

Clara Project Biological Evaluation

BE Attachment 1. Biological Evaluation/Assessment Summary for the Clara Environmental Assessment									
Gunflint Ranger District, Superior National Forest									
U.S. Forest Service - Region 9 Forester's Sensitive Species and US FWS - Federally Threatened and Endangered Species									
(February 29, 2000 list, updated October 5, 2006)									
Likelihood of Occurrence in the Project Area and Determination of Effects									
for Clara Environmental Assessment (EA)									
KEY:									
^a Suitable Habitat or Known Occurrence		N = No, no suitable habitat in the project area or no known occurrences Y = Yes, suitable habitat is in the project area or there is a known occurrence							
^b Determination of Effects		NO= no impacts/effects MINL = may impact individuals but not likely to cause a trend to federal listing or a loss of viability LFLV = likely to result in a trend to federal listing or a loss of viability NLAA = may effect but not likely to adversely affect LAA = may effect and is likely to adversely affect BI = Beneficial impacts U = Impacts unknown							
Common Name (1) = Federally listed (2) = Management Indicator Species	Scientific Name	Habitat Summary	^a Suitable Habitat or Known Occurrence	Reasoning or Source used for Area Occurrence Finding	^b Determination of Effects			Brief summary of reasoning for determination	
					Alt 1	Alt 2	Alt 3		
MAMMALS									
Gray wolf (1, 2)	<i>Canis lupus</i>	Variety of habitats, adequate prey, low human disturbance	Y	See Biological Assessment				See Biological Assessment	
Canada lynx (1, 2)	<i>Lynx canadensis</i>	Variety of habitats, adequate prey, low human disturbance	Y	See Biological Assessment				See Biological Assessment	
Heather vole	<i>Phenacomys intermedius</i>	Forest, brushland or clearcuts with <i>Vaccinium</i> spp and rocks	Y	MN NHP 2007; Jannett 2007	NO	MINL	MINL	Actions could create habitat or disturb habitat and individuals.	
BIRDS									
Bald Eagle (2)	<i>Haliaeetus leucocephalus</i>	Large lakes & rivers with large trees for nesting and roosting	Y	MN NHP 2007, M.Grover pers. observation	NO	MINL	MINL	Nest sites are protected from disturbance; planting white pine will increase nesting habitat.	
Northern goshawk (2)	<i>Accipiter gentilis</i>	Large patch of older trees with closed canopy and open understory	Y	Boal and Anderson 2001	NO	MINL	MINL	Habitat impacts expected to be minimal and within Forest Plan projections.	
Boreal owl	<i>Aegolius funereus</i>	Secondary cavity nester Old boreal forest (inc aspen) next to lowland conifer foraging areas	Y	MN NHP 2007, B.Lane pers. comm. 2007	NO	MINL	MINL	No large lowland complexes impacted. No evidence of recent nesting activity (B.Lane, pers. comm. 2007).	
LeConte's sparrow	<i>Ammodramus leconteii</i>	Uplands and lowlands with dense, tall, grass/sedge vegetation and thick ground litter	Y	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area	
Olive-sided flycatcher	<i>Contopus cooperi</i>	Snags, low density conifer lowlands, riverine/riparian areas	Y	MN NHP 2007, Danz et al. 2007	NO	MINL	MINL	Wintering grounds are likely cause of decline; minimal impact to lowland conifer or riparian habitats.	
Yellow rail	<i>Coturnicops noveboracensis</i>	Lowland sedge meadows with specific characteristics such as overhead mat of dead sedge	Y	MN NHP 2007, USDA 2001-2004CA	NO	NO	NO	No impact to habitat	
Black-throated blue warbler	<i>Dendroica caerulescens</i>	Large contiguous mature forests, probably associated with small canopy gaps and a well-developed shrub understory	Y	MN NHP 2007, BBS routes, Danz et al. 2007, Holmes 2005, USDA 2001-2004CA	NO	MINL	MINL	Habitat would remain well distributed and acreage would be above the range of natural variation	
Bay-breasted warbler	<i>Dendroica castanea</i>	Mature upland and lowland spruce/fir forests	Y	MN NHP 2007, Danz et al. 2007, USDA Forest Service 2001-2004CA	BI	BI	BI	MIH6 mature+ upland conifer will increase in all alternatives, MIH 9 mature+ will increase slightly in all alternatives.	

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Peregrine falcon	<i>Falco peregrinus anatum</i>	Nest: cliff/ledges; Forage: forest openings, lakes, wetlands	Y	MN NHP 2007	NO	NO	NO	No impact to habitat
Connecticut warbler	<i>Oporornis agilis</i>	Jack pine or lowland conifer with a thick ericaceous understory. Area sensitive species	Y	MN NHP 2007, Danz et al. 2007, USDA 2001-2004CA	NO	MINL	MINL	Minimal changes to jack pine and lowland conifer, habitat indicators MIH8, MIH9
Three-toed woodpecker	<i>Picoides tridactylus</i>	Coniferous forests with snags. Responds to forest disturbance resulting from fire, insects, disease, wind.	Y	MN NHP 2007; Danz et al. 2007, USDA 2001-2004CA	NO	MINL	MINL	Mitigations for leave trees will help minimize effects to habitat. Very little change in habitat indicators MIH8, MIH6, MIH9 mature +
Great gray owl	<i>Strix nebulosa</i>	Nesting habitat of mature trees on wet soil with >60% canopy closure near open foraging areas	Y	MN NHP 2007	NO	MINL	MINL	Very little change to existing foraging habitat. No known nests. Trees with large stick nests will be protected.
Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>	Brushland complexes (>5,000 acres) with open areas, brush and small trees. Also large, open agricultural hay or pasture with associated brush habitat	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area
REPTILES								
Wood turtle	<i>Clemmys insculpta (Glyptemys)</i>	Upland and lowland habitats with suitable shade and insects for forage. Riparian habitats with open sandy areas for nesting	N	MN NHP 2007; Oldfield and Moriarty 1994	NO	NO	NO	No impact to habitat: no records for the area
FISH								
Lake sturgeon	<i>Acipenser fulvescens</i>	On SNF: Large lakes and rivers in the Hudson Bay drainage	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the project area
Shortjaw cisco	<i>Coregonus zenithicus</i>	Deep water lakes such as Lake Superior, Saganaga and Gunflint Lakes, possibly others	N	MN NHP 2007	NO	NO	NO	No impact to habitat
Northern brook lamprey	<i>Ichthyomyzon fossor</i>	Warm, medium-sized, low-gradient streams with sections of higher gradient reaches suitable for spawning. Ammonoete's require organically enriched, sandy substrate until metamorphosis	Y	MN NHP 2007	NO	MINL	MINL	Watershed indicator threshold values not exceeded; project design features reduce impacts
MOLLUSKS								
Creek heelsplitter	<i>Lasmigona compressa</i>	Small headwater streams, riverine conditions, at or near river inlets in lakes on SNF	Y	MN NHP 2007	NO	MINL	MINL	2004 Forest Plan standards and guidelines, project design features and BMPs reduce impacts; watershed indicator threshold values not exceeded
Black sandshell	<i>Ligumia recta</i>	Wide rivers with moderate current and deep run or glide habitat	Y	MN NHP 2007	NO	MINL	MINL	2004 Forest Plan standards and guidelines, project design features and BMPs reduce impacts; watershed indicator threshold values not exceeded
INSECTS								
Tiger beetle sp.	<i>Cicindela denikei</i>	Sandy or rocky openings in northern hardwood forest communities or in coniferous stands with sandy soil.	Y	MN NHP 2007	MINL	MINL	MINL	Very little change to existing suitable habitat; actions may create or disturb habitat; no gravel pit expansions are proposed.
Mancinus alpine butterfly	<i>Erebia disa mancinus</i>	Shady black spruce swamp	Y	MN NHP 2007, Coffin and Phannmuller 1988, MacLean 2006, USDA 2008d	NO	NO	NO	No treatment of MIH 9 mature+ which would increase slightly with succession.
Red-disked alpine butterfly	<i>Erebia discoidalis discoidis</i>	Grassy areas in open bogs, fens. Lowlands with stunted black spruce, sphagnum, and Ericads. Dry, sandy ridges in open jack pine forest.	Y	MN NHP 2007, Coffin and Phannmuller 1988, MacLean 2006, USDA 2008d	NO	MINL	MINL	Burn inclusion of 54 lowland black spruce acres may affect 1.3% of habitat in Clara area. No treatment of MIH 8 mature+ which would decrease slightly with succession.
Nabokov's (or Northern) blue butterfly	<i>Lycaeides idas nabokovi</i>	<i>Vaccinium cespitosum</i> host in open sandy jack pine areas and rock knobs. On SNF: Laurentian, Gunflint and Tofte Districts	Y	MN NHP 2007, Coffin and Phannmuller 1988, MacLean 2006, USDA 2008d	NO	MINL	MINL	Burning for fuel reduction may create habitat, site preparation and dense conifer planting may reduce habitat. Monitoring and treatment of invasive plants may protect habitat.
Jutta arctic butterfly	<i>Oeneis jutta ascerta</i>	Moderately forested black spruce bogs with sedges	Y	MN NHP 2007, Coffin and Phannmuller 1988, MacLean 2006, USDA 2008d	NO	NO	NO	No treatment of MIH 9 mature+ which would increase slightly with succession.

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Freija's grizzled skipper	<i>Pyrgus centaureae freija</i>	Known only from the McNair special management area. Upland acidic meadow, scrubby willow, barrens	Y	MN NHP 2007, Coffin and Phannmuller 1988, MacLean 2006, USDA 2008d	NO	NO	NO	Known only from one location on SNF. Logged openings may create habitat, site preparation and dense conifer planting may reduce habitat. Monitoring and treatment of invasive plants may protect habitat.
Quebec emerald dragonfly	<i>Somatochlora brevicincta</i>	Lentic environments: bogs, fens and heaths	Y	NatureServe 2008	NO	MINL	MINL	Low impact to aquatic communities. Habitat accessed during frozen conditions. No known occurrences
VASCULAR PLANTS								
Moschatel	<i>Adoxa moschatellina</i>	Shaded damp cliffs and slopes in upland mature northern hardwood forest	Y	MN NHP 2007	NO	MINL	MINL	MINL: Known occurrence would be avoided during fuels reduction activities
Long-leaved arnica	<i>Arnica lonchophylla</i>	Perennial herb; Cool & moist cliffs and ledges on North Shore. Arctic disjunct	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Maidenhair spleenwort	<i>Asplenium trichomanes</i>	Perennial fern; In crevices of moist, mostly east facing cliffs, ledges and talus, Rove formation	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Alpine milkvetch	<i>Astragalus alpinus</i>	Sandy, gravelly fluctuating shorelines with sparse vegetation. Inland strand beach - sparse veg	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Swamp beggar-ticks	<i>Bidens discoidea</i>	Wet habitats: silty shores, hummocks in floating mats and swamps, partly submerged logs	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Pointed moonwort	<i>Botrychium acuminatum</i>	Perennial fern; Open habitats such as old log landings, old dirt roads, borrow pits	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Triangle grape-fern	<i>Botrychium lanceolatum</i>	Mostly northern hardwood forests, also oldfields, old logging roads, trails	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Lance-leaf grape-fern	<i>Botrychium lanceolatum var augustisegmentum</i>	Mostly northern hardwood forests, also oldfields, old logging roads, trails	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Common moonwort	<i>Botrychium lunaria</i>	Open habitats such as old log landings, sawmill sites, old building sites	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Michigan moonwort	<i>Botrychium michiganense (hesperium)</i>	Open habitats such as old log landing, old dirt roads, gravel pits, powerline corridors, borrow pits. Also beach ridges, old fields, trails, and dredge spoil dumps	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Goblin fern	<i>Botrychium mormo</i>	Mesic northern hardwood forest with thick leaf layer, open understory	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Pale moonwort	<i>Botrychium pallidum</i>	Open, disturbed habitats, log landings, roadsides, dunes, sandy gravel pits	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Ternate grape-fern	<i>Botrychium rugulosum (=ternatum)</i>	Generally open habitats, such as old log landings and edges of trails	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Least moonwort	<i>Botrychium simplex</i>	Generally open habitats, such as old log landings, roadside ditch, trails, open fields, base of cliff, railroad rights of way	Y	MN NHP 2007	MINL	MINL	MINL	MINL: Could be short term impacts to suitable habitat, but over long term disturbance could create habitat.
Floating marsh-marigold	<i>Caltha natans</i>	Perennial herb; shallow water of pools, ditches, sheltered lake margins, slow moving creeks, sloughs and oxbows, pools in shrub swamps	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Fairy slipper	<i>Calypso bulbosa</i>	Hummocks in northern white cedar swamps, moist to wet lowland conifer swamps, and to lesser extent in upland coniferous forests	Y	Smith 1993	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Katahdin sedge	<i>Carex katahdinensis</i>	In seasonally moist, gravelly/sandy soil; along shores of large and small lakes; margins of ephemeral pools; associated with seasonal flooding	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations

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New England sedge	<i>Carex novae-angliae</i>	Moist woods with sugar maple, also with birch, aspen, tall shrubs; yellow birch and white spruce dominated forest	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Ross' sedge	<i>Carex rossii</i>	Perennial graminoid; Rocky summits, dry exposed cliff faces, rocky slopes, in east Border Lakes subsection	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Douglas's hawthorn	<i>Crataegus douglasii</i>	North Shore rocky, gravelly streambeds/banks and open areas; rocky borders of woods	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Ram's-head lady's slipper	<i>Cypripedium arietinum</i>	Wide variety of forests, both upland and lowland, but in MN predominantly in white cedar swamps; also in forests dominated by jack pine, red pine, or white pine	Y	MN NHP 2007	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Rough-fruited mandarin	<i>Disporum trachycarpum</i>	Semi-open jack pine forest, with aspen, birch, shallow rocky soils, in east Border Lakes subsection	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Linear leaved sundew	<i>Drosera linearis</i>	Minerotrophic water tracks in patterned peatlands	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Neat spike-rush	<i>Eleocharis nitida</i>	Mineral soil of wetlands, often w/ open canopy and disturbance, such as logging roads/ditches through wetlands	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Appalachian fir clubmoss	<i>Huperzia appalachiana</i>	Shelves and crevices on cliffs/talus, and shrub dominated talus piles	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Moor rush	<i>Juncus stygius</i>	Patterned fens, shallow pools in non-forested peatlands, often in a sedge-dominated community	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Creeping rush	<i>Juncus subtilis</i>	Shallow water and sandy/gravelly shores of lakes and interconnecting streams – only known occurrence in BWCAW	N	MN NHP 2007, Gerdes 2005a	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Auricled twayblade	<i>Listera auriculata</i>	On alluvial or lake-deposited sands or gravels, with occasional seasonal flooding, associated with riparian alder or spruce/fir forest	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
American shore-grass	<i>Littorella uniflora</i>	Shallow margins of nutrient-poor lakes, seepage lakes, sandy substrate, may have fine gravel/organic soil. Fluctuating water up to about 1 meter	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Large-leaved sandwort	<i>Moehringia macrophylla</i>	Cliffs/rock outcrops, talus, conifer sites on shallow soils, pine plantation with rocky outcrops; usually semi-open shrub or tree canopy	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Fall dropseed muhly	<i>Muhlenbergia uniflora</i>	Wet sandy beaches, floating peat mats	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Dwarf water-lily	<i>Nymphaea leibergii</i>	Slow moving streams, rivers, beaver impoundments 1-2 m deep. Occurs at outer margin of emergent vegetation	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Canada ricegrass	<i>Oryzopsis canadensis</i> (= <i>Piptatherum canadense</i>)	Grows in sandy/gravelly substrates, in pine plantations, along borders, edges, trailsides, and openings	Y	MN NHP 2007, Gerdes 2005	NO	MINL	MINL	MINL: Harvest and road building would cause short term impacts to suitable habitat, but over long term more suitable habitat would be created by these activities, and only small proportion of habitat would be affected
Chilean sweet cicely	<i>Osmorhiza berteroi</i>	Northern hardwood forest dominated by sugar maple on North Shore	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat

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Sticky locoweed	<i>Oxytropis borealis</i> var <i>viscida</i> (= <i>Oxytropis</i> <i>viscida</i> var <i>viscida</i>)	Perennial herb; Slate cliff and talus slopes in east Border Lakes subsection. Arctic/alpine disjunct	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Club-spur orchid	<i>Platanthera clavellata</i>	Floating bog mats, sphagnum, stunted conifer swamp, mixed spruce tamarack, borrow pits, winter logging roads	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Western Jacob's ladder	<i>Polemonium occidentale</i> <i>ssp. lacustre</i>	Primarily white cedar swamps, also mixed conifer swamps; thrives in openings	N	MN NHP 2007, Carlson and Sather 2001	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Braun's holly-fern	<i>Polystichum braunii</i>	Perennial fern; Cool shady cliffs & slopes in northern hardwoods	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Lesser wintergreen or Small shinleaf	<i>Pyrola minor</i>	Black spruce swamps, and ecotone between uplands and lowland alder/conifer swamp, prefers closed canopy	Y	MN NHP 2007	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Cloudberry	<i>Rubus chamaemorus</i>	Black spruce/sphagnum forest, acidic. Superior NF at southern edge of species range	Y	MN NHP 2007	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Nodding saxifrage	<i>Saxifraga cernua</i>	Cliffs, ledges, diabase cliff (calcium based feldspars). Arctic/alpine disjunct. One location in MN in open cliff	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Livelong saxifrage	<i>Saxifraga paniculata</i> (= <i>at:oon</i>) spp. <i>Neogaea</i>	Cliffs, sheltered crevices, and ledges of north- facing cliffs; Arctic/alpine disjunct	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Northern bur-reed	<i>Sparganium glomeratum</i>	Floating muck mats in emergent wetland habitat such as moats, pond margins, road ditches	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Awlwort	<i>Subularia aquatica</i>	Beach zone of sandy nutrient-poor lakes. Shallow lake margins. Submerged or emerged, or stranded. 15-45 cm deep water, but can occur deeper. Can flower while stranded, or under other conditions	Y	MN NHP 2007	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Canada yew	<i>Taxus canadensis</i>	Wide variety of uplands and lowlands, including cedar/ash swamps, talus and cliffs, northern hardwoods, aspen/birch forest	Y	USDA Forest Service 2006	NO	MINL	MINL	MINL: Harvest and road building could impact suitable habitat, but no disturbance proposed for lowland cedar forests, and large number of known occurrences on SNF would maintain viability.
False-asphodel	<i>Tofieldia pusilla</i>	Sedge mats at edges of shoreline rock pools along Lake Superior. Arctic disjunct	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
Lance-leaved violet	<i>Viola lanceolata</i>	Sandy to peaty lakeshores; borders of marshes and bogs, damp sand ditches	Y	USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Minor possible impacts to suitable habitat, would be minimized by winter operations
Barren strawberry	<i>Waldsteinia fragarioides</i>	Upland coniferous and deciduous forests, in recently harvested areas, established plantations, and areas with no recent harvest	Y	MN NHP 2007	NO	MINL	MINL	MINL: Harvest and road building would cause short term impacts to suitable habitat, but over long term more suitable habitat would be created by these activities, and only small proportion of habitat would be affected
Smooth woodsia	<i>Woodsia glabella</i>	Perennial fern; Moist, north-facing cliffs along Lake Superior. Arctic disjunct	N	MN NHP 2007	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat

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NONVASCULAR PLANTS								
a lichen sp.	<i>Arctoparmelia centrifuga</i>	Sunny rocks and open talus slopes	N	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
a lichen sp.	<i>Arctoparmelia subcentrifuga</i>	Sunny rocks and open talus slopes	N	USDA Forest Service 2001-2004CA, Wetmore 2000 & 2001	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
a lichen sp.	<i>Caloplaca parvula</i>	Smooth bark of young black ash in moist, humid old growth black ash stand	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Yellow ribbon lichen	<i>Cetraria (=ahtiana) aurescens</i>	Conifer bark in lowland conifer swamps (old cedar/black spruce)	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
a lichen sp.	<i>Cladonia wainoi</i>	On rock outcrops and thin soil – exposed sites with lots of light	N	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	NO	NO	No impact to habitat: no records for the area or suitable habitat
a liverwort sp.	<i>Frullania selwyniana</i>	Lowland cedar swamps on bark of white cedar	Y	Janssens 2002	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
Port-hole lichen	<i>Menegazzia terebrata</i>	Cedar swamps, especially old growth; base of cedar trees	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
a Dog lichen	<i>Peltigera venosa</i>	Soil and moist cliffs, exposed root wads	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Harvest and road building could impact suitable habitat, but future tip ups and blowdown could create more suitable habitat
Yellow specklebelly lichen	<i>Pseudocyphellaria crocata</i>	Grows on mossy rocks, trees in partially shaded, humid sites. Known occurrences locally are in open & forested peatlands and near lakes	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
a lichen sp.	<i>Ramalina thrausta</i>	Cedar swamps, especially old growth	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
a lichen sp.	<i>Sticta fuliginosa</i>	On hardwoods in humid, old growth cedar or ash bogs	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.
a lichen sp.	<i>Usnea longissima</i>	On old conifers in moist situations, often in or near a conifer or hardwood swamp	Y	Wetmore 2000 & 2001, USDA Forest Service 2001-2004CA	NO	MINL	MINL	MINL: Lowland road construction could impact suitable habitat, but winter activity would minimize direct impacts, and only small proportion of habitat would be affected.