambanks, lakeshores, bogs, and wet meadows.
<i>Howellia aquatilis</i> Howellia Federal Threatened State Threatened	It occurs mostly in small, vernal ponds, although some of the ponds may retain water throughout the year. Soils are rich in organic matter and frequently contain partially decomposed leaves, stems, and wood. Habitat is in lower elevations between 10' and 2300'. Associated species include aspen (POTR), <i>Sium suave</i> , <i>Sparganium</i> , <i>Utricularia</i> , <i>Potamogeton sp.</i> , and <i>Phalaris arundinacea</i> .
<i>Iliamna longisepala</i> Longsepal Globemallow	Found from sagebrush/bitterbrush steppe to ponderosa pine forests in the low to mid elevations between 500' to 4500'. Often found along gravelly stream sides in open shrub-steppe and open PIPO and PSME foreststo open hillsides in microsites not immediately adjacent to a stream channel. Generally, dry, open hillsides, gravelly streambanks and open ponderosa pine forests.
<i>Mimulus puliferae</i> Pulsifer's Monkey-flower	On the Oka., this species is, upon verification, has turned out to be a very rare <i>Mimulus patulus</i> that is now being considered for addition to both the state and R-6 list. The only sites documented in the state are on the Okanogan. Further taxonomic work is needed to confirm species on all the sites. <i>M. puliferae</i> / <i>M. patulus</i> sites are found in seasonally moist rock out crops and moist depressions in flat terrain in our ponderosa pine (PIPO) and dry Douglas-fir (PSME) forest types. In general this species habitat is in seasonally moist, open places often in exposed mineral soil from the foothills and valleys to the mid elevations east of the cascades.
<i>Loiseleuria procumbens</i> Alpine Azalea	Known to occur only above 6000' in elevation in heather communities in the North Central Cascade mountains. Habitat is suspected to be associated with bogs in the lowlands and montane forest zones and in dry to mesic heath and tundra communities in the alpine zone.
<i>Luzula arcuata</i> Curved Woodrush	Typically found above 7000' in elevation in moist boulder talus crevices above timberline and often near mountain summits.

Scientific Name	Habitat
<p><i>Lycopodium dendroideum</i> Treelike Clubmoss</p>	<p>. Known in WA state between 800' and 3650' in elevation in the moist forest zones that range from western hemlock to Pacific Silver fir and mountain hemlock to subalpine fir and cool moist Douglas-fir zones. Found both sides of the Cascades. Most sites in Washington have been described as rock outcrops, talus or boulder fields, often with a significant moss and organic debris layer. Some sites are described as being in the ecotone between a meadow or wetland and the adjacent forest. Plants are often growing near the base of large boulders in a fairly dense ground cover. Associated species variously include <i>Acer circinatum</i>, <i>Vaccinium alaskaense</i>, <i>V. parvifolium</i>, <i>Gaultheria ovatifolia</i>, <i>Cladothamnus pyroliflorus</i>, <i>Menziesia ferruginea</i>, <i>Lycopodium annotinum</i>, <i>L. complanatum</i>, and <i>Linnaea borealis</i>. Slopes vary from essentially flat to relatively steep.</p>
<p><i>Mimulus pulsiferae</i> Pulsifer's Monkey-flower</p>	<p>On the Oka., this species is, upon verification, has turned out to be a very rare <i>Mimulus patulus</i> that is now being considered for addition to both the state and R-6 list. The only sites documented in the state are on the Okanogan. Further taxonomic work is needed to confirm species on all the sites. <i>M. pulsiferae</i> / <i>M. patulus</i> sites are found in seasonally moist rock outcrops and moist depressions in flat terrain in our ponderosa pine (PIPO) and dry Douglas-fir (PSME) forest types. In general this species habitat is in seasonally moist, open places often in exposed mineral soil from the foothills and valleys to the mid elevations east of the cascades.</p>
<p><i>Mimulus suksdorfii</i> Suksdorf's Mimulus</p>	<p>Known from a steep talus and scree slope above timberline at 7100' with a south aspect on the Okanogan. It is suspected to occur in wet to dry open places from the lowlands to high in the mtns.</p>
<p><i>Nicotiana attenuate</i> Coyote Tobacco</p>	<p>Dry sandy bottom lands, dry rocky washes, and in other dry open places from 400' to 10,000'. Has been reported to occur with <i>Elymus cinereus</i> and common weedy species such as mullein (VETH), knapweed (CEDI), Russian thistle (SAKA), and cheatgrass (BRTE).</p>
<p><i>Oxytropis campestris</i> var. <i>gracillis</i> Slender Crazy Weed</p>	<p>It is known from alpine habitat found near the summits of Mt. Chopoka and Rock Mtn in N. Central WA. Suspected habitat is wide ranging from mesic to dry meadows, grassy slopes, sandy or gravelly riverbanks and terraces, and forest opening from lowlands and steppe to alpine zones.</p>
<p><i>Pellaea brachyptera</i> Sierra Cliff-brake</p>	<p>Known from 1100' to 2500' elevation in the state. Habitat is associated with dry rocky slopes low to mid elevations in open bunchgrass communities with scattered ponderosa pine.</p>
<p><i>Platanthera obtusata</i> Small Northern Bog-orchid</p>	<p>Damp to wet places in forests, marshes, bogs, meadows, and along streambanks. Most Washington populations are in moist to wet forests dominated by PIEN and/or THPL from 800' to 5000' elevation.</p>
<p><i>Potentilla diversifolia</i> var. <i>perdissecta</i> Diverse-leafed Cinquefoil</p>	<p>It is from the west fork of Twentymile Creek at about 5820' elevation. Habitat is a moist meadow along the margin of a wetland and Englemann spruce and Lodgepole pine forest. Overall habitat is considered to be from alpine meadows and rocky ledges and slopes to subalpine or montane forests where it is found chiefly along stream banks.</p>
<p><i>Potentilla nivea</i> Snow Cinquefoil</p>	<p>Found above 7000' on flat to gently sloping topography favoring southern exposures in alpine meadows, balds, fellfields, and rock outcrops along alpine ridges and summits</p>
<p><i>Potentilla quinquefolia</i> Five-leafed Cinquefoil</p>	<p>Gravelly meadows and river bars in the alpine and subalpine zones.</p>
<p><i>Polemonium viscosum</i> Skunk Polemonium</p>	<p>Alpine species found above 6300' that favors flat to gentle terrain in alpine talus, fellfields in glacial cirques, summits, and shoulder slopes.</p>
<p><i>Sanicula marlandica</i> Black Snake-root</p>	<p>On the Oka. and other places in the state this species is associated with sub-irrigated, moist floodplains, moist woods, marsh edges and old riverine channels in gentle to flat topography with silty and sandy river bottoms. It frequently is with Englemann spruce (PIEN), aspen (POTR), cottonwood (POTR2), and/or alder (ALIN) between 1800' and 3400' in elevation.</p>
<p><i>Sisyrinchium septentrionale</i> Blue-eyed Grass</p>	<p>Occurs primarily in open wet meadows, sometimes in association with perennial streams and within a mosaic that includes coniferous forested wetlands which may include PIEN, PSME, ABLA, THPL, PIPO, ALSI, ALIN, and SYAL. Grasses and sedges commonly dominate the habitats. Known sites in Washington range from 2270' to 4080' and habitat range is thought to be between 2100' and 6100'.</p>

Scientific Name	Habitat
<p><i>Spiranthes diluvialis</i> Ute's Ladies-tresses Federal Threatened State Threatened</p>	<p>In our area, this species is suspected to occur below 3500' in periodically flooded alkaline flat (moist meadows) wetlands adjacent to shrub-steppe, ponderosa pine, and dry Douglas-fir woodlands. Generally habitat is associated with floodplains, channels, streambanks, springs, seeps, lake and pond margins where soils are likely alkaline, periodically flooded, and moist throughout the growing season. Elevations range between 1500' and 7000'.</p>
<p><i>Talinum sediforme</i> Okanogan Flameflower</p>	<p>The habitat is in rocky exposed slopes and ledges in the lower mountains of Okanogan county. Most sites are between 2700' and 4000' elevation with a few sites documented as high as 6000'. It is predominantly on thin soils over exposed rock. Associated species include <i>Alium robinsonii</i>, <i>Erigeron compositus</i>, <i>Lewisia rediviva</i>, <i>Lomatium sp</i>, <i>Penstemon fruticosus</i>, <i>Potentilla glandulosa</i>, <i>Sedum spp</i>, <i>Selaginella sp</i>, and <i>Woodsia oregano</i>.</p>
<p><i>Teucrium canadense</i> <i>spp viscidum</i> Woodsage</p>	<p>Wet areas along stream banks, moist bottom lands, and the periphery of small ponds between 1800' and 2300' elevation. Associated species include POTR2, <i>Salix sp</i>, <i>Mentha arvensis</i>, <i>Sium suave</i>, <i>Polygonum coccineum</i>, <i>Eleocharis palustris</i>, <i>Galium triflorum</i>, SYAL, PIPO, PSME, <i>Betula occidentalis</i>, and AMAL.</p>
<p><i>Thalictrum dascycarpum</i> Purple Meadowrue</p>	<p>Tall (up to 6') dioecious plant found in deciduous riparian woods, damp thickets, swamps, and wet meadows, often adjacent to or within the floodplain. In Washington the elevation range is between 2000' and 2200'. Associated species are frequently <i>Crataegus sp</i>, SHCA, AMAL, POTR2, ROSE spp, SYAL.</p>
<p><i>Trimorpha elata</i> (<i>Erigeron acris var elatus</i>) Tall Bitter Fleabane</p>	<p>Generally in swampy places in the mountains from Labrador and Newfoundland to BC and Alaska.</p>
<p><i>Vaccinium myrtilloides</i> Velvet-leaf Blueberry</p>	<p>In Washington it occurs mid-slope in open semi-mature PIEN forests in a well developed moss layer at around 3500'. Other spp include SYAL, COCA, and LIBOL. In other parts of its range it occurs in dry to moist, sandy or rocky clearings and open woods, sphagnum bogs, and swamps.</p>

Figure I-4: Special Status Species List for Okanogan National Forest from the 2004 Final Supplemental EIS to Remove or Modify the Survey & Manage Mitigation Measure Standard & Guidelines

2004 Special Status Species List	Habitat
Fungi	
<i>Clavariadelphus sachalinensis</i> (WA only) Oka Documented	On soil or duff under mixed conifers. Known from Pasayten Wilderness Hidden Lakes area in <i>Pseudotsuga menziesii</i> / <i>Pinus engelmannii</i> forests that are moist or within riparian zones. Survey season June – October.
<i>Cudonia monticola</i> Oka Documented	West of Rainy Pass, East Creek Trail. On <i>Picea</i> needles and conifer debris. Survey season: late summer & autumn
<i>Gomphus bonarii</i> Oka Documented	Hidden in deep humus under <i>Pinus</i> and <i>Abies</i> species. Mainly east of the Cascades in Wash. Survey Season: Spring / Autumn
<i>Gomphus kauffmanii</i> Oka Documented	Hidden in deep humus under <i>Pinus</i> and <i>Abies</i> species. West of Washington Pass in Swamp Creek drainage. Survey Season: Autumn
<i>Leucogaster citrinus</i> Oka Documented	Found in association w/ roots of <i>Abies concolor</i> , <i>A. lasiocarpa</i> , <i>Pinus contorta</i> , <i>P. monticola</i> , <i>Pseudotsuga menziesii</i> and <i>Tsuga heterophylla</i> from 280 m to 200 m in elevation. Survey Season: Aug - Nov
<i>Mycena monticola</i> Oka Documented	Restricted to conifer forests above 1,000 m. elevation, particularly those w/ <i>Pinus</i> species and usually found in duff. Survey Season: Aug - Nov and March
<i>Ramaria aurantiiscescens</i> Oka Documented	Fruits in humus or soil and matures above the surface of the ground. Associated with <i>Abies</i> spp. <i>Pseudotsuga menziesii</i> and <i>Tsuga heterophylla</i> . Survey Season: October
<i>Sarcodon fuscoindicus</i> (WA only) Oka Documented	On the ground in association w/ <i>Tsuga</i> and <i>Pinaceae</i> species. Survey Season: Sept-Feb
Lichens	
<i>Dermatocarpon luridum</i> Oka Documented	On rocks along stream banks and lake sides where frequently wetted.
<i>Leptogium burnetiae</i> var. <i>hirsutum</i> Oka Suspected	Infrequent over trees and rare over mossy outcrops in sheltered intermountain forests. Also rare in maritime localities,
<i>Leptogium cyanescens</i> Oka Suspected	Likely on the Eastside. Rare over trees at lower elevations in sheltered humid, intermontane forests.
<i>Nephroma bellum</i> (WA only) Oka Documented	Moist forests with strong coastal influence; often on riparian hardwoods. On the Okanogan, this species is found on rock substrates near riparian areas.

2004 Special Status Species List	Habitat
<i>Nephroma occultum</i> Oka Documented	Typically associated w/ OG forests on the west slopes of the Cascades. Epiphyte typically in mid to upper canopy of mature & old growth <i>Pseudotsuga menziesii</i> , <i>Tsuga heterophylla</i> , <i>Abies amabilis</i> & <i>Thuja plicata</i> . Occasionally in younger forests. Fairly restricted to cool humid microclimates. This species has been documented on the Okanogan in riparian habitat on rocky substrates.
<i>Peltigera neckeri</i> Oka Documented	Habitat is mossy logs, soil, and tree bases, especially in wet habitats in lowland forests. On the Okanogan it has been found in on coarse woody debris and moist soil along the edges of stream and open water habitats.
<i>Peltigera pacifica</i> Oka Suspected	On soil, moss, rocks, logs, and tree bases in low elevation moist forests.
Bryophytes	
<i>Schistostega pennata</i> Oka Documented	Root wades in moist places, primarily in association with moist forest habitats w/ <i>Abies amabilis</i> , <i>Tsuga mertensiana</i> , <i>Pinus engelmannii</i> .
<i>Scouleria marginata</i> Oka Suspected	It forms dense, black mats on rocks in the spray zone of streams and waterfalls, often submerged part of the year.
VASCULAR PLANTS	No Species Apply