

APPENDIX A - THREATENED, ENDANGERED, SENSITIVE, AND INDICATOR SPECIES

This appendix summarizes information concerning federally listed species (TE), Regional Forester Sensitive species (RFSS), and Management Indicator Species (MIS).

A.1 Federally Threatened, Endangered, and Candidate Species

Table A-1 shows the TE species listed for the Chequamegon-Nicolet National Forest.

Table A-1: Federally Listed Species (Endangered, Threatened or Proposed)				
Species	Common Name	Habitat Requirements	Species With Known Occurrence in HSW project area	Species Analyzed in Detail in HSW analysis
<i>Canis lupus</i>	Gray wolf	Mixed forest; areas of low human disturbance.		
<i>Lynx canadensis</i>	Canada lynx	Mature forest, snowshoe hare habitat; areas of low human disturbance.		
<i>Haliaeetus leucocephalus</i>	Bald eagle	Super canopy trees near lakes and rivers.	Bald Eagle	Bald Eagle
<i>Nicrophorus americanus</i>	American burying beetle	Somewhat moist soils; abundant small sized carrion.		
<i>Oxytropis campestris var chartacea</i>	Fassett's locoweed	Fluctuating lakeshore of sand or gravel, alkaline lakes.		

Those Federally listed species eliminated from further consideration in this analysis include gray wolf, Canada lynx, American burying beetle, and Fassett's locoweed. American burying beetle and Fassett's locoweed were eliminated from further study due to lack of habitat and occurrence on the Medford-Park Falls Ranger District. Canada lynx was eliminated from further consideration due to a lack of suitable habitat on the Forest. An analysis of snowfall and potential effects on lynx habitat with respect to suitability, are discussed in the document Lynx Habitat Suitability Assessment for the Chequamegon-Nicolet National Forest, (Weiland, 2002). According to Weiland's assessment, there is no suitable lynx habitat on the Forest based on snow-depth analysis, bobcat distribution and density data, lack of hair samples from surveys, lack of confirmed lynx sightings or tracks, and lack of accidental trapping or shooting, among other listed reasons. Gray wolf does have potential habitat in the project area but was eliminated from further consideration in the analysis because gray wolf does not currently occur within the project area and the alternatives will not result in a reduction of the quality of the habitat. Since the miles of open roads and overall road density will be reduced in all action alternatives and because early successional habitat and regeneration of that habitat provides habitat for wolf prey species, the area will remain suitable for wolves.

Bald eagle was addressed further in this analysis (see sections 1.4.5, 2.2.1, 3.2.1, and 4.2.1 of this document).

A.2 Regional Forester Sensitive Species

Table A-2 shows the RFSS species with a known occurrence or presence of habitat on the Medford-Park Falls Ranger District.

Table A-2: Regional Forester Sensitive Species With Habitat Potential on Medford-Park Falls Ranger District				
Species	Common Name	Habitat Requirements	Species with known occurrence in project area	Species analyzed
Mammals				
<i>Martes Americana</i>	American marten	Contiguous mature northern hardwoods.		
Birds				
<i>Accipiter gentilis</i>	Northern goshawk	Mature closed canopy forest of hardwood, including aspen and pine.		X
<i>Ammodramus leconteii</i>	LeConte's sparrow	Sedge meadow, old fields.		
<i>Bartramia longicauda</i>	Upland Sandpiper	Large open grassland and old fields.		
<i>Buteo lineatus</i>	Red-shouldered hawk	Mature closed canopy riparian forest.		X
<i>Catharus ustulatus</i>	Swainson's Thrush	Mature hardwood/conifer with conifer understory.		
<i>Chlidonia niger</i>	Black tern	Marsh, bog habitat w/ emergent vegetation.		X
<i>Cygnus buccinator</i>	Trumpeter swan	Shallow water areas of lakes w/emergent and submerged aquatics.		X
<i>Dendroica cerulea</i>	Cerulean warbler	Large blocks of mature deciduous forest.		
<i>Falcapennis canadensis</i>	Spruce grouse	Jack pine/spruce forest.		
<i>Oporornis agilis</i>	Connecticut warbler	Conifer swamp, oak-jack pine forest.	X	
<i>Picoides arcticus</i>	Black-backed woodpecker	Conifer forest, w/numerous snags, spruce-budworm infested areas.		
<i>Tympanuchus phasianellus</i>	Sharp-tailed grouse	Large upland openings, savannah.		
Reptiles/Fish/Mussels				
<i>Clemmys insculpta</i>	Wood turtle	Stream and river habitat with sand bars/banks.		
<i>Acipenser fulvescens</i>	Lake sturgeon	Large deep rivers/lakes.		
<i>Moxostoma valenciennesi</i>	Greater redhorse	Large clear water rivers, w/ sand substrate.		
<i>Venustaconcha ellipsiformis</i>	Ellipse mussel	Small to medium warmwater streams with good water quality.		
Insects				
<i>Gomphus viridifrons</i>	Green-faces clubtail	Pine barrens, bog habitat.		
<i>Incisalia henrici</i>	Henry's elfin butterfly	Pine barrens, boggy areas, forest openings.		
<i>Ophiogomphus anomalus</i>	Extra-striped snaketail	Large rivers, riffles.		
<i>Ophiogomphus howei</i>	Pygmy snaketail	Small to medium, moderate-high gradient rivers and streams with good water quality.		
<i>Phyciodes batesii</i>	Tawny crescent spot	Open jack pine barrens.		
<i>Pieris virginiensis</i>	West Virginia White	Moist, shady, rich deciduous woodlands – toothwort is host plant.		
<i>Stylurus scudderii</i>	Zebra clubtail	Small to medium size streams, cool clear water, trout stream habitat.		
Plants				
<i>Amerorchis rotundifolia</i>	Small, round-leaved orchis	Calciphile; shaded cedar or swamp conifer forest.		
<i>Arabis missouriensis var deamii</i>	Missouri rock cress	Semi-open rock outcrops, barrens on outwash plain.		

Table A-2: Regional Forester Sensitive Species With Habitat Potential on Medford-Park Falls Ranger District

Species	Common Name	Habitat Requirements	Species with known occurrence in project area	Species analyzed
<i>Botrychium minganense</i>	Mingan's moonwort	Rich hardwood forest, grassy fluctuating lakeshores.		
<i>Botrychium mormo</i>	Goblin fern	Rich hardwood forest, tip-up mounds, ephemeral pond edges, or other micro-site disturbance areas.		
<i>Botrychium oneidense</i>	Blunt-lobed grapefern	Shaded, acidic, moist forest. Edges of shaded ephemeral ponds.		
<i>Botrychium rugulosum (ternatum)</i>	St. Lawrence(Ternate) grapefern	Barrens, fluctuating lakeshore, open fields, openings in secondary forest.		
<i>Callitriche hermaphroditica</i>	Northern Water-starwort	Shallow to deep water in lakes and streams.		
<i>Calypso bulbosa</i>	Calypso orchid – Fairy slipper	Cool, mature white cedar or mixed conifer swamp, calcareous soils.		
<i>Carex assiniboinensis</i>	Assiniboine sedge	Moist shaded areas of rich hardwood forest.		
<i>Carex backii</i>	Rocky Mountain Sedge	Rock outcrop, dry sandy soils in open, second growth forest.		
<i>Carex gynocrates</i>	Northern Bog Sedge	Edges of cedar forest, marly bogs and marshes.		
<i>Carex vaginata</i>	Sheathed sedge	Neutral pH bogs and swamps.		
<i>Ceratophyllum echinatum</i>	Spineless hornwort	Acidic soft-water lakes.		
<i>Cynoglossum virginianum var boreale</i>	Northern wild comfrey	Sandy/rocky borders of clearings, openings, dry woods and thickets.		
<i>Cypripedium arietinum</i>	Ram's head lady's slipper	Cool dense conifer swamps, upland boreal-like forest on clay with seepy soils.		
<i>Diplazium pycnocarpon</i>	Glade Fern	Rich deciduous forest.		
<i>Dryopteris expansa</i>	Spreading woodfern	Moist hemlock-hardwood forest, talus/rocky slopes in full shade, often near water.		
<i>Epilobium palustre</i>	Marsh willow-herb	Wet thickets, marshes.		
<i>Equisetum palustre</i>	Marsh horsetail	Marsh; shallow water.		
<i>Juglans cinerea</i>	Butternut	Rich hardwood forest.		
<i>Juncus stygius L.</i>	Bog (moor) rush	Edges of pools in poor fen, calciphile.		
<i>Leucophysalis grandiflora</i>	Large-flowered ground cherry	Open, disturbed soils, recently drained beaver meadows, barrens.		
<i>Littorella uniflora</i>	American shore-grass	Sandy/mucky shorelines of clear, soft-water lakes.		
<i>Malaxis brachypoda</i>	White adder's mouth	Cold, wet, shady conifer swamp.		
<i>Myriophyllum farwellii</i>	Farwell's water-milfoil	Lakes and ponds.		
<i>Panax quinquefolius</i>	Ginseng	Rich deciduous hardwood forest.		
<i>Potamogeton confervoides</i>	Algae-like pondweed	Acidic, mucky shallow water of bog lakes or slow flowing streams.		
<i>Potamogeton hillii</i>	Hill's pondweed	Clear, cold, slow-flowing alkaline streams or wetlands; mud substrate.		
<i>Pyrola minor</i>	Lesser Wintergreen/small shinleaf	Boreal-like forest near Lake Superior, also black spruce/tamarack swamp edge and alder thicket.		
<i>Ranunculus gmelinii</i>	Small yellow water-crowfoot	Edges of streams and lakes; bog pools and springs.		
<i>Streptopus amplexifolius</i>	White mandarin	Rich moist woods, shaded rocky areas, mesic ravines in the Penokee Range.		
<i>Tiarella cordifolia L.</i>	Foam Flower	Rich hardwood riparian forest, stream banks, moist woods.		
<i>Ulmus americana</i>	American elm	Rich well-drained loams.	X	X

Those species eliminated from further consideration due to lack of habitat and occurrence on the District are: pugnose shiner, northern blue butterfly, *Chryxus arctic*, green spleenwort, alpine milkvetch, Crawe sedge, livid sedge, Michaux's sedge, many-headed sedge, male fern, fragrant fern, capitate spikerush, few-flowered spikerush, Russet cotton-grass, large-leaved avens, Indian cucumber-root, large-leaved sandwort, Canada mountain-ricegrass, marsh grass-of-Parnassus, Western Jacob's ladder, Braun's holly fern, lesser wintergreen, brown beakrush, dwarf huckleberry (bilberry), and marsh valerian. These species are not displayed on the preceding table.

Other RFSS species that have habitat and potential occurrence on the District, but lack potential habitat or occurrence within the project area were also dropped from further consideration. These species include: lake sturgeon, upland sandpiper, Swainson's thrush, wood turtle, green-faces clubtail, greater redhorse, extra-striped snaketail, pygmy snaketail, tawny crescent spot, zebra clubtail, sharp-tailed grouse, ellipse mussel, round-leaved orchis, ternate grape-fern, northern water-starwort, fairy slipper (calypso orchid), Rocky Mountain sedge, sheathed sedge, spineless hornwort, ram's-head lady's-slipper, glade fern, spreading wood fern, American shore-grass, algal-like pondweed, and Hill's pondweed.

RFSS species with potential habitat present within the project area, but with minimal or low likelihood of occurrence, were dropped from further consideration. These species include: LeConte's sparrow, Cerulean warbler, spruce grouse, Henry's elfin, American marten, West Virginia white, Missouri rock cress, Mingan's moonwort, goblin fern, blunt-lobed grape-fern, assiniboine sedge, northern bog sedge, northern wild comfrey, marsh willow-herb, marsh horsetail, butternut, moor rush, large-flowered ground-cherry, white adder's mouth, Farwell's water-milfoil, American ginseng, small yellow water-crowfoot, white mandarin, and heart-leaved foam flower.

RFSS that have habitat present in the project area and have a moderate to high probability of occurrence are: northern goshawk, red-shouldered hawk, black tern, trumpeter swan and black-backed woodpecker. Black backed-woodpecker was dropped from further consideration because no proposed activities would impact its potential habitat or likelihood of occurrence.

American elm and Connecticut warbler are the only RFSS species that are confirmed as occurring within the project area. Connecticut warbler was dropped from further consideration because no proposed activities would impact its potential habitat or likelihood of occurrence.

Regional Forester Sensitive Species (RFSS) analyzed in further detail for this analysis included: northern goshawk, red-shouldered hawk, black tern, trumpeter swan, and American elm (see section 2.3.1 of this document).

The Biological Evaluation for the Hoffman-Sailor West project (November 21, 2002) concluded there would be no effect on RFSS species in any alternative.

A.3 Management Indicator Species

Table A-3 shows the MIS species identified in the Chequamegon Forest Plan.

Table A-3: Management Indicator Species				
Species	Known Occurrence in Project Area (Y/N)	Preferred Habitat Occurrence in Project Area (Y/N)	Species analyzed	Preferred Habitat
Common Loon	N	Y		Open water lakes larger than 25 acres and clear or light brown water.
Ring-necked Duck	N	Y		Sedge meadows, sphagnum bog, deep marsh, open water.
Common Yellowthroat	Y	Y		Shrub swamp.
Thirteen-lined Ground Squirrel	N	Y		Manicured grass openings, mowed roadsides, and larger upland openings.
Sharp-tailed Grouse	N	N		Large upland openings, savannah.
White-tailed Deer	Y	Y	X	Forest edges, areas interspersed with fields and woodland openings.
Ruffed Grouse	Y	Y	X	Mixed Forest Types and age classes particularly aspen in the Great Lakes region.
Pileated Woodpecker	N	Y		Swamp conifer and northern hardwoods.
Pine Warbler	N	Y		Red and white pine and white spruce 60+age group.
Blackburnian Warbler	N	Y		Spruce 91+ years and balsam fir 61+ years age group.
Brown Creeper	Y	Y		Deciduous/conifer mix.
Olive-sided Flycatcher	N	Y		Swamp conifer.
Barred Owl	N	Y		Mixed northern hardwoods.
Bald Eagle	Y	Y	X	Super canopy trees near lakes and rivers.
Gray Wolf	N	Y		Mixed forest; areas of low human disturbance.
Brook Trout	Y	Y	X	Cold water streams and lakes.
Muskellunge	N	N		Warm water lakes and rivers.
Spring Peeper	Y	Y		Wetlands of most every Forest Type.

Sharp-tailed grouse and muskellunge were not selected for further analysis because they do not have any known suitable habitat within the project area.

Those species not selected for further analysis because their habitat or population will not be impacted by any proposed projects include: common loon, ring-necked duck, common yellowthroat, thirteen-lined ground squirrel, pileated woodpecker, pine warbler, blackburnian warbler, brown creeper, olive-sided flycatcher, barred owl, gray wolf, and spring peeper.

The following species were selected for further analysis because their populations and/or habitat could be affected by proposed projects: white-tailed deer and ruffed grouse because of the amount of aspen treatment proposed; brook trout because of projects adjacent to Dalrymple Creek where it is known to occur; and bald eagle because of projects adjacent to Sailor Lake. See Chapter 4 of this document, sections 4.2.1, 4.2.2, and 4.2.3 for the expected impacts to these MIS.

Additional information on each of the Management Indicator Species (i.e., management objectives, current habitat availability, and population trends) can be found in the Hoffman-Sailor West analysis file, Management Indicator Species Report, March 26, 2002.