PR# 331

United States
Department of
Agriculture

Forest
Service

Environmental Assessment

Continental Divide Resource Management

Blackduck Ranger District
Chippewa National Forest
Beltrami and Itasca Counties, Minnesota

NOTE:
Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Blackduck Ranger District Office in Blackduck, MN. Particularly in the Specialist Report (PR# 330). This EA only contains the most summarized data needed to make a decision and to disclose the main effects of the treatments.

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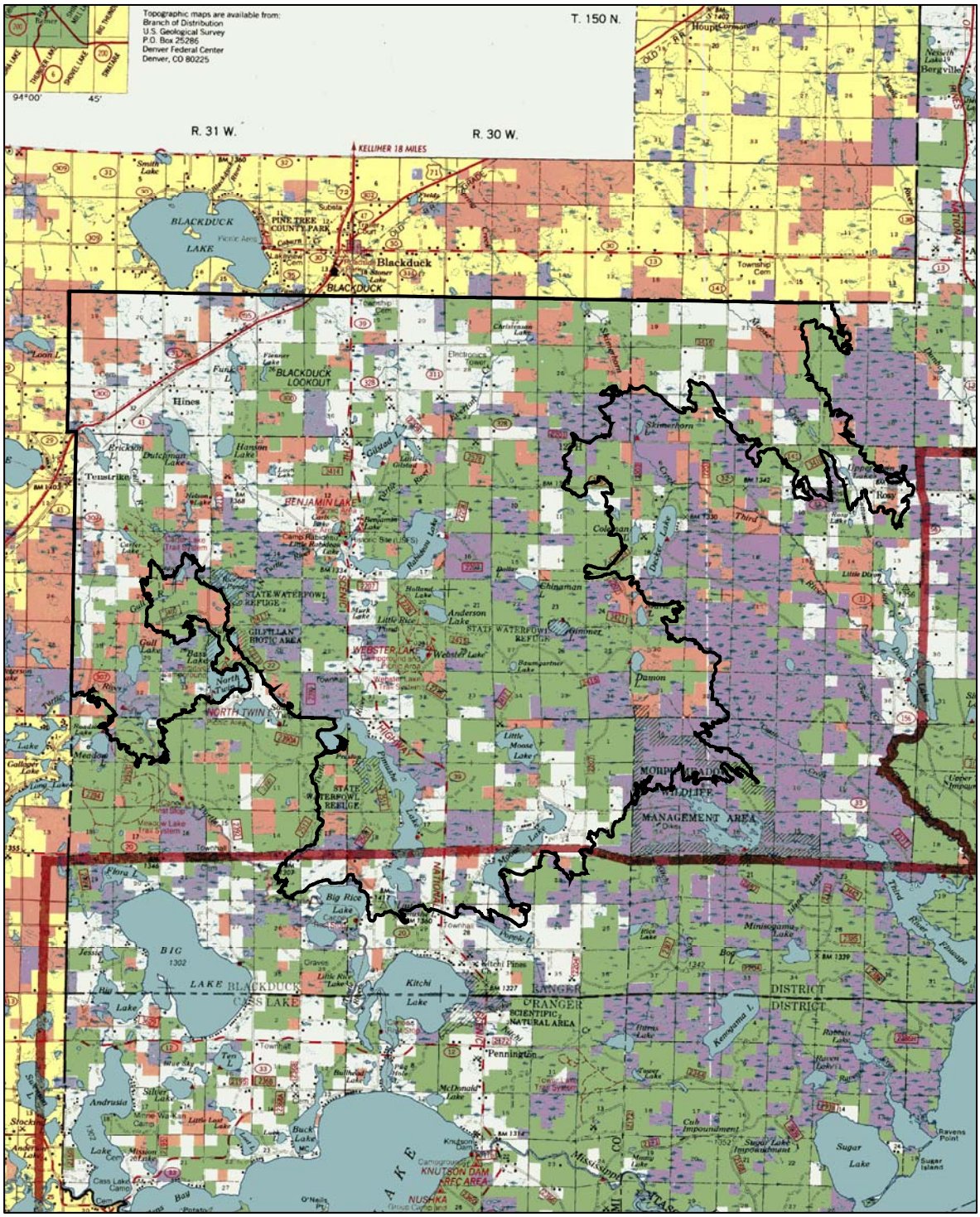
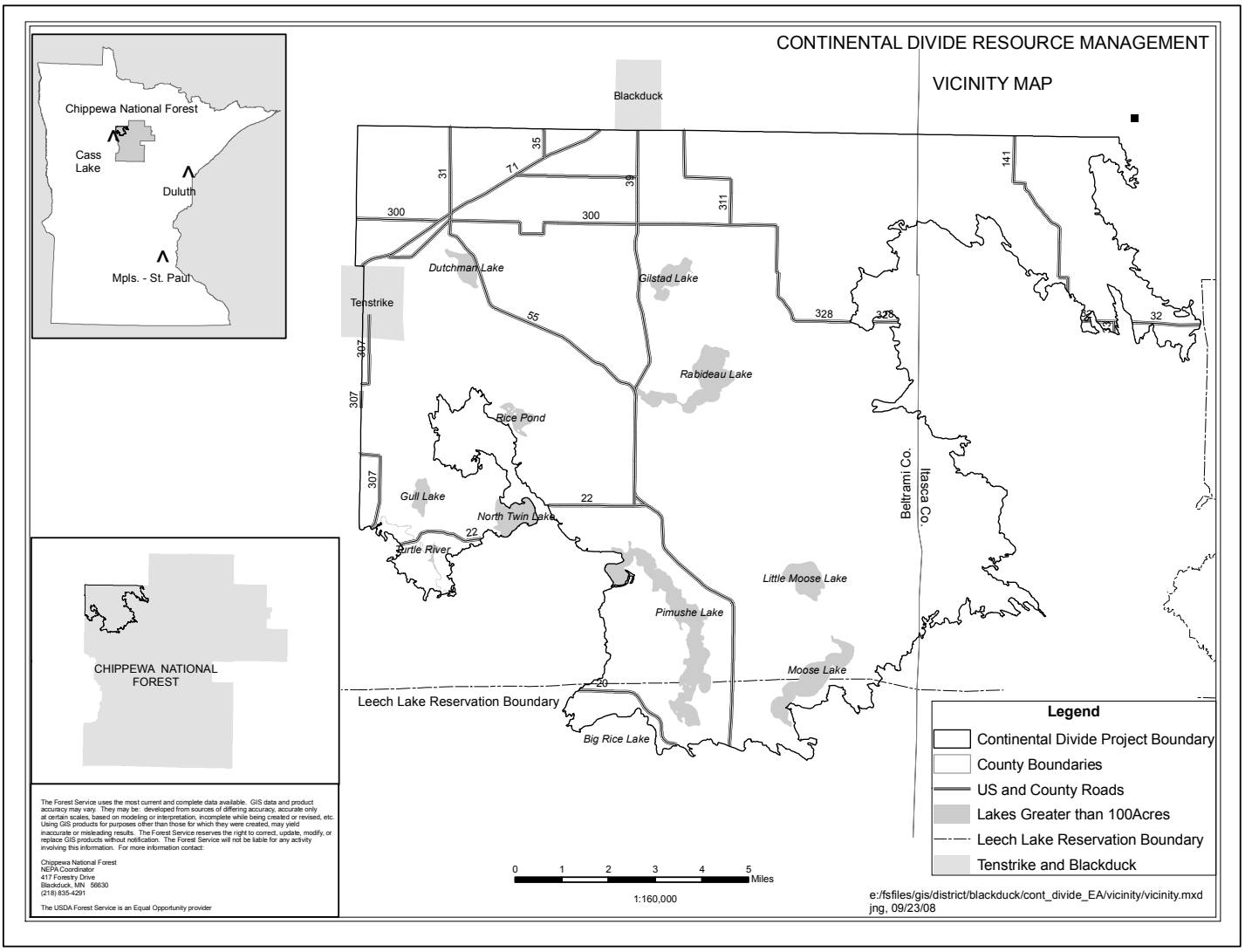


Continental Divide Resource ManagementEA

VICINITY AREA MAP - Statewide and Forest Map



CHAPTER 1 - PURPOSE AND NEED FOR ACTION

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Blackduck Ranger District Office in Blackduck, MN, particularly in the Specialist Report (PR# 330). This EA only contains the most summarized data needed to make a decision and to disclose the main effects of the treatments.

1.1 - INTRODUCTION/BACKGROUND

The Continental Divide Resource Management (CDRM) project area encompasses approximately 93,481 total acres, of which about 36,946 acres are National Forest System (NFS) lands. The project area is located between Blackduck, Alvwood, and Kitchi Lake in Beltrami and Itasca Counties with boundaries as follows: North and west are the Forest boundary and the south and east are various LE boundaries. (See Vicinity Map.) The legal description is Township 147 North, Range 29-31 West (T147N R29-31W); T148N R29-31W, and T149N R29-31W. Only a small southern tip is inside the LLBO reservation boundary.

The location was chosen to implement the management direction of the Chippewa National Forest Land and Resource Management Plan (the 2004 Forest Plan or the Forest Plan). The boundary of the CDRM area was chosen because it is a fairly well-defined, logical area based on landscape ecosystems (LE) that the Forest Plan emphasizes.

This analysis is based on input from a large interdisciplinary team with knowledge of the Environmental Impact Statement and Record of Decision for the 2004 Forest Plan, the 2004 Forest Plan, knowledge of on-the-ground conditions of this part of the Forest, and professional knowledge of all the various resources found in the CDRM area. This analysis is tiered to the Environmental Impact Statement and Record of Decision (PR# 72a) for the 2004 Forest Plan (PR# 72). All activities would be consistent with the intent of the Forest Plan.

Notes on the analysis: There will be minor differences between acreage figures for similar tables and analyses. This is primarily due to different sources of data and rounding errors. This is understood and is never enough difference to change results.

The CDRM EA area is all or portions of three landscape ecosystems (LE) and five Forest Plan Management Areas (MA), as follows. Longer descriptions of these are found in Section 3.1 and in the Specialist Report (PR# 330) in Tables 1.1.a and 1.1.b.

BHC - Boreal Hardwood Conifer - 68.9%
MNH - Mesic Northern Hardwoods - 12.9%
TS - Tamarack Swamp - 3.2%

General Forest (10.1) - 87%
General Forest - Long Rotation (10.2) - 10%
Unique Biological, Aquatic, Geological, or Historical (UB) (8.3) - 1%
Candidate RNA MA (CRNA MA) (8.2.a) - 1%
Riparian Area Emphasis (RE MA) (8.6) - 0%

Table 1.1.c: Acres of Land by Ownership in CDRM Area *

	All Ownership	National Forest	State	LLBO	Beltrami County	Itasca County	Other	Lakes
Acres	93,481	36,946	15,360	0	8,118	2,285	25,318	5,454
Percent	100%	40%	16%	0%	9%	2%	27%	6%

1.2 - PURPOSE AND NEED FOR ACTION

The purpose and need for the Continental Divide Resource Management (CDRM) project is to implement the Land and Resource Management Plan for the Chippewa National Forest (the 2004 Forest Plan or the Forest Plan) by meeting Guidelines, Standards, Desired Conditions, Objectives, and Goals. The purpose is to move the Existing Condition to or toward the Desired Condition. It is based on objectives for:

Meeting Landscape Ecosystem Objectives in the Forest Plan for Decade 2 and thereby providing wood fiber to the local community and other forest products for traditional gathering.
Maintaining Suitable Wildlife Habitats.
Maintaining Conditions Suitable for Social Uses of the CDRM area
Protecting Soil and Water Resources.
Managing an Efficient Transportation System

Table 1.2.a -- Purpose and Need for Action in CDRM Area

Items 1c to 1f from Table 1.2.a are summarized in Tables 1.2.aa and 1.2.ab to save space and to make the numbers more easily readable. The full tables are found in the Specialist Report (PR# 330).

Table 1.2.aa -- Condition of Species Compared to CDRM or LE Conditions *

LE	aspen CDRM	aspen LE	birch CDRM	birch LE	red pine CDRM	red pine LE	jack pine CDRM	jack pine LE	white pine CDRM	white pine LE	spruce fir CDRM	spruce fir LE	oak CDRM	oak LE
BHC	-	+	-	ok	+	-	+	+	-	-	+	-	ok	ok
MNH	+	+	-	+	-	ok	ok	+	+	-	+	-	-	ok
TS	+	+	+	+	-	ok	-	ok	-	-	-	-	ok	+

* + means the species is over-represented, - means the species is under-represented, "ok" means adequate representation

Table 1.2.aa (continued) -- Condition of Species Compared to CDRM or LE Conditions *

LE	Northern Hardw'd CDRM	Northern Hardw'd LE	Black Spruce CDRM	Black Spruce LE	cedar CDRM	cedar LE	Tamarak CDRM	Tamarak LE	Lowland Hardw'd CDRM	Lowland Hardw'd LE
BHC	+	+	+	ok	+	ok	+	ok	-	ok
MNH	+	-	+	-	-	+	+	-	-	+
TS	-	+	-	-	+	+	-	ok	-	ok

* + means the species is over-represented, - means the species is under-represented, "ok" means adequate representation

Table 1.2.ab -- Condition of Age Classes Compared to Existing CDRM or LE Conditions and Desired Decade 2 (%)*

LE	0-9 exist CDRM	0-9 exist LE	0-9 desired Dec 2	10-39 exist CDRM	10-39 exist LE	10-39 desired Dec 2	40-79 exist CDRM	40-79 exist LE	40-79 desired Dec 2	80-179 exist CDRM	80-179 exist LE	80-179 desired Dec 2	180+ exist CDRM	180+ exist LE	180+ desired Dec 2
BHC	5.4	4.2	10	47.6	45.3	45	29.5	29.0	23	17.6	21.5	22	0.0	0.0	0
MNH	4.8	5.8	6	27.8	31.9	28	30.5	34.1	26	29.8	24.8	33	7.1	3.4	8
TS	0.0	3.3	8	3.5	35.7	41	11.3	32.2	25	85.2	28.9	25	0.0	0.0	0

Table 1.2.a (cont.) -- Purpose and Need for Action in CDRM Area

1. LE - Meeting Landscape Ecosystem Objectives in the Forest Plan for Decade 2 and thereby providing wood fiber to the local community and other forest products for traditional gathering.	
Existing Condition	**Desired Condition**
1a. Active Sales There are still active sales (about 716 acres) from the Rambling Woods and Northwoods EAs so ages and forest types are not all up to date from the last planning effort. This would have to be reconciled before we start the new analysis.	Take these into account when analyzing
1b. Vegetation age class distributions and composition Vegetation age class distributions and composition across the Forest and/or the CDRM area often differ from what is desired in specific Landscape Ecosystems in the second Decade. The forest types mentioned below are the specific ones that are in the proposed action. Other alternatives may incorporate other forest types. Specific figures for them are found in the project record and the Forest Plan. "LE" refers to the entire area of that landscape ecosystem on the Chippewa NF and "CDRM" refers to just the area of that LE inside the CDRM area.	In 2014 conditions are closer to the LE objectives for vegetation composition, a sustained flow of age class distributions, and within stand diversity than they were in 2009. Ideas include changing species composition by regeneration harvesting and planting, selective partial cutting, thinning plus underplanting, regeneration using existing advanced seedlings/saplings of other species, maintaining forest type but increasing % of other species.
Items 1c to 1e are found on the previous page summarized in Tables 1.2.aa and 1.2.ab.	
1f. Northern Hardwoods/UAM Some northern hardwood stands are relatively even-aged, where a more uneven-aged condition would be beneficial for vegetation and habitat management, e.g. C-59 St. 12.	Northern hardwood stands are becoming more uneven-aged or multi-aged. Some stands have reduced basal areas to improve vigor.
1g. dropped but not renumbered	
1h. Lowland Conifers There are mature stands of lowland conifers, but very few acres of young lowland conifers.	Age class distributions in the lowland conifers are more in line with the Forest Plan LE objectives.
1i. Tree Diversity Forested stands are described by the predominant timber species present, but there is often a wide diversity of other species present. A component of long lived conifers is desirable in riparian areas.	Within stand diversity of tree species is maintained or increased in most stands, e.g. higher percentages of white pine, spruce/fir, or northern hardwood trees in aspen or paper birch stands. White pine and/or white spruce has been increased in riparian areas.
1j. Fuels Large amounts of dead or dying trees can lead to hazardous conditions. Timber harvesting makes large amounts of dead fuels.	Activity fuels in treated stands are at levels that are safe for preventing wildfires from spreading rapidly.
1k. TSI Past and future planting and seeding in harvested stands results in conifers that need precommercial treatments to become established and grow.	Planted and seeded conifers receive the precommercial treatments they need to become established and grow well. Release leaves a diversity of other species, so gathering of forest resources is still common.
1l. Thinning Many stands of red pine and white spruce are too densely stocked for optimum timber growth.	Stands of red pine and white spruce that are being managed on suitable timber lands are growing optimally.
1m. NNIS There are scattered patches of non-native invasive species (NNIS) in the CDRM area with one known site that has been treated in the past (Comp-25 Stand 29).	There are occasional, scattered patches of non-native invasive species in the project area, but the extent and spread of them are minimized, as well as is practical.

1n. Commercial Products Local communities depend on the Chippewa National Forest for a portion of their commercial timber and other forest products. (See 3a also)	The National Forest continues to provide raw materials to these important local and regional industries and to other forest vegetation users.
2. Maintain Suitable Wildlife Habitats	
Existing Condition	**Desired Condition**
2a. LE/Habitat Many of the LEs are far from the desired Management Indicator Habitat (MIH) conditions. (see Purpose and Need "1b" also)	Conditions are closer to LE MIH objectives in 2014 than they were in 2009. There is a sustainable flow of habitats for a multitude of game and non-game species. (see Purpose and Need "1b" also)
2b. Wildlife Openings There are numerous existing wildlife openings that have been constructed in the CDRM area. Some are in desirable locations and are used by wildlife and hunters, meeting the social part of ecosystem management, but shrubs and tree regeneration are invading these wildlife openings. Some are in locations that are not easily accessed or are not used by hunters.	Wildlife openings that are accessible and used by hunters or people viewing wildlife as part of the social ecosystem are maintained in a grass/forb condition by various methods. Openings that are not readily accessible or not used by hunters or for wildlife viewing and that are not ecologically valid within the given landscape have been regenerated with a diversity of conifers, fruiting shrubs, and/or northern hardwoods.
2c. Roads/Habitat High road densities are detrimental to several species, such as Canada lynx and gray wolf. Snowmobiles use a large number of these roads every winter leading to snow compaction, which is detrimental to the lynx due to competition from the bobcat and coyote. Poaching is a problem with some loop roads, e.g. FR 2514.	Road densities are more in line with the needs of the appropriate species. Roads that are no longer necessary for resource management are effectively closed, but there is still some snowmobile use on a number of these roads every winter leading to snow compaction, which is detrimental to the lynx. Selectd loop roads have been eliminated where poaching is a known problem.
3. Maintain Conditions Suitable for Social Uses of the CDRM area	
Existing Condition	**Desired Condition**
3a. Traditional Resource Gathering Local communities depend on the Chippewa National Forest for a portion of their forest products. Gathering of forest resources is a traditional use and a common occurrence in the CDRM area on all ownerships by both LLBO members and other local residents. This includes balsam fir boughs, blueberries, sugar maple sap, firewood, birch bark, plants for medicine and food, wild rice, and wildlife hunting, trapping, and fishing. Access is adequate for the present gathering. (See Purpose and Need 3c for a hunter walking trail discussion.)	The National Forest continues to provide forest products to residents of these local communities. Gathering of forest resources continues to be a traditional use and a common occurrence in the CDRM area on all ownerships by both LLBO members and other local residents. This includes balsam fir boughs, blueberries, sugar maple sap, firewood, birch bark, plants for medicine and food, wild rice, and wildlife hunting, trapping, and fishing. Resources are improved and access is maintained to these sites. Young balsam fir trees are retained in some stands to maintain this gathering right. Most sugar maple stands are managed to maintain the potential for a sugarbush.
3b. Hunting/Fishing This project area has moderate hunting and fishing pressure.	This project area has sustainable habitats for hunting and has good water quality for a high quality fishing

	experience. Access for these uses is maintained or improved.
3c. Hunter Walking Trails CDRM area contains the Carter Lake, Webster Lake, and part of the Meadow Lake Hunter Walking Trails. The hunter walking trails need maintenance and management. Not all habitat needs are present in close proximity. The regenerated aspen by Carter Lake HWT is now too old. The trails need periodic mowing to retain vigorous grass/forbs, not shrubs. Signage needs updating and repair. The hunter walking trails need more effective closures for ATVs. It is frustrating for hunters to walk in and then have ATVs bypass them.	The Hunter Walking Trail networks are maintained by mowing and have sustainable habitats for game species along them, e.g. proper patch sizes, age class distributions, species compositions, and with appropriate other features, e.g. drumming logs. There is a shifting mosaic of aspen stands to provide the various environments that the grouse need.
3d. Developed Recreation Developed recreation areas incorporate forested areas that need to be managed to maintain safe, scenic, and good recreation experiences, e.g. Little Moose Lake boat landing, Nelson Lake road, and Webster Lake Bog Walk.	Developed recreation areas are managed to be safe, scenic, and enjoyable for the public.
3e. Dispersed Recreation There are numerous dispersed recreation sites in CDRM that need to be managed in order to continue providing quality experiences. Near Webster Lake would be a good location for an OHV trailhead. There is a concentration of Level 2 and 3 roads near there that are open to OHVs. This could help to increase the usage of this campground	Dispersed recreation areas are managed to be safe and scenic for the public and to not do resource damage.
3f. Webster Marsh/Bog Walk The bog walk goes to the center of the marsh.	The Webster Lake Bog/Marsh Walk extends to the lake so visitors can see all of the ecosystems in the marsh/lake and have more opportunities to see the wildlife on the lake.
3g. Little Moose Lake Recreation The user developed carry-in access to Little Moose Lake is accessed by FR 2206K, which has large deep mud holes that prevent cars from driving and is difficult even for 4-wheel drive vehicles. The mud hole in the ditch has had logs thrown in several times. Halfway in there are 3 routes due to rutting making older ones impassible.	The access to Little Moose Lake is usable by all vehicles. There is an official carry-in site that is hardened to prevent erosion. There is no or minimal resource damage from use of the site.
4. Protect Soil and Water Resources	
Existing Condition	**Desired Condition**
4a. Riparian Planting Riparian areas are very common in the CDRM area due to the large lakes and rivers and the abundant smaller water bodies and wetlands. The Forest Plan proposes special treatments in the riparian zones around them, including planting and increasing the component of long-lived conifers near the water (e.g. white pine or white spruce). Along the many miles of riparian management zones on streams and lakes, overmature aspen is common. Management in these zones has commonly been aspen regeneration or avoidance of treatments.	Riparian areas are managed proactively for riparian benefits according to Forest Plan guidance. Along many of the miles of riparian management zones on streams and lakes, there is a diversity of vegetation with long-rotation conifers being common and aspen being reduced in acreage.
4b. Water Quality Several locations have water quality problems, e.g. lack of side drains	Treatments are done at selected locations to prevent or curtail erosion and sedimentation from point sources.

on the Nelson Lake road, erosion on the Little Moose Lake carry-in slope, and uncontrolled use on the ATV trail to Rabideau Lake.	
4c. Wetland Restoration Roads have been constructed across wetlands in the past, often necessarily, but a few of them are not needed in that location. There was a proposed wetland restoration in Gull River in the past, which has not been completed. (C-82 Stands 45 and 46 and last ¼ mile of this road).	Some roads in wetlands are decommissioned and the road prisms (roadbeds) removed.
5. Manage an Efficient Transportation System	
Existing Condition	**Desired Condition**
5a. Road Density Road density in the CDRM area is relatively high	Road density in the CDRM area is closer to the 2.0 miles/sq. mile that is desirable for the lynx. The road system is closer to the minimum efficient system that the Forest Plan desires. Proposed road decommissioning is practical and possible.
There are many types and qualities of roads in the CDRM area. These range from paved roads to 2-track closed roads. Some of these are needed for land management and access and some are not needed on a regular basis or are seldom used. Many low-quality existing roads are not in the transportation system records.	All roads that are open are necessary for resource management access or other management activities. They are in the proper condition for the desired use. Roads that are not needed have been closed, decommissioned, and/or revegetated to improve or protect resources. Sufficient roads for traditional forest resource gathering are open.
Roads designated as Level 1 roads should be closed to travel by all vehicles, but often these closures are violated by ATVs.	Roads designated as Level 1 are effectively closed.
Several roads west of Pimushe Lake are badly rutted.	Several roads west of Pimushe Lake have controlled access to prevent further resource damage and to protect the Candidate RNA.
5b. Temporary Road Access Access to many stands of timber is inadequate for timber harvesting, but permanent roads have not been planned there in the past.	Adequate temporary roads are constructed for timber harvesting then effectively obliterated.
5c. Land Access/Ownerships There is roaded access to almost all parcels of land in all ownerships.	There is roaded access or planned corridors to all parcels of land in all ownerships.
5d. OHV OHV use in the area is quite common and occurs on all roads. The review of the OHV trails with the county and townships has been completed and a decision has been made on which roads to manage open or closed to OHV use on a Motor Vehicle Use Map. Proposed road closures agree with this map or changes are made to it.	OHV use in the area is quite common and occurs in accordance with Forest Plan guidance.
The recent OHV Planning decision left several roads without firm decisions on use by OHVs and highway vehicles. These were called "DELAY" and "DEFER" roads. It was left up to the next EA in the area to decide on them.	Roads called "DELAY" and "DEFER" now have firm decisions on use by OHVs and highway vehicles. Other roads have been examined and appropriate changes made.
There are many user developed ATV trails that are in undesirable locations or that have resource damage.	Known locations of OHV damage are corrected to prevent further damage and fix past damage.

1.3 - PROPOSED ACTION

The District reviewed the existing conditions in the project area and Forest Plan direction to determine appropriate treatments and opportunities to move the Continental Divide Resource Management (CDRM) project area towards meeting landscape ecosystem (LE) objectives, management area direction, and desired conditions for the Forest Plan. An interdisciplinary (ID) team went through the list of stands that have been surveyed to determine the best prescription for each stand under the purpose and need and other known factors.

Vegetation management opportunities are largely based on the Forest Plan's Landscape Ecosystem objectives for age class distribution and species composition (FP pages 2-53 to 2-80 (PR# 72)). The particular stands for timber harvesting were chosen based on Forest Plan guidance for rotation age and condition by forest type (FP page 2-20). Vegetation management would help move the CDRM area toward the desired conditions in the Forest Plan. The Blackduck Ranger District, Chippewa National Forest, proposes the following treatments (See maps in Appendix D also):

Table 1.3.a -- Proposed Action (Alternative C)

<table>
<tr><th>Treatment/Activity (Alt. C)</th><th>Amount</th></tr>
<tr><td>Timber Sales on about 2,697 acres of National Forest System land of about 24,183 CCF. This would be broken into several smaller sales.

As a result of meeting Forest Plan objectives the project provides timber and forest products; manages timber according to landscape ecosystems and rotation ages established in the Forest Plan; regenerates aspen/birch, etc.; and maintains or enhances many types of wildlife habitats.

There would be follow-up treatment of "activity fuels" to "safe" levels for fire protection in stands that are being thinned. Activity fuel removal can be by a combination of piling and burning, chopping, or hand removal. Removal by burning is preferable where feasible.</td><td><table><tr><th>Harvest Type</th><th>Acres</th></tr><tr><td>Coppice cutting</td><td>677</td></tr><tr><td>Clearcut strips w/ reserves</td><td>192</td></tr><tr><td>Clearcut stands with reserves</td><td>239</td></tr><tr><td>Shelterwood with reserves</td><td>57</td></tr><tr><td>Seed Tree Cut</td><td>118</td></tr><tr><td>Single Tree Selection Cut</td><td>474</td></tr><tr><td>Group Selection Cut</td><td>299</td></tr><tr><td>2-aged Coppice</td><td>41</td></tr><tr><td>Shelterwood - uneven-aged mgmt</td><td>170</td></tr><tr><td>Thinning-even density</td><td>406</td></tr><tr><td>Salvage cutting</td><td>24</td></tr><tr><td>TOTAL</td><td>2,697</td></tr></table>
Fuels Treated: up to about 244 of 347 total acres in the treated stands.</td></tr>
<tr><td>Temporary road construction (developed for timber hauling and stand regeneration) and obliteration (closed and revegetated, per Forest Plan direction). System road reconstruction for timber sales and recreation, as needed.</td><td>About 13 roads, totaling about 3.3 miles of temporary road construction. Various access roads would be upgraded as necessary to make them usable for the timber sale. One existing road would be used as a temporary road then decommissioned (U1103) (0.4 miles). When the proposed treatment is completed, the temporary roads are obliterated.</td></tr>
<tr><td>Regeneration of stands cut in timber sales

Regenerate the harvested stands with the desired species. Increases some "under-represented" species by converting other forest types through planting, seeding, and selective cutting.</td><td><table><tr><th>Site Preparation Treatment</th><th>Acres</th></tr><tr><td>Site Prep - mechanical scarification for planting and seeding.</td><td>562</td></tr><tr><td>Site Prep - mechanical scarification for natural regeneration.</td><td>381</td></tr><tr><th>Reforestation Treatment</th><th>Acres</th></tr><tr><td>Seeding</td><td>551</td></tr></table></td></tr>
</table>

Treatment/Activity (Alt. C)	Amount
	Planting 156 Based on meeting Forest Plan LE objectives, there would be numerous changes in forest types due to the timber sale, to opening conversion, and natural changes. ALL CONVERSIONS ARE INCLUDED HERE: **Forest Types / Changes** Aspen to red pine 5 Aspen to white pine 18 Aspen to mixed northern hardwoods 38 Aspen to paper birch 16 Aspen to white spruce 21 Aspen to fir/spruce 23 Aspen/spruce to aspen 6 Paper birch to aspen 19 Fir to White pine 23 Fir to white spruce 52 Opening to white pine 54 Opening to white spruce 15 Opening to mixed northern hardwd 63 **TOTAL** 353 Component of white pine in sugar maple 3 Comp. white pine in aspen 12 Comp. white pine in paper birch 5 Comp. white pine in mixed northern hardwoods 135 Comp. white pine in red pine 20 Comp. white pine/white spruce in red pine 59 Comp. white spruce in fir/spruce 49 Comp. white spruce/white pine in red pine 108 Comp. white spruce/paper birch in white spruce 49 Comp. white spruce/white pine in aspen 32 Comp. tamarack/BS in black ash 10
Precommercial treatments including: Release and precommercial thinning to make planted trees free-to-grow and also to leave a diversity of other species. Application of animal repellant or bud caps to decrease browsing damage to white pine and jack pine (animal damage control = ADC). Pruning for blister rust control and to improve tree form after white pine weevil damage. This includes new planting and existing stands, mainly white pine. It is assumed that seeded white pine does not need ADC or as much pruning due to more "natural" conditions and an excess of trees.	**Treatment / New / Exist / Total Needs** Release 919 135 1,054 Animal Damage Control (4560) 195 42 237 Pruning (4530) 127 44 171 **TOTAL TSI 1,241 221 1,462**

Treatment/Activity (Alt. C)	Amount
Riparian planting: There are some lakeshores and other riparian areas where it would be good to increase the future amount of white pine for eagle nest trees and for diversity.	White pine - 26 acres. (6 acres of this is in a harvested stand that is also being seeded with white spruce and white pine (1-59-29).)
Control of non-native invasive species is another non-commercial project. Known populations are found in several spots, but control would be proposed now with hand or mechanical treatments or scarification and seeding in two stands.	About 1 acre of non-native invasive species would be treated mechanically or by hand in and near the ditch along FR 2420 (1-73-48 (23)). (The other 6 acres being treated are found under Wildlife Opening Revegetation where we are hoping the future shade would eliminate the NNIS.)
Wildlife Opening Improvement - keep existing, desirable openings in an open grass/forb condition with only scattered trees or shrubs that provide valuable forage benefits, e.g. ruffed grouse habitat. Treatments include bush-hogging, seeding, and hand cutting.	234 acres in 154 openings in the CDRM area (one is a 15 acre hay field - 1-107-32).
Wildlife Opening Revegetation - there are several openings that are better managed as part of the adjacent timber stands. Some of these have difficult access. Some are in locations that are not receiving large amounts of social use.	45 openings would be revegetated by scarification then seeding a combination of white spruce, white pine, and fruiting shrubs where the predominant species is white pine (54 acres) or white spruce (15 acres) on about 69 acres (conversion included above). White spruce is favored where access for future TSI is most difficult.
Wildlife Opening Natural Revegetation - there are several openings that are in northern hardwood, sugar maple, or oak stands where they would not naturally occur very commonly.	39 openings would be revegetated by natural seeding of the adjacent hardwoods on about 63 acres (conversion included above).
The Carter Lake Hunter Walking Trail has young aspen clearcuts along it, but they are getting too old for good grouse habitat, with some dense regeneration needed.	Non-commercially regenerate small patches of aspen on about 9 acres of young aspen in 5 stands. (More treatments are included in the Strip Clearcutting being done under Harvesting.)
The location of a former bridge over the Gull River still contains the road prism in the wetland and ATVs continually cross there resulting in some erosion and sedimentation. The prism needs to be removed.	About 2 acres in C-82 Stands 45 and 46.
The road into Nelson Lake has been shortened but still has erosion due to lack of ditches and side drains so side drains would be constructed and the parking lot would be expanded to make turning around easier.	Construct side drains to prevent water from flowing down the hill in the roadbed and expand the parking lot on the flat above the hill (1-73-18).
The bog walk by Webster Lake ends in the middle of the marsh. It would be more interesting if it continued on to the lake so all ecosystems could be seen along it.	Extend the bog walk about another 70 feet to the lakeshore (1-61-4).
FR 2206K to the Little Moose Lake user-developed carry-in access is very rutted and muddy and needs to be graveled. The access is steep and eroding and needs some structural work.	Gravel the road and make a more usable, resource-friendly access.
An OHV trailhead would be constructed in an existing opening at the junction of FR 2236 and FR 2576_sign to take advantage of a large network of roads open to OHV use.	Construct the trailhead and add signage (1-60-50).
A re-examination of the OHV Use Map and DEFER/DELAY roads led to several changes to the allowable use for both OHVs and Highway Licensed Vehicles. Closures would be signage for OHVs but roads closed to HLVs would be by berms or gates or decommissioning.	**Recommendation** / **Miles** / **# roads** Closed to OHV, closed to highway / 13.0 / 30 Closed to OHV, open to highway / 2.3 / 9 Open to OHV, closed to highway / 2.9 / 5 Open to OHV, open to highway / 7.3 / 21 Total / 25.5 / 65

Treatment/Activity (Alt. C)	Amount
Many stands have been flooded by beavers, killing the timber and converting them to open wetlands. There are cases where we want to reverse this trend and get the timber back.	In 1-55-7 (24 acres), remove the dam and beavers, dry the site, do site preparation, and seed tamarack and black spruce to reforest the stand.
Swamp Creek Bridge is narrow and deteriorating. It needs to be replaced.	Replace Swamp Creek Bridge with a two-lane, modern bridge. This is discussed primarily in Section 3.4 - Water Quality.
To be aligned with the needs of the public and Forest Service for resource management, for forest resource gathering, and to make a more efficient road system, we recommend the following for the 359.9 miles of inventoried roads in the CDRM area (316.1 system and 43.8 unclassified). Maintain as is - 337.9 miles. Close with gate or other device - 2.5 miles. -- FR 2514 would be a gated road on NFS lands along the west shore of Pimushe Lake in Section 18 - open only to OHVs less than 1,500 pounds. North of the private land in Sections 18 and 7 FR 2514 is closed to all vehicles due to soft soil and the Candidate RNA. Decommission an estimated 8.7 miles (about 3.0 miles of system road and 5.7 miles of unclassified roads) of existing roads that are not needed in their present locations, after one road is used as a temporary road first. There are 2.3 miles (1.2 miles of system and 1.2 miles unclassified) that barely exist and should just be "deleted" from the system or maps or have already been decommissioned after the field inventory was done so were not detected until too late. Add about 7.6 miles of existing roads that are in good locations for resource management, but which are not on the "Transportation System" maps (5.8 miles needed for NFS land access and 1.8 miles needed for other ownership access). There are two roads on the GIS maps that should just be left in place as entries (0.4 miles) or parking spots, not on the system and not obliterated. There 2 pieces of or by one road that should be re-classified as an "ATV trail" (0.4 miles) (route from Benjamin to Rabideau Lakes). All unclassified roads on NFS lands that are not being proposed to be added to the system or are not under other management jurisdictions should be decommissioned (including new ones that are found). Roads are maintained in safe conditions, as needed. Roads are	This results in a net change on the transportation system of an increase of about 3.2 miles of system roads but 11.0 fewer existing miles of total roads. [12.3 miles of unclassified roads remain unclassified, strictly as other ownership access, not on NFS lands.] Decommissioning can be by natural closure over time (on unclassified roads) or by active management where resource damage is occurring. Maintain good signage on roads.

Treatment/Activity (Alt. C)	Amount
maintained in conditions that does not promote erosion, compaction, or sedimentation of streams, lakes, and wetlands. Also in the GIS system and on some maps are 11.2 miles of driveways on other ownerships, 1.1 miles of other roads on other ownerships, 6.7 miles of hiking/biking/snowmobile trails, and 0.3 miles of unauthorized ATV trails. These 0.3 miles of trails should be decommissioned. There are also several other short pieces of "roads" that should be left in place as "entries" (about 0.7 miles total on NFS lands and 0.5 miles on other ownerships), but not on the system. They are good parking spots for forest users.	

Table 1.3.b - Alternative C Harvest Acres by Forest Type and General Prescription

Forest Type	Coppice	Clearcut - Strip	Clearcut	Shelter wood	Seed Tree	Single Tree Sel.	Group Selection	2-aged (4162)	Shelter (UAM) (4194)	Thinning	Salvage	Total Acres
Jack Pine (1)	0	0	32	0	0	0	0	0	0	0	0	32
Red Pine (2)	0	0	0	0	0	0	87	0	101	153	0	341
White Pine (3)	0	0	0	16	0	0	0	0	0	0	0	16
Fir/Spruce (11)	0	0	99	23	0	0	0	0	0	2	0	124
Black spruce (12)	0	40	3	0	0	0	0	0	0	0	0	43
Cedar (14)	0	0	0	0	0	0	0	0	27	0	0	27
Tamarack (15)	0	152	12	0	0	0	0	0	0	0	24	188
White spruce (16)	0	0	49	0	0	0	0	0	0	207	0	256
Black Ash (71)	0	0	0	0	0	0	0	0	10	40	0	50
Sugar maple (82)	0	0	0	0	0	339	0	0	0	0	0	339
Mix N. Hdwd (89)	0	0	0	0	0	135	174	0	0	0	0	309
Aspen (91, 95)	657	0	44	18	16	0	38	41	32	5	0	851
Paper Birch (92)	19	0	0	0	102	0	0	0	0	0	0	121
Totals	676	192	239	57	118	474	299	41	170	407	24	2697

Table 1.3.c - Alternative C Conversions by Forest Type, Harvest Type, and Future Type *

Forest Type	Coppice	Clearcut	Shelter wood	Seed Tree Cut	Single tree selection	Group Selection	Shelter UAM	Thinning	Plant or Seed or Natural Only	Total Converted Acres	Total Component Acres
Red Pine (2)	0	0	0	0	0	59 comp WPWS 27 comp WSWP	20 comp WP 81 comp WSWP	0	0	0	187
Fir/Spruce (11)	0	52 WS 47 comp WS	23 WP	0	0	0	0	2 comp WS/PB	0	75	49
White Spruce (16)	0	0	0	0	0	0	0	49 comp WS/PB	0	0	49
Black ash (71)	0	0	0	0	0	0	10 comp Tama/BS	0	0	0	10
Sugar Maple (82)	0	0	0	0	0	0	0	0	3 comp WP	0	3

Forest Type	Coppice	Clearcut	Shelter wood	Seed Tree Cut	Single tree selection	Group Selection	Shelter UAM	Thinning	Plant or Seed or Natural Only	Total Converted Acres	Total Component Acres
Mix N. Hdwd (89)	0	0	0	0	135 comp WP	0	0	0	0	0	135
Aspen (91)	0	21 WS 23 F/Spr	18 WP	16 PB	0	38 MNH	32 comp WSWP + 6 comp WP	5 RP	6 comp WP	121	38
Aspen/Spruce (95)	6 A	0	0	0	0	0	0	0	6 comp WP	6	6
Paper Birch (92)	19 A	0	0	0	0	0	0	0	5 comp WP	19	5
WL Openings	0	0	0	0	0	0	0	0	54 WP 15 WS 63 MNH	132	0
Total Convert	25	96	41	16	0	38	0	5	132	353	706

*Abbreviations in the table are A - aspen, F/Spr - fir/spruce, WS - white spruce, PB - paper birch, BS - black spruce, MNH - mixed northern hardwoods, RP - red pine, Tama - tamarack, and WP - white pine.

Numbers are the affected acreages.

"comp" means a component of the species is underplanted or underseeded in the stand.

1.4 - DECISION FRAMEWORK

Given the purpose and need, the Responsible Official will decide:

Whether or not to proceed with the proposed action, another action alternative that meets the purpose and need, or a modified portion of an alternative..

If an action alternative is selected, what mitigation and monitoring of environmental effects may be necessary.

1.5 - SCOPING AND PUBLIC INVOLVEMENT

On October 31, 2008 a letter and attachment (or summary of the attachment) (PR# 225, 229, 230, and 232) was sent to 168 individuals, groups, and agencies (PR# 226, 231, and 234) (as well as posting it on the Chippewa NF website on 11/6/2008 (PR# 250a)) soliciting comments on this proposed action and alternatives to it, as well as a tentative list of issues. This letter also went as a Section 106 Consultation letter to the Tribal Historic Preservation Officer (THPO) for Leech Lake Band of Ojibwe (PR# 225). The legal notice for this action was published in the Blackduck *American* on November 2, 2008 (PR# 224 and 238). A special note was attached to the letter for 4 persons who were intimately interested in one particular project in the proposal (FR 2514 closure) (PR# 228). Subsequently the letter and attachment were sent to 11 more people (PR# 240 and 249)

In response to the letter and subsequent contacts, between November 1 and December 2 we received 11 comments from the public (See Appendix C). In addition to these we had received 26 comments about aspects of this project prior to scoping; primarily dealing with the FR 2514 road gating. Responses to all of these comments are found in Appendix C and in the analysis of effects. The Project Record contains the mailing lists and these letters or notes, as well as other subsequent comments. Appendix C (Response to Comments) lists the people who commented, relevant parts of their comments, and how we responded to each one. The proposal was listed in the Forest's Schedule of Proposed Actions (NEPA Quarterly) on a quarterly basis from July 2008 to present (PR# 193, 221, 271a).

Prior to this scoping, the closure of FR 2514 had been subject to public involvement with a letter mailed to at least 17 local, affected residents between April 27 and May 10, 2006 (PR# 89) and a Legal Notice published in the Blackduck *American* on May 28, 2006 (PR# 100 and 101). This solicitation resulted in 13 replies. Before and after this time, there were also two (2) other comments on this road. All of these comments are in Appendix C and will be considered as part of this project also, because that closure has not been done yet.

Also prior to this, on April 7, 2003 we scoped 9 bridges including Swamp Creek as a repair project. This went to 344 persons and groups (PR# 69, 69a, and 69b). There were 5 replies that dealt with the Swamp Creek Bridge (PR# 68a, 70, 70a, 70b, and 70d). Later in April of 2003 a field review recommended replacing the bridge rather than repairing it. On 2/20/2004 it was decided to replace this bridge rather than just repair it (PR# 71g). This was based on anticipated costs and impacts from just repairing it. A field visit in April of 2003 found that the extensive repairs needed could cause as many impacts as total replacement would. The bridge is over 50 years old which is over the dependable life span of a wooden structure according to an engineering literature review. There could be undetected decay in some wooden structures and these are very expensive to survey for (PR# 70c and 71d). Based on the light response and the unchanged "purpose and need" and "project location" there should be no problem making this change without additional scoping.

As of 2/12/2009 to meet the Traditional Resource Protocol (Chippewa NF, April 2007), this project has been discussed with four Local Indian Councils (LIC) (Cass River, Mission, Sugarbush, and Bena) to at least some degree on 5 occasions and the Division of Resource Management (DRM) of the Leech Lake Band of Ojibwe (LLBO) once. It received less attention than most projects because very little of the CDRM area is inside the reservation boundary.

Using the comments from the public, other agencies, and internally; the interdisciplinary team revised the list of issues to address (Section 1.6 - ISSUES) and revised the proposed action (see Section 2.1.3 for the discussion of the original proposed action that was in the scoping letter).

Contacts with the Leech Lake Tribal Historic Preservation Office (THPO) and State Historic Preservation Office (SHPO) have been made and consultation under Section 106 is ongoing. The Section 106 Consultation letter was sent to the THPO and to the SHPO on 3/6/2009 (PR# 325 and 326).

1.6 - ISSUES

KEY ISSUES

These are the final Issue Statements for Continental Divide Resource Management EA. These are based on discussions of Public Comments at the December 4, 2008 ID Team meeting.

Issue 1. Pimushe Trail (FR 2514):

Closing one half mile of FR 2514 to vehicles over 1,500 pounds would prevent local residents from using the Forest.

Conversely, closing one half mile of FR 2514 to vehicles over 1,500 pounds would protect local residents' property and would prevent resource damage to the Forest.

Indicators

Ability to access the Forest from various points near FR 2514 that is being closed.

Amount of resource damage prevented by closing this portion of FR 2514.

NON-KEY ISSUES

These are mentioned here and not dealt with further in alternative development, but would be part of the effects analysis. These included issues or concerns that are not important enough to drive new alternatives, that are mitigated by standard "best management practices", or that are not be affected by treatments; but which do need to be considered and documented in a "full disclosure" type of EA. Indicators for these non-key issues would be developed and documented during the analysis.

Non-native Invasive Species:

Management to prevent earthworm invasions of stands.

Indicators

Design features to minimize the spread of earthworms.

RFSS Plant Management:

Several particular plants were mentioned with concerns over management near them or in their habitats/stands.

Indicators

Number of RFSS plant sites protected and effects to habitat

Eagle and Goshawk Management:

Need to protect the integrity of the nesting habitat and do seasonal mitigations.

Indicators

Number of eagle and goshawk nests protected. Acres of goshawk habitat maintained.

Forest Type Conversions and Diversity:

Need to maintain species diversity when converting forest types. Use less intensive site preparation and natural regeneration where possible.
The State sees conversion opportunities based on their ecological reports.
Indicators
Acres of planting of long-lived conifers in riparian management zones.
Acres of conifer planted and seeded for forest type conversion of stands.
Acres of conifer planted for within stand feature (component of conifer in stand).
Acres of site preparation treatment.
Changes in percentage of specific forest types by LE as compared to Forest Plan desired conditions.
Changes in percentage of various, specific age classes by forest type and LE as compared to Forest Plan desired conditions.

Transportation System:
Closing or decommissioning roads prevents access to parts of the Forest for the public
Indicators
Miles of road closed that are currently used by the public.

Wildlife Habitat:
Planting more wildlife openings.
Indicators
Acres and number of wildlife openings planted.

Vegetation Management and Visual Conditions:
Concerns over visual quality and clearcutting.
Indicators:
Number of treatments visible from High or Moderate SIO travel corridors or use areas.
Number of clearcuts and regeneration harvests visible from High or Moderate SIO travel corridors or use areas.
Number of treatments done within High or Moderate SIO travel corridors or use areas.
Whether or not the appropriate SIOs are met.

Lowland Conifers:
Concerns over the ability to regenerate lowland conifer stands.
Indicators
Acres of 0-9 year age class lowland conifer stands

Coordination with State Management Areas:
The State has several management areas that adjoin NFS lands. They commented that it would be good to coordinate management on them and adjacent NFS lands to avoid conflicting treatments.
(No indicators since we avoided or had no impacts on these areas, so did little analysis.)

Deeryards:
Need to ensure protection and/or enhancement of winter deeryards for deer.
Indicators
Acres of deer yards (thermal cover) maintained/enhanced.

Grouse Management:
Look for opportunities for quality grouse and woodcock habitat management.
Indicators
Acres of improved/maintained grouse and woodcock habitat.
Acres of Wildlife Opening Improvement

Water Quality:

Need to protect water quality near wild rice lakes.

Indicators

Acres of ground disturbing activities potentially affecting wild rice lakes.

OHV Travel:

There are still problems with the OHV map designations of use (which roads are open or closed to OHV travel.

Indicators

Changes to OHV Use Map that could affect the public.

Increasing diversity with Stand Improvement, Riparian planting and Underseeding

Other treatments are proposed that affect vegetation and age class diversity.

Indicators

Acres of increased diversity from planting or seeding.

CHAPTER 2 - ALTERNATIVES INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Continental Divide Resource Management (CDRM) project. It includes a description of two alternatives considered (the proposed action and "No Action" alternative) and two alternatives dropped from detailed study.

2.1 - ALTERNATIVES DROPPED FROM DETAILED STUDY

In response to public and internal comments, we considered two alternatives, but dropped them from detailed study for the following reasons.

2.1.1 - Snowmobile Trail to Alvwood

It was proposed that a snowmobile trail be constructed between Alvwood and Blackduck in response to a past public comment.

This alternative was dropped from detailed consideration for several reasons:

We decided that this was more than we wanted to propose in CDRM EA. It would involve numerous crossings of other ownerships that would be difficult to coordinate. It is in more than one LAU where compaction of snow is undesirable. This seems like a project that belongs in its own EA. (See 11/13/02 meeting notes.)

This is not based on a firm public proposal that can be analyzed or acted upon.

2.1.2 - Alternative B (Original, Scoped Proposed Action)

Alternative B was the proposed action when the scoping letter went to the public on October 31. Since then there have been discussions and public/internal comments that revised the thinking of the ID Team. No longer are some of the original proposals practical or desired and some minor projects were added. These changes were made and rolled into Alternative C which is the revised proposed action. Section 2.1.3 shows the progression of changes and thinking that led from Alternative B to Alternative C. Specifically Alternative B is not analyzed in detail because:

A new goshawk nest was discovered this fall in one stand proposed for harvesting, causing this stand to be dropped along with parts of two nearby harvest units.

Other TES surveys resulted in minor changes needed to stands.

In several stands there were different methods of obtaining the same desired results that are more practical than originally prescribed, e.g. seeding rather than planting, strip cut rather than seed tree cut or patch cut.
In several stands we found better ways of meeting Forest Plan objectives by changing the desired forest types.
In one stand we found a better way to control non-native invasive species.
We found three new projects: Swamp Creek bridge replacement, reclaiming a wetland with tamarack where it had been flooded by beaver, and allowing some wildlife openings in hardwoods stands to reforest naturally.
We found the need to make some additional minor changes to the transportation system.
We found the need to more clearly define some road use on the OHV Use Map.

2.1.3 - PROGRESSION OF ALTERNATIVES FROM PRE-ALT. B TO ALT. C

In the interest of clarity it was felt desirable to go through the whole progression from the beginning to Alternative B to Alternative C in this one section. The listing of all stands that were proposed from the very beginning is in the Specialist Report (PR# 330), which is much longer and more detailed than this EA that is going out to the public. Only a brief summary is given in this document.

Alternative B resulted from many discussions, including meetings with the Leech Lake Band of Ojibwe. It incorporated the most timber harvesting that we could do with the current list of stands that have had biological and heritage resources surveys; and that met the intent of most of the Forest Plan guidance.

Alternative C resulted from public comments received during the "scoping period" and from changes made to the proposed action by the ID Team. A summary of the changes made to arrive at Alternative are found in Section 2.1.2. Table 2.1.3.a in the Specialist Report (PR# 330) shows the fate of all of the stands that were changed during this process.

2.2 - ALTERNATIVES ANALYZED IN DETAIL

Appendix D contains maps that show the general locations of these projects and spreadsheets that list the individual stands treated by alternative. Larger-scale maps of the projects in the alternatives are found in the project record (PR# 224b, 270b, 270c, 277, and 278).

2.2.1 - ALTERNATIVE A (NO ACTION)

The No Action Alternative (Alternative A) proposes no treatments in the CDRM area other than on-going routine maintenance. There would be no timber harvesting, no temporary road construction or obliteration, no reforestation, no prescribed burning, no timber stand improvement in newly regenerated stands, no wildlife opening maintenance or seeding, no changes to the OHV Use Map, no new bridge, and no road decommissioning.

2.2.2 - ALTERNATIVE C

The District Ranger and the ID Team reviewed the Proposed Action (Alternative B) in light of the existing conditions in the project area, new information (survey results), Forest Plan LE direction, and new silvicultural ideas to determine if there were other ways to manage the stands and meet or come closer to Forest Plan LE direction for species composition. Alternative C follows the guidance of the 2004 Forest Plan, meets management area direction and desired conditions for the Forest Plan, and meets the Purpose and Need.

Alternative C (the Revised Proposed Action) is based on Alternative B with all of the changes shown in Sections 2.1.2 and 2.1.3 and Table 2.1.3.a of this EA and in the Specialist Report (PR# 330).

2.3 - MITIGATING MEASURES AND DESIGN FEATURES

Anything incorporated into the actual design of the treatment is not considered a mitigating measure. These items would be part of the prescriptions and called "design features." They include guidance from the Forest Plan, plus guidance and ideas from District personnel, the Interdisciplinary Team, and other authoritative sources. This includes best management practices (BMPs), which are "normal" design factors that are known from past practices

to reduce the negative impacts of a treatment on a particular resource. *Sustaining Minnesota Forest Resources: Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers, and Resource Managers* (2005) (PR# 72b) contains many best management practices that would protect the resources of the area. In most cases the Forest Plan incorporates the provisions of this document and is often more specific or restrictive. (Specific items that guided the design of individual stands are included in Appendix H of this EA.)

In summary, some of the major design features and special treatments in the prescriptions include:

Specifying types and amounts of reserve trees.
Cutting trees to facilitate operations.
Leaving trees for visual concerns.
Leaving species, patches, or trees for wildlife.
Special treatments for riparian areas.
Specifying season of operation where needed.
Avoiding and protecting heritage resource sites.
Designing harvest units to avoid or protect RFSS.

2.4 DEFINITIONS AND OBJECTIVES OF PROPOSED ACTIVITIES

The definitions of activities within treatments and the objectives of the treatments have been placed in Appendix F: Glossary due to the length of the information. It includes definitions from FACTS and FACTS codes.

2.5 - COMPARISON OF ALTERNATIVES

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. Where there was little or no difference between alternatives, effects may have been left off this chart.

TABLE 2.5.a Approximate Acres/Miles/Sites Impacted on National Forest System Land by CDRM EA

	Alt. A	Alt. C
Volume Harvest (est. in CCF)	0	24,183
Acres of Clearcutting/Coppice Cutting	0	1,108
Acres of Shelterwood Cutting	0	57
Acres of Seed Tree Cutting	0	118
Acres of Single Tree Selection Cutting	0	474
Acres of Group Selection Cutting	0	299
Acres of Two-Aged and Shelterwood (UAM) Cutting	0	211
Acres of Thinning	0	406
Acres of Salvage Cutting	0	24
Acres of Seeding	0	551
Acres of Planting harvested stands	0	156
Acres of Planting Components of conifers in stands	0	482
Acres of riparian planting	0	26
Acres of release	0	1,054
Acres of animal damage control	0	237
Acres of pruning	0	171
Miles of Temporary Road	0	3.3
Miles of Road Decommissioning/Deleting	0	11.0
Miles of Road Additions to System	0	7.6
Miles of Trail Additions to System	0	0.4

	Alt. A	Alt. C
Miles of Roads being gated or bermed	0	2.5
Changes to OHV Use Map/Roads	0	numerous
Acres of Mechanical Scarification Site Preparation	0	943
Acres of planting wildlife openings with WP, WS, fruiting shrubs	0	69
Acres of maintaining wildlife openings	0	234
Acres of letting wildlife openings regenerate naturally to mixed northern hdwds	0	63
Acres of strips by hunter walking trails (noncommercial cutting)	0	9
Acres of Activity Fuel Removal (not including site preparation)	0	244
Acres of Non-native invasive species control	0	1
Wetland restoration (Gull River)	0	2
Swamp Creek Bridge Replacement	0	1
Nelson Lake road side drains and parking area	0	1
Lengthen Webster Lake bog walk	0	1
Little Moose Lake Carry-in Landing and road	0	1
OHV Trailhead construction and signage	0	1
Acres of beaver control and tamarack stand restoration	0	24
Change in acres of red pine	0	+5
Change in acres of white pine	0	+95
Change in acres of aspen	0	-96
Change in acres of aspen/spruce	0	-6
Change in acres of paper birch	0	-3
Change in acres of fir/spruce	0	-52
Change in acres of white spruce	0	+88
Change in acres of wildlife openings	0	-132
Change in acres of mixed northern hardwoods	0	+101
Component of white pine planted/seeded	0	234
Component of white spruce planted/seeded	0	238
Component of tamarack planted/seeded	0	10

Table 2.5.b Impacts of Alternatives on Selected Indicators for the Issues (not included above)

	Alt. A	Alt. C
Issue 1: Pimushe Trail (FR 2514):		
Closing one half mile of FR 2514 to vehicles over 1,500 pounds would prevent local residents from using the Forest.	½ mile open	½ mile gated but there is still access to the land with OHV or going around on a better road
Conversely, closing one half mile of FR 2514 to vehicles over 1,500 pounds would protect local residents' property and would prevent resource damage to the Forest.	½ mile continues to be compacted more	½ mile begins to heal as only lighter vehicles use it, no loop trail for decreased vandalism, a known poaching problem is address by this gating..
Non-key: Vegetation		
Concerns over the ability to regenerate lowland conifer stands.	No harvesting in lowlands.	Regenerating 207 acres of tamarack and black spruce plus UAM in 27 acres of cedar. No problems are anticipated.
Need to maintain species diversity when converting forest types. Use less intensive site preparation and natural regeneration where possible. The State sees conversion opportunities based on their ecological reports.	No harvesting so natural diversity is maintained or lost as trees age.	Maintaining diversity of species and ages in treated stands by combination of unharvested areas, reserve trees, seeding or planting diverse species, and retention of diversity during TSI.

	Alt. A	Alt. C
The State has several management areas that adjoin NFS lands. They commented that it would be good to coordinate management on them and adjacent NFS lands to avoid conflicting treatments.	No harvesting so stands remain old where this is a State desire.	We are not treating any stands that would directly impact qualities of State management areas.
Non-key: Wildlife		
Several particular RFSS plants were mentioned with concerns over management near them or in their habitats/stands.	No management so no special protection	RFSS are protected in line with the Forest Plan
Need to protect the integrity of the eagle and goshawk nesting habitat and do seasonal mitigations.	No management so no special protection	Eagle and goshawk habitats are protected in line with the Forest Plan
Need to eliminate wildlife openings where they are not in line with the Forest Plan.	No changes	Reforest 132 acres of openings.
Look for opportunities for quality grouse and woodcock habitat management.	Habitat ages making it less suitable for them.	Make strip cuts of regenerating aspen along the Carter Hunter Walking Trail on about 50 acres (41 are commercial cuts coded "4162" cuts)
Need to ensure protection and/or enhancement of winter deeryards for deer.	No management or changes.	Harvesting in 27 acres of a 33 acre stand of cedar and 326 acres of other mature lowland and upland conifers that could serve as thermal cover, so temporary loss of winter habitat.
Non-key: Water Quality:		
Need to protect water quality near wild rice lakes.	No treatments so no effects	No treatments near wild rice lakes. BMPs near streams protect water that flows to them.
Non-key: Visual Conditions		
Concerns over visual quality and clearcutting.	No clearcutting.	No clearcuts along Scenic Highway. Along major gravel roads are 14 coppice cuts, 2 clearcuts, 2 seed tree cuts, and 1 patch cut. All are designed not to be visually disruptive. SIOs are met.
Non-key: Transportation System		
Closing or decommissioning roads prevents access to parts of the Forest for the public	No decommissioning so access remains as at present.	8.7 miles of road are decommissioned and 2 roads are gated or bermed so there is somewhat less access.
Non-key: OHV Travel:		
There are still problems with the OHV map designations of use (which roads are open or closed to OHV travel.	No changes to OHV Use Map.	Numerous changes to OHV Use Map that make the system more useable.
Non-key: Non-native Invasive Species:		
Management to prevent earthworm invasions of stands.	No NNIS control.	No special treatments for earthworms. The NNIS controls for timber sales have some positive effects on earthworm control also, e.g. cleaning dirt off machinery.

CHAPTER 3 - ENVIRONMENTAL CONSEQUENCES

This section summarizes the appropriate/relevant physical, biological, and social environment effects on the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for the comparison of alternatives presented in the charts in Section 2.5.

Notes on the analysis: The CDRM area boundary split many stands into pieces with only parts of them inside the boundary. Where stands proposed for treatment are split, it is assumed that the entire stands would actually be treated, but the acreage used in the analysis is only the part inside.

In all of the Cumulative Effects Sections, please note that "Consideration of past impacts is guided by a CEQ letter of June 24, 2005 that states that we can discuss past impacts as an aggregate rather than individually. (PR# 74)"

ACREAGES: There will be minor differences between acreage figures for similar analyses. This is primarily due to different sources of data and rounding errors. This is understood and is never enough difference to change results.

3.1 – VEGETATION

3.1.1 – SCOPE OF ANALYSIS

Vegetation treatment effects would be analyzed within the CDRM area because vegetation treatments directly influence the treated stands and adjacent stands that are all confined within this boundary. The timeframe for the analysis is the next 10 - 20 years. Within that time frame, the area would be reanalyzed, and we would determine if further harvesting or other treatments would be necessary to change the forest types or the acres of forest types necessary to meet the Forest Plan conditions.

3.1.2 – MANAGEMENT DIRECTION AND FOREST PLAN CONSISTENCY

The specialist report contains much direction from the Forest Plan but one of the key items is:

O-VG-1: Move vegetation conditions from year 2003 toward the long term desired composition, structure, age spatial patterns, and within stand diversity.

Appropriateness of even-aged Management and Optimality of Clearcutting

The National Forest Management Act (NFMA) of 1976 requires that when timber is to be harvested using an even-aged management system, a determination would be made that the system is appropriate to meet the objectives and requirements of the Forest Plan. Where clearcutting is to be utilized, it must be determined to be the optimum method (FSH 1909.12 64.5.). A regeneration prescription is prepared based primarily upon biological requirements of the stand, landscape ecosystem guidance, and Management Area direction. Even-aged systems are considered normal and appropriate for most forest types in the Forest Plan, excluding black ash. Aspen, paper birch, red pine, tamarack, jack pine, and black spruce occur within the project area as primarily even-aged stands, although often with assorted mixtures of ages and species of trees in the form of advanced regeneration in the understory and midstory. In most cases the stands were best-suited for regeneration back to similar species, often with retention of selected advanced regeneration, seeding or planting. Based upon past experience and extensive research, even aged management systems (clearcutting, seed tree cuts, and shelterwood cutting) are the appropriate regeneration methods for these species in these stands on the Chippewa NF.

Clearcutting proposed in Alternatives C for aspen, jack pine, paper birch, black spruce, white spruce, fir/spruce and tamarack types. Clearcutting is considered to be the optimum regeneration method for these types because it best

meets the biological requirements (adequate sunlight) for regeneration and growth of these species or the species associated with them; and provides habitat, and recreation opportunities which are the expected outputs of the project area.

The Final EIS of the Forest Plan Revision discussed the appropriateness of even-aged management and the optimality of clearcutting in Chapter 3 (Affected Environment and Environmental Consequences, Section 3.4 Timber). This EA tiers to that section as discussed above.

Stand prescriptions are only summarized at this time. Full prescriptions would be developed from the data in this EA, in the project record, and in the analysis. Full prescriptions are not developed until after a decision is reached because there are constant minor changes being made. We can do the EA of analysis with the summary data.

All stands proposed for timber harvesting in the CDRM EA are on lands considered suitable for timber management (FSH 1909.12 62.1, 62.21, and 62.22).

All stands that are proposed for regeneration harvesting would be treated by methods that assure adequate restocking within 5 years (FSH 1909.12 64.2.).

All stands that are proposed for regeneration harvesting have reached culmination of mean annual increment (FSH 1909.12 64.4.).

3.1.3 EXISTING CONDITION

Three LEs are associated with the vegetation and wildlife habitat analysis of CDRM area: Boreal Hardwood Conifer (BHC) (68.9% of NFS lands), Mesic Northern Hardwood (MNH) (12.9%), and Tamarack Swamp (TS) (3.2%). Large lakes comprise 15% of the area, but are not included in LEs.

In accord with the Forest Plan vegetation objectives, analysis was conducted on the portion of each LE within CDRM area to assess the current condition of vegetation. The following section summarizes the results of this analysis for each LE. The summaries show results by age class and forest type. In general CDRM is comparable to the existing conditions forest-wide. (All of the tables and analysis that led to these summaries are found in the Specialist Report (PR# 330).

3.1.3.1 - BOREAL HARDWOOD CONIFER (BHC) LE

3.1.3.1.1 - EXISTING CONDITION - BHC LE

Age Class

Based on forest-wide Decade 2 objectives within the Boreal Hardwood Conifer LE uplands, age class 0-9 needs to increase. Forest-wide, age classes 10-39 and 40-79, and 80-179 need to be maintained or decreased. In the lowlands, age classes 0-9, 10-39, 120-179, and 180+ need to increase forest-wide to meet decade 2 objectives. Age classes 40-79, and 80-119 should decrease forest-wide.

Forest Type

Based on Decade 2 objectives within the Boreal Hardwood Conifer LE Uplands, white pine, and spruce-fir need to increase. Red pine and paper birch need to be maintained. Forest-wide, jack pine, northern hardwoods, and aspen need to decrease to meet decade 2 forest plan objectives.

For the BHC LE lowlands, black spruce needs to increase slightly to meet forest-wide decade 2 objectives. The other lowland forest types should be maintained forest-wide.

3.1.3.2 -- MESIC NORTHERN HARDWOODS (MNH) LE

3.1.3.2.1 -- EXISTING CONDITION - MNH LE

Age Class
Based on the forest plan decade 2 objectives, within the Mesic Northern Hardwoods LE upland, age class 0-9, needs to increase to meet forest-wide objectives. The amount in age class 10-79 needs to decrease and the 80+ age class should increase.

In the lowlands, age classes 0-9, 120-179 and 180+ need to increase, and age classes 40-79 and 80-119 need to decrease to meet decade 2 forest-wide objectives.

Forest Type
Based on decade 2 objectives, within the Mesic Northern Hardwood LE upland, jack pine, red pine, oak and paper birch need to be maintained forest-wide. Spruce fir, white pine and northern hardwoods need to increase and aspen needs to decrease forest-wide.

In the lowland MNH LE, black spruce should increase, tamarack should be maintained and lowland hardwoods and white cedar should decrease to meet the desired forest-wide vegetation objectives.

3.1.3.3 -- TAMARACK SWAMP (TS) LE

3.1.3.3.1 -- EXISTING CONDITION - TS LE

Age Class

Based on the Decade 2 Forest Plan objectives, age classes 0-9, 10-39, 120-179 and 180+ need to increase forest-wide in the lowland. Age classes 40-79 and 80-119 need to decrease.
In the Uplands, age classes 0-9, 10-39 and 120-189 need to increase, while age classes 40-79 and 80-119, need to decrease. Age class 190+ needs to be maintained in the uplands.

Forest Type

Based on forest-wide Decade 2 objectives, within the Tamarack Swamp LE lowlands, tamarack should be maintained forest-wide. Lowland spruce should increase forest-wide, and lowland cedars need to decrease to meet forest-wide forest type objectives. Lowland hardwoods should be maintained. Within the Tamarack Swamp LE uplands, jack pine and red pine need to be maintained. White pine, spruce-fir and upland cedar should increase. Aspen, oak, paper birch, and northern hardwoods need to decrease forest-wide to meet decade 2 objectives.

3.1.4 - EFFECTS

3.1.4.1 DIRECT AND INDIRECT EFFECTS ON VEGETATION

There are no key issues found in Section 1.6 that are concerned directly with forest vegetation, and forest vegetation management.

Three Non-key issues were found that relate to forest vegetation and forest vegetation management.

Non-key issue: Forest Type Conversions and Diversity
Need to maintain species diversity when converting forest types. Use less intensive site preparation and natural regeneration where possible.

Issue Indicators

Changes in percentage of specific forest types by LE as compared to Forest Plan desired conditions.

Changes in percentage of various, specific age classes by forest type and LE as compared to Forest Plan desired conditions.

Non-key issue: Lowland Conifers
Concerns over the ability to regenerate lowland conifer stands.
Issue Indicators
How many acres of 0-9 age class lowland conifers would be made?
How many lowland conifer stands have been successfully regenerated on the Chippewa National Forest following harvest?

Non-key issue: Increasing diversity with Stand Improvement, Riparian planting and Underseeding
Other treatments are proposed that affect vegetation and age class diversity.
Issue Indicators
Other methods used to maintain and create fores type diversity.

3.1.4.1.1 -- Non-key issue: Forest Type Conversions and Diversity

Maintain diversity:
Naturally occurring fire or wind storms influence plant diversity by disturbing the forest floor. Examples of the types of disturbances are erosion, death of seedlings or seed sources and removal of nutrients.

Harvesting timber can also directly influence plant diversity and composition through soil or forest floor disturbance. To minimize erosion in sensitive soils, harvesting takes place during winter months when the ground is frozen. Preparing the site mechanically can mimic nature and create the level of disturbance necessary to successfully regenerate and grow trees (Reich, et. al., 2001) (PR#). Even more diversity would be present since not all of a stand is treated, so there would be the previous diversity plus anything that is added.

By preparing the site following logging, we can help ensure that the desired amounts and desired species would be regenerated, and thus achieve the desired future condition of the stand, as determined by the LE needs in the Forest Plan. Only the amount of site preparation and planting that is necessary to achieve the desired results would be done.

Mechanical site preparation would not occur on all of the land proposed for conversion or harvest.

Large down woody debris is left on site to help prevent soil erosion and for wildlife habitat.

Standing snags and reserve trees are left on site for diversity as well as for wildlife habitat.

Conversion planting:
Mechanical site preparation would not occur on all of the land to be converted. Only the amount of site preparation and planting that is necessary to achieve the desired results would be done.

Species and forest type objectives are based on the potential of the specific site. We need to plant species more appropriate to site conditions. We manage species and forest types on those sites where they grow well and not merely survive.

Convert to create different species composition and age classes when there is an overabundance of a certain forest type and age class and an under abundance of others. This creates diversity on the landscape.

Underplanting in two-aged or multi-aged stands ensures diversity within the stand.

Site preparation:

The purpose of site preparation is to improve the growing conditions for regeneration. We want to provide better light, nutrients and moisture to make conditions favorable for germination, survival and growth, without causing soil loss or damage. The more effective the site preparation, the less need there is for release treatments to reduce competing vegetation.

BOREAL HARDWOOD CONIFER LE (BHC)

Vegetation Age Class Objectives

Based on 10 year objectives and with stands grown out 10 years.

Upland

0-9 Age class

Under Alternative A no 0-9 year age class is made in the upland BHC LE.

In the BHC upland, there is a need for more 0-9 age class forests. Alternative C within the BHC LE, upland would make 0-9 age class aspen and other forest types within the next ten years. 4% 0-9 exists currently within the CDRM area. Alternative C would make about 6% within the CDRM. The objective is to maintain 0-9 age class at 10% forest-wide in this LE. Forest-wide the amount of acres in 0-9 decreases, to 1%. More acres moved into the next higher age class than was created by regeneration harvest in the uplands with Alternative C. The proposed action, Alternative C, does not achieve the desired objective and another entry into the project area would be needed within ten years, in the uplands.

40-70 Age class

There is an overabundance of 40-70 age class upland forest-wide. The Forest Plan calls for approximately 23% forest-wide in the 40-79 age class. 28% currently exists forest-wide. The implementation of Alternative C would make 27%. With the implementation of Alternative C, the 40-79 age class is moving toward the Decade 2 future conditions.

Lowland

In the BHC lowland, the Forest Plan calls for more acres of young forest 0-39 years old, less acres in the 40-119 year range, and an increase in mature forests over 120 years.

0-9 Age class

For Alternative A, within the lowland BHC LE, the 0-9 age-class does not increase because no timber harvest is proposed.

Implementing Alternative C would help bring the percentage of 0-9 age-class to 1% forest-wide, bringing that age closer to the Decade 2 Forest Plan objective of 4%. More acres of 0-9 BHC lowland are made than grew into the next higher age class. The 0-9 age class for the BHC lowland is moving toward the desired Decade 2 objectives.

10-39 Age class

For the 10-39 age class, taking no action and implementing Alternative C, would result in no change in percentage forest-wide for this age class. The current percentage within both the CDRM and forest wide is 5%. With the implementation of Alternative C, the percentage stays at 5%. The desired amount of acres forest wide for Decade 2 Forest Plan is 8%.

40-79 Age class
For the 40-79 age-class, forest-wide there is 15% and within the CDRM, there is 14%. The Decade 2 Forest Plan objective calls for 4% forest wide. Implementing Alternative C would result in 6% within the CDRM, helping to move the 40-79 age class toward the Decade 2 forest wide objectives.

80-119 Age class
For the 80-119 age-class, forest-wide there is 55% and within the CDRM, there is 56%. The Decade 2 Forest Plan objective calls for 40% forest wide. Implementing Alternative C would result in 46%, helping to move toward the forest wide objective for this age class. The 80-119 age class for the BHC lowland is moving toward the desired Decade 2 objectives with the implementation of Alternative C.

120-179 Age class
For the 120-179 age-class, about 25% exist both forest-wide and within the CDRM. The Decade 2 Forest Plan objective is 42% forest-wide. The no action alternative and Alternative C would each increase the acres in this age-class, because of growth in the next lower age class. The 120-179 age class for the BHC lowland is moving toward the desired Decade 2 objectives.

180+ Age class
In the 180+ age-class, the amount existing forest-wide is 0.7%. The no action alternative and Alternative C would have the same results, because no harvesting in those age classes would take place with Alternative C. The forest wide percentage in the 180+ age class increases to 1%for both alternatives. The 180+ age class for the BHC lowland is moving toward the desired Decade 2 objectives.

For Alternatives C, 63 acres of wildlife openings would be naturally regenerated to northern hardwoods, which would place them in the 0-9 age-class. 69 acres of white pine and/or white spruce would be planted in openings and 24 acres of tamarack killed by flooding caused by beavers would be planted back to tamarack, creating more acres of forest land within the 0-9 age class.

Vegetation Forest Type Composition
Based on 10 year objectives and with stands grown out 10 years.

Alternative A has no effect on forest types, so it is the existing condition in 2008 as well as the future condition in 2018.

Upland
In the BHC LE, Alternative C, the proposed action, increases upland white pine, spruce-fir, and northern hardwoods. This increase moves the existing conditions forest-wide toward the desired conditions in the forest types for Decade 2 of 4% white pine, 4% spruce/fir and 13% northern hardwoods. Aspen is reduced by just 58 acres and birch is reduced by 3 acres. This moves the existing conditions forest-wide slightly more toward the desired Decade 2 Objectives of 60% aspen and 6% paper birch. The amounts of the other upland forest types are maintained, and are currently at the desired Decade 2 desired percentages.

Lowland
For the lowland species, Alternative C would reduce the amount of black spruce slightly. This small reduction moves the forest-wide condition away very slightly to what is desired for Decade 2, of 49% black spruce. Tamarack acres increase for Alternative C, moving the amount of tamarack forest existing forest-wide slightly away from the desired Decade 2 Objectives of 8%. Lowland hardwoods and white cedar in the BHC LE remain the same, maintaining the existing forest-wide conditions for hardwoods and white cedar.

MESIC NORTHERN HARDWOOD LE (MNH)

Vegetation Age Class Objectives
Based on 10 year objectives and with stands grown out 10 years.

Under Alternative A no 0-9 year age class is made.

Upland
0-9 Age Class
Alternative C within the MNH LE Upland would make a small amount of 0-9 age-class forests within the CDRM, moving it from the existing 4.0% to 4.4%. The Forest Plan Decade 2 objective is 6%. Another entry within ten years would require more regeneration harvests or more planting in openings and other non-forested areas to bring the amount of acres up to the desired amount.

10-39 Age Class
In the upland 10-39 age-class, the desired Forest Plan objective is 28%. Forest-wide 32% exists, and within the CDRM, 28% exists. Both Alternative A and Alternative C lower the percentage within this age class to 23%. Both Alternative A and C are moving the forest closer to the desired Decade 2 Forest Plan objectives in the MNH LE upland 10-39 age class.

40-79 Age Class
In the upland 40-79 age-class, the desired Forest Plan objective is 26%. Forest-wide 32% exists, and within the CDRM, 27% exists. Alternative C lowers the percentage within this age class to 20% within the CDRM, bringing the forest closer to the desired Decade 2 Forest Plan Objectives in the MNH LE upland 40-79 age class.

80-189 Age Class
The 80-189 upland age-class is 31% forest-wide and 42% within the CDRM area. The no action Alternative A and Alternative C would increase this amount to 54% and 52% respectively. The desired Decade 2 objective is 33%. Both Alternatives would move this age class toward the desired future conditions.

190+ Age Class
Forest-wide, there is an under abundance of 190+ age class. Less than 1% in this age class exists forest-wide. The Decade 2 desired amount is 8%. Under Alternatives A and C, no 190+ year age class stands are harvested.

Lowland
0-9 Age Class
In the lowland MNH LE, less than 1% in the 0-9 age class exists. The Decade 2 desired amount is 2%. Currently, no 0-9 age class exists within the CDRM area. For Alternatives C within the lowland, 13 acres of MNH 0-9 are being created, bringing the amount of acres closer to the desired condition of 2% for that age class. Alternative A creates no additional 0-9 age class.

10-39 Age Class
In the 10-39 age class, the desired future amount and the existing conditions are approximately the same. 3% currently exists forest-wide and within the CDRM, and the desired condition is 2% for this age class. Alternative A and C would both result in 2.5% in 10 years, due to growth of some acres into the next highest age class.

40-79 Age Class
In the 40-79 age class, the desired Decade 2 condition is 6%. 20% currently exist forest-wide, and 12% exist within the CDRM. Alternative A and Alternative C both result in 8.5% in the CDRM in ten years.

80-119 Age Class
In the 80-119 age class, 58% exist forest-wide and 65% exist within the CDRM. The desired Decade 2 condition is 51% for this age class. Both Alternative A and Alternative C would result in 55%, and bring this age class closer to the desired Decade 2 condition.

120-179 Age Class
For the 120-179 age class, the amount in that age class increased for both A and C due to aging of stands of stands. 21% exist within the CDRM. Alternative A results in 34% and Alternative C results in 32%. The desired Decade 2 forest-wide condition is 39% and 19% exists forest-wide. Alternative C increased less, since 13 acres was regenerated to create the 0-9 age class. More acres are needed in this age class to reach the desired conditions described in the Forest Plan.

Vegetation Forest Type Composition
Based on 10 year objectives and with stands grown out 10 years.

Alternative A has no effect on forest types, so it is the existing condition in 2008 as well as the future condition in 2018.

Upland
In the MNH LE, Alternative C restores more white pine, spruce/fir, and northern hardwoods. This increase helps move the existing forest-wide conditions toward the desired conditions for Decade 2 of 1% for white pine, 7% for spruce/fir, and 37% for northern hardwoods. Aspen is reduced by 40 acres. This reduction would also move the existing forest-wide conditions for aspen toward the desired Decade 2 objectives of less aspen in the upland MNH LE. The current forest-wide condition is 46%. The desired Decade 2 condition for aspen is 43%. Jack pine, red pine, oak and paper birch remain the same. The current forest-wide amounts of these forest types coincide to what is desired for Decade 2.

Lowland
In the MNH LE lowland, no activity takes place in any of the forest types. The current amounts of those forest types forest-wide closely match what is desired for Decade 2. The proposed Alternative C would maintain current conditions or move the MNH LE lowland forest types toward the desired Decade 2 conditions.

TAMARACK SWAMP LE

Vegetation Age Class Objectives
Based on 10 year objectives and with stands grown out 10 years.

Upland
0-9 Age Class
A small percentage of Tamarack Swamp LE occurs in the CDRM area. Within the CDRM 1%, currently exists, in the 0-9 age class. Alternative C creates 6 more acres within the CDRM upland, 0-9 age class, helping to bring the percentage of TS in the 0-9 age class closer to the desired Decade 2 Forest Plan Objective of 8% for that age class. Currently, only 2% exist forest-wide.

10-39 Age Class
Within the 10-39 TS upland, additional acres in that age class are needed to bring amounts closer to the Decade 2 forest-wide objective of 41%. 36% currently exist forest-wide. Both Alternatives A and C reduce the amount of acres in the upland in this age class. By making more of the 0-9 age class, future 10-39 age classes would be created in the future through growth.

40-79 Age Class
In the 40-79 age class, 32% currently exist forest-wide. The Decade 2 desired condition is 25%. Within the CDRM, 18% exists. The 40-79 and upland age class within the CDRM was maintained for Alternative A and C. Forest-wide, the amount in this age class needs to decrease.

80-119 Age Class
In the 80-119 age class, 27% currently exist forest-wide. The Decade 2 desired condition is 19%. Within the CDRM, 16% exists. In the 80-119 age-class upland, the amount of acres doubles for both Alternatives A and C, due to ingrowth from the younger age class. Forest-wide, fewer acres in the 80-119 age class are desired in the Forest Plan.

120 + Age Class
For age classes 120-189 and 190+ are not treated by harvesting within Alternatives A or C.

Lowland
0-9 Age Class
In the lowland TS LE, 72 acres of 0-9 age-class are created by harvesting in the 80-119 age class.

80-119 Age Class
In the lowland TS LE, 72 acres in the 80-119 age class are havested and regenerated.

Vegetation Forest Type Composition
Based on 10 year objectives and with stands grown out 10 years.

Alternative A has no effect on forest types, so it is the existing condition in 2008 as well as the future condition in 2018.

Lowland
In the TS LE, the forest-wide existing conditions are currently at the amounts desired for each forest type in Decade 2 for lowland tamarack, and upland jack pine, red pine and white pine. More acres of black spruce in the lowland are needed to meet the forest-wide objectives, and fewer acres of lowland hardwood and white cedar are needed.

Upland
In the upland, fewer acres of oak, hardwood, birch and aspen are needed, and more acres of upland white cedar and spruce-fir are needed to meet the forest-wide Decade 2 objectives for Tamarack Swamp LE. In the uplands, 6 acres of white pine would be created in the TS LE. This would move the existing forest-wide amounts of white pine in the TS LE to the desired conditions in the Forest Plan for Decade 2. The proposed Alternative C would maintain or move the Tamarack Swamp LE forest types toward the desired Decade 2 conditions.

3.1.4.1.2 -- Non-key issue: Lowland Conifers
About 207 acres of lowland conifer would be regenerated to the 0-9 age class. Based on past experience we expect successful regeneration.

A 24 acre stand that had been flooded by beavers and is currently considered non-forest would be seeded with a combination of black spruce and tamarack to create 24 acres of 0-9 age class lowland conifer.

Mature Lowland conifers can be successfully regenerated to young lowland conifer stands following harvesting. By applying specific silviculture methods and practices, and site preparation techniques, brush can be controlled and prevented from taking over. A study was implemented by the Chippewa National Forest, which data was analyzed to determine the probability of successfully regenerating lowland conifer forest types on National Forest System Land. The study found that the Chippewa National Forest has a 99% probability it can successfully regenerate harvested lowland conifers 92.6% of the time. The study also found that lowland conifer types can be successfully regenerated both naturally and artificially by dispersion of seed. Site evaluations following harvests by silvicuturists and forest technicians play a large part in the success of lowland conifer regeneration. Due to the vulnerability of young seedling to the site condition in lowland conifer habitats, the study suggested extending monitoring could improve success. (Swanson, G., 2005) (PR# 127a)

Timber production in lowland conifers stands typically follows an even-aged management strategy with strip clearcutting being the most common.

Stands dominated by cedar may use a shelterwood system. Without disturbance, such as fire, wind, or logging; cedar and tamarack stands would eventually convert to a more shade tolerant species composition.

In all harvests intended to regenerate new tree seedlings, the seedbed should be disturbed and slash should be spread lightly throughout the stand.

Intermittent thinning harvests in swamp conifer stands during stand development typically do not pay unless there are a significant number of cedar crop trees whose crowns can be released.

It is critical to take care to protect soil resources. Harvest is restricted to the season when ground is frozen (Johnston, W.F, 1975) (PR#).

3.1.4.1.3 -- Non-key issue: Increasing diversity with Stand Improvement, Riparian planting, and Underseeding

Other activities such as riparian zone planting, stand improvement, and underplanting would occur with Alternative C. The purpose of these additional activities is to increase the diversity within these areas, which can benefit wildlife and helps to decrease potential hazards from insect pests or disease. About 69 acres of wildlife openings would be planted with white pine, white spruce, and/or fruiting trees to increase the diversity within these areas. In addition, 39 wildlife openings, for a total of 63 acres, would be naturally regenerated to hardwood. Stand improvements are treatments that improve the composition, structure, and health and growth of stands. Thinning (one method of stand improvement) helps reduce overcrowding, increases vigor of trees, and reduces the risk of decline and hazards. About 406 acres would be thinned under Alternative C. Three additional methods of stand improvement would be implemented with the proposed Alternative C. They are Release, Animal Damage Control (ADC) and Pruning. Release would take place on 1054 acres. Release is a treatment designed to free young trees from undesirable, usually over-topping, competing vegetation, to allow the desirable trees to grow and thrive. Animal Damage Control would occur on 237 acres with the implementation of Alternative C. Animal feeding, and other animal injuries such as trampling and rubbing, is a major cause of tree injury and death during the development of young stands. One methods of ADC that would be used with Alternative C, is the use of animal repellant. Pruning would take place on 171 acres with the implementation of Alternative C. Pruning removes or reduces parts of the tree that are not needed for growth or that may impair the growth of the tree, such as disease limbs. Pruning produces strong healthy trees and clear wood for timber production. Underplanting, seeding, or planting under existing stands, creates structural diversity and ensures long term productivity; so stands are less susceptible to pests and disease. About 482 acres of white pine, white spruce, tamarack, and/or paper birch would be planted or seeded (either singly or in different combinations) under existing canopies of sugar maple, northern hardwoods, aspen, paper birch, red pine, fir/spruce, and black ash stands. Planting in riparian zones provides a

number of benefits including shading (which results in cooler water temperatures), filtering of pollutants, stability for stream banks, and habitat for wildlife and birds. About 26 acres of white pine would be planted in riparian zones under Alternative C.

3.1.4.1.4 – Other projects proposed with Alternative C in the CDRM that may have effects on vegetation.

Fuels reduction would take place on about 5% of 244 acres of stands. Fuels would be removed or reduced by chopping, burning, and or hand pulling. Fuel reduction or removal would most likely have short term effects on vegetation by physical removal or crushing. Stands where the fuels are left run the risk of high intensity stand altering fires, which would have long term or permanent impacts of the forest vegetation.

Non–native invasive species (NNIS) control would take place on 1 acre. Non-native species often displace native vegetation. Controlling NNIS may have a short term effect on the native vegetation that occurs with the NNIS, the length of time depending on the method of control used, but by not controlling NNIS, you run the risk of having NNIS completely displacing native vegetation.

Wildlife openings would be maintained by mowing on 154 openings. Wildlife openings would continue to be mowed periodically. Natural regeneration of trees and shrubs would not occur. Not mowing would allow for natural regeneration to hardwoods.

Aspen regeneration along Carter Lake Hunter Walking Trail by non-commercial cutting would occur in 5 stands. Trees would be cut noncommercially cut on about 9 acres total for grouse management. Trees would be allowed to regenerate naturally. Since trees are noncommercial, no impacts from harvesting operations would occur.

About 3.3 miles of temporary roads would be constructed. These roads would be decommissioned after use by closing and seeding.

3.1.4.1.5 – Other projects proposed with Alternative C in the CDRM that would have minor or no effects on vegetation.

The following projects proposed with Alternative C would have minor or no effects on vegetation: Remove road prism by Gull River, Nelson Lake road side drains and parking lot, Webster Lake bog walk lengthening, fix carry-in canoe landing at Little Moose Lake, make OHV Trailhead in existing opening near Webster Lake, Swamp Creek Bridge replacement, deleting and decommissioning existing roads, gate on FR 2514, and selected OHV travel route decisions. These items are discussed in greater detail in resource sections within this document where effects would be felt.

3.1.4.2 – Cumulative Effects

Spatial framework:

Vegetation treatment effects would be analyzed within CDRM Area and discussed for National Forest System land, with consideration given to include Federal, State, and County lands. Private and Leech Lake Band ownerships are not included due to a lack of data and very little LLBO lands, but it appears to have or propose little regeneration cutting. The CDRM area is used as the spatial framework because vegetation treatments directly influence the treated stands that are all confirmed within this boundary.

Timeframe:

This includes vegetation projects within the past 10 to 20 years, and future projects up to 7 years on other ownership and 5 years on National Forest System land. Since we have good CDS data for accomplishments over the last 20 years and have reasonably accurate projections from the State for the next 7 years.

Past Impacts:
Over the last few decades, vegetation of the area has been managed for multiple use objectives on public lands (and a very limited amount on private lands). There have been harvests on federal, State and County, and private lands over the past decades.

Table 3.1.4.2.a summarizes the acres harvested within the Chippewa National Forest and the CDRM.

Table 3.1.4.2.a: Acres harvested within the CDRM and Chippewa National Forest

Years	Clearcut	Shelterwood	Thinned	Selection cuts	Total Harvest
CDRM Area 1995 to present	3,443	217	1,703	120	5,483

Regeneration has typically been by clearcutting. About 4% of the state, county, and federal land base has been regenerated since 1997. The forest types regenerated and the harvest methods used have been similar on State, County, and Federal ownerships. However, there have been considerable conversions of jack pine to red pine on other forest ownerships that have not occurred on federal land.

Over the past 15 to 20 years conversions on the Chippewa National Forest of one forest type to another have been minimal. Within CDRM area, approximately 1200 acres were planted and approximately 60 acres seeded. Recently, efforts have been made to increase red and white pine as forest types and as components within other forest types on the national forest.

Present Impacts:
There are active Forest Service timber sales in CDRM area. About 716 acres of even-aged and uneven-aged harvests on National Forest System land from prior decisions, Rambling Woods Resource Management EA and Northwood Resource Management EA, are scheduled to take place within the CDRM. In 2009, Itasca County has approximately 50 acres of harvest activity and the State of Minnesota has approximately 96 acres of harvest activity in active timber sales. The timber sales on Itasca County and State ownership contain a mixture of harvesting methods, predominantly clearcutting and thinning. Recently, there has been an increase in the number of reserve trees, and legacy patches predominantly in clearcutting and thinning, recommended in the Voluntary Site Level Forest Management Guidelines.

Future Impacts:

Non-key issue: Forest Type Conversions and Diversity - Need to maintain species diversity when converting forest types. Use less intensive site preparation and natural regeneration where possible.

The State of Minnesota plans to harvest mature timber in the next seven years. The State plans the following harvest: 556 acres of clearcutting, and 510 acres of other even and uneven-aged harvests including intermediate treatments. Beltrami County has 240 acres of Aspen regeneration planned within the CDRM project area. Itasca County has a total of approximately 474 acres of planned regeneration within the CDRM area. About 48% is aspen, 44% is white spruce/balsam fir, and the remainder is red pine, balsam fir/aspen/paper birch and paper birch. One can assume that future harvest would take place on State and County lands long into the future and harvest would continue at the same rate.

On a forest-wide basis the acres of vegetation treatments in Alternative C does not make significant changes in the age-class distributions because of in-growth and out-growth. If each District keeps harvesting in accordance with the Forest Plan the vegetation age classes and objectives by LE, cumulatively, there would be changes in the age class objectives more in line with the desired goals of the plan.

Over the next 10 years, there would be about 3000 acres of harvesting on National Forest System lands in the CDRM EA area. The amount of harvesting on State land is about 1066 acres over 7 years, or about 1522 acres in 10 years, about half of what the Forest Service is cutting. Itasca and Beltrami counties plan on harvesting about 715 acres over the next 10 years. Approximately 164 acres is in regeneration cuts. The Counties' regeneration harvests would have no cumulative impact on the Forest Service proposed harvest since the amount of harvest on county land is so small. The State does plan to underplant on and convert approximately 150 acres over the next ten years. The States' regeneration harvests, underplanting, and conversions would add to the diversity within the CDRM area. Since the amounts are half of what the Forest Service plans, the cumulative impacts to the Forest Services' proposed treatments are very small.

Planting, underplanting and seeding of various conifer species would make significant changes in the species diversity within the CDRM. Alternative C attempts to restore conifer, mostly white pine and white spruce, in non-conifer forest types. Some aspen stands are being converted to paper birch and northern hardwoods. About 835 acres are proposed to be converted, and underplanted with pine. About 551acres are proposed for seeding. Site preparation is proposed on approximately 940 acres in the CDRM area. Site preparation is proposed for areas to be planted, seeded and also for areas to be naturally regenerated. The trend for forest-type diversity seems likely to continue into the future on all public ownerships and overtime the relative abundance of within stand diversity would increase.

Non-key issue: Lowland Conifers - Concerns over the ability to regenerate lowland conifer stands.

Lowland conifers make up a very small percentage of the forest-types within the CDRM. About 258 acres of lowland conifer would be treated out of the 36,946 acres of National Forest System land within the CDRM. About 75% of the 207 acres of lowland conifers would be regenerated to the 0-9 age class. Clearcuts and patch/strip clearcuts are the preferred methods of regeneration in lowland conifer stands. With the disturbance created by harvest, these stands would more likely be regenerated back to lowland conifer species. If left, the stand would more likely convert to shade tolerant hardwood species. The majority of those stands would be naturally regenerated, and seeded without site preparation, and two stands would be seeded with site preparation, to ensure regeneration to the desired forest type.

The State plans on harvesting 170 acres of mature lowland conifer out of a total of 15, 360 acres within the CDRM area over the next 7 years. The state plans on using clearcut with reserves to manage these lowland conifers. The counties have treated only 2 acres of lowland conifer in the past ten years. Cumulatively, the regeneration of mature lowland conifers by the Forest Service, State, and Counties would have some impact on the percentage of lowland conifer forest land in 0-9 age class. Since the amount of harvesting of these species is low, 16% for State land and 9% for the Forest Service the counties, the cumulative effects are very small.

3.2 - WILDLIFE

Section 3.2 is a summary of the existing conditions of the wildlife and plant resource, and the effects of the CDRM project on wildlife and plant species of concern. Much of this report was derived from the Biological Assessment (BA) (PR# ~~321~~272b) for threatened and endangered species, and the Biological Evaluation (BE) (PR# ~~322~~310) for regional forester sensitive species. Both documents are found in the project record.

3.2.1 - SCOPE OF THE ANALYSIS

Spatial framework:

The scope or area of the analysis varies according to the species being examined. Direct, indirect, and cumulative effects of the project alternatives on threatened, endangered, and sensitive species are analyzed on the proposed treatment units, the project area, and forest-wide, depending on the habitat needs and ranges of the individual species.

Time frame:

The time frame for effects to wildlife varies considerable depending on the species and habitat conditions. This effects analysis considers the past 10 years (1998), the next 10 years (2019) and beyond.

3.2.3 - WILDLIFE ISSUES AND GENERAL EXISTING CONDITION

There are five non-key issues from Section 1.6 based on public comments and internal discussion that is related to wildlife species management and sensitive wildlife and plants and their habitat. Issues drive the development of project alternatives, and indicators measure the effect of management activities on the existing conditions (See Section 1.6). Only those projects that would have a measurable effect are discussed.

Non-key issue: RFSS Plant Management

Several particular plants were mentioned with concerns over management near them or in their habitats/stands.

Indicators: Number of RFSS plant sites protected and effects to habitat

Non-key issue: Eagle and Goshawk Management

Need to protect the integrity of the nesting habitat and do seasonal mitigations.

Indicators: Number of eagle and goshawk nests protected. Acres of goshawk habitat maintained.

Non-key issue: Wildlife Habitat

Planting more wildlife openings.

Indicators: Acres and number of wildlife openings planted.

Non-key issue: Deeryards

Need to ensure protection and/or enhancement of winter deeryards for deer.

Indicators: Acres of deer yards (thermal cover) maintained/enhanced.

Non-key issue: Grouse Management

Look for opportunities for quality grouse and woodcock habitat management.

Indicators: Acres of improved/maintained grouse and woodcock habitat.

There are a total of 52 threatened and endangered species (TES) (2), regional forester sensitive species (RFSS) (49), and management indicator species (MIS) (1 of 4 not listed elsewhere) on the CNF. Determinations of effects for each species are summarized in this environmental assessment. The direct, indirect, and cumulative effects of Alternative C on TES are more fully described in the BA and BE, which can be found in the project record.

3.2.4 – THREATENED AND ENDANGERED SPECIES

3.2.4.1 – EXISTING CONDITION FOR THREATENED AND ENDANGERED SPECIES

The gray wolf (*Canis lupus*) and Canada lynx (*Lynx canadensis*) are listed as threatened and endangered species. Table 3.2.4.1.a. lists the federal status and presence of these species in the CDRM project area. The BA tiers to the programmatic biological assessment for the revision of the Forest Plan (USFS, 2004d) (PR# 312) and provides detailed information regarding site-specific effects of the CDRM project on threatened and endangered species. Consultation was completed with the US Fish and Wildlife Service (USFWS) and they concurred with the CNF's

determination that the proposed project is not likely to adversely affect any federally listed threatened and endangered species (USFWS 2009) (PR# 332).

Table 3.2.4.1.a -- Threatened and Endangered Species known or suspected to occur within the area of influence of the CDRM project.

Species	Federal Status	Species Presence
Canada lynx	Threatened	Unknown
Gray wolf	Threatened	Known

Canada Lynx

The historic range of Canada lynx extended from Alaska across much of Canada, with southern extensions into parts of the western United States, the Great Lakes states, and New England (Ruediger et al. 2000) (PR# 48). The FWS listed the Canada lynx in March 2000 as threatened in the contiguous United States (USFWS 2000) (PR# 320). The distribution of lynx is strongly associated with the boreal forest and stable populations of the snowshoe hare (Ruggiero et al. 1999) (PR# 328).

Threats to Canada lynx consist of habitat loss or modification; trapping, inadequate regulatory mechanisms to protect lynx and their habitat, and other factors such as increased human access into suitable habitat and human-induced changes in habitat allowing other species (bobcats and coyotes) to move into lynx habitat and compete with them. Snow conditions on the CNF do not commonly give lynx a competitive advantage during the winter when survival is most difficult. The CNF usually has about 12 inches of snow on the ground for 45 days/year. Snow that does fall on the CNF often sublimates and frosts over, forming a crust that can easily support small to medium-sized mammals.

Gray Wolf

The gray wolf population in Minnesota far exceeds the population goal of 1,400 wolves in the state. The winter survey of 1997-1998 showed a 50% increase in the statewide population estimate compared to surveys conducted a decade ago, with about 2,450 wolves ranging over 33,970 square miles in the state. Minnesota currently supports the highest population density of gray wolves worldwide. The 2007-2008 wolf survey results showed an estimated 2,921 wolves in the State, well above the population goal and the population in 1997-1998 (Erb, 2008) (PR# 315). The white-tailed deer population is also at an all time high, due in part to aspen clearcutting that creates quality forage. Although a severe winter would thin the herd and reduce wolf numbers, the deer herd has quickly rebounded in the past. Wolves are known to utilize the CDRM project area.

Currently, the USFWS is in the process of delisting the gray wolf in the Western Great Lakes from the endangered species list. Delisting would take effect 30 days after publishing the final rule in the Federal Register. A final rule has yet to be published.

3.2.4.2 DIRECT, INDIRECT, AND CUMULATIVE EFFECTS FOR THREATENED AND ENDANGERED SPECIES

The analysis area for lynx includes USFS lands within Lynx Analysis Units (LAUs) for direct and indirect effects and all ownerships within LAUs that encompass the project area (National Forest, State of Minnesota, County, and private ownerships) for cumulative effects. LAUs 7 and 8 overlap the project area.

For wolves the entire CDRM project area is used for direct, indirect, and cumulative effects. The project area is located within wolf management zone 4.

Alternative A would have no apparent direct, indirect, or cumulative effects to any threatened or endangered species.

The BA documents the potential effects on Threatened and Endangered species that result from implementation of Alternative C. A summary of the findings are shown in Table 3.2.4.2.a.

Table 3.2.4.2.a Summary of Effects to TES.

Species	Effects Summary
Canada lynx	Minor temporary reductions in habitat. Ample habitat is maintained. Minor reductions in road density. Project meets Forest Plan Standards, Guidelines, and Objectives for Lynx.
Gray wolf	Minor reduction in white-tailed deer thermal cover. Ample white-tailed deer habitat is maintained. Road densities remain at wolf-road density threshold.

3.2.5 – REGIONAL FORESTER SENSITIVE SPECIES

3.2.5.1 -- GENERAL AND SUMMARY FOR REGIONAL FORESTER SENSITIVE SPECIES

Sensitive species are plant and animal species identified by a Regional Forester for which population viability is a concern as evidenced by (FSM 2670.5):

> Significant current or predicted downward trends in population numbers or density.
>
> Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

The CDRM project BE was developed in consideration of relevant Forest Plan standards, guidelines, and management objectives, including conservation objectives for Sensitive Species.

The BE evaluates all proposed project alternatives for effects on RFSS. A summary of findings is presented in Table 3.2.5.1.2.a. Forest Service Manual (FSM 2672.42) objectives for completing a BE are to:

> Ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant or animal species,
> Ensure that Forest Service activities do not cause any species to move toward federal listing, and
> Incorporate concerns for sensitive species throughout the planning process, reducing negative impacts to species and enhancing opportunities for mitigation.

There are 49 species listed as RFSS on the CNF. All 49 were initially considered. Based on lack of suitable habitat in the project area and/or low project risk, the list was reduced to 20 species that are evaluated in detail. The remaining 29 species that were not evaluated in detail received a finding of **"no impact"** from implementation of Alternative C. These 29 species are not discussed in detail.

3.2.5.1.1 -- ALTERNATIVE A FOR REGIONAL FORESTER SENSITIVE SPECIES

Alternative A would have no impact on sensitive species from resource management activities because no ground disturbing activities would take place.

3.2.5.1.2 -ALTERNATIVE C – SUMMARY FOR REGIONAL FORESTER SENSITIVE SPECIES

Alternatives C impacts habitat to varying degrees based on treatment type and habitat requirements for each sensitive species. Refer to the individual species section for more detailed information. Only those species that have key habitats in the project area are discussed in detail in this EA. They include; bald eagle, northern goshawk, MNH plant guild, upland disturb plant guild, Ram's head lady slipper, and fairy slipper. The remaining species are discussed in detail in the BE. Implementation of Alternative C would not result in a trend to federal

listing or loss of viability to a Regional Forester Sensitive Species' populations or species. A finding of **"may impact"** is associated with 20 species. Table 3.2.5.1.2.a summarizes the potential effects on these sensitive species from implementation of Alternative C. Mitigation measures associated with these findings are presented in the BE, and in stand-specific tables in Appendix H of the EA.

Table 3.2.5.1.2.a -- Summary of effects for Sensitive Species from implementation of Alternative C.

Species	Effects Determination[1]	Summary of Effects
Bald eagle *(Haliaeetus leucocephalus)*	MINH*	Potential impacts would be negligible. Nest sites protected with timing restriction buffers.
Northern goshawk *(Accipiter gentiles)*	MINH*	Habitat is reduced to varying degrees in foraging zones in 4 of the 5 territories and in 1 post-fledging zone. Zone habitat requirements are met in zones that have vegetation treatment proposed.
Red-shouldered hawk *(Buteo lineatus)*	MINH	Habitat may improve with proposed individual tree/group selection treatments in northern hardwoods.
Black-throated blue warbler *(Dendroica caerulescens)*	MINH	Patch size and distribution change due to regeneration harvest. A very large patch develops which may improve habitat.
Bay-breasted warbler *(Dendroica castanea)*	MINH	Temporary reduction in habitat. Substantial amount of habitat remains after treatment. Treatment moves LE's closer to objectives for MIH-9.
Spruce grouse *(Falcipennis canadensis)*	MINH	Habitat dominated by lowland conifers. Habitat diversity increases through regeneration harvest in lowland conifers.
Black-backed woodpecker *(Picoides arcticus)*	MINH	Minor reductions in habitat in lowland conifers. Substantial amount of habitat remains after treatment. Known nest sites in treatment areas are seasonally protected.
Great gray owl *(Strix nebulosa)*	MINH	Foraging habitat may improve due to regeneration harvest in lowland conifers.
Connecticut warbler *(Oporornis agilis)*	MINH	Temporary reduction in habitat. Substantial amount of habitat remains after treatment. Treatment moves LE's closer to objectives for MIH-9
MNH Sensitive Plants Guild: blunt-lobed grapefern *(Botrychium oneidense)*, goblin fern *(Botrychium mormo)*, lanceleaf grapefern *(Botrychium lanceolatum var. angustisegmentum)*, one-flowered broomrape *(Orabanche uniflora),* Goldie's wood fern *(Dryopteris goldiana)*	MINH*	Temporary loss of habitat in aspen regeneration harvest units. Potential for habitat improvement in individual tree/group selection units in northern hardwoods. No known sites within treatment units.
Upland Disturbed Sensitive Plants Guild: pale moonwort *(Botrychium pallidum)*, ternate grapefern *(Botrychium rugulosum)*, least moonwort *(Botrychium simplex)*	MINH*	Potential for direct impact to one known site in a "Wildlife Opening." Timing restriction for mowing would protect plants until spore maturity. Long-term habitat improvement by maintaining site in early successional habitat.
Ram's Head Lady Slipper *(Cypripedium arietinum)* Fairy Slipper *(Calypso bulbosa)*	MINH*	Potential for long-term habitat loss in lowland conifer harvest units. All known sites are protected.

Species	Effects Determination[1]	Summary of Effects
Canada yew *(Taxus canadensis)*	MINH	Regeneration harvest would maintain high deer populations and browsing pressure on yew. All known sites are protected.

1 MINH: May impact individuals or habitat, but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species

* These species are dealt with in detail in the rest of this section. The other species are just summarized here, with more details in the Specialist Report (PR# 330)

3.2.5.2 -- ALTERNATIVE C DETAILED EXISTING AND EFFECTS FOR REGIONAL FORESTER SENSITIVE SPECIES

3.2.5.2.1 -- Bald Eagle

3.2.5.2.1.1 -- Existing Condition for Bald Eagle

The Bald Eagle was delisted from the Threatened and Endangered list in 2007. It continues to be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, and on the CNF it is listed as a Sensitive Species.

Eagles on the CNF typically nest in super-canopy white or red pine trees near water. The trees are large, extend well above the canopy of the surrounding forest, and provide good flight access.

Currently, risk factors for eagles exist due to forest use and management activities. These risk factors include loss of habitat through land development (shorelines are particularly targeted for development), decline of habitat quality, and changes in forest composition and structure. Human disturbance of nesting pairs during critical nesting periods can cause eagles to desert nests, and affect breeding productivity.

Environmental Baseline: Eagle numbers appear to have reached a leveling off point on the CNF. There is some evidence that in recent years, competition among breeding pairs due to high nesting densities has resulted in some declines in breeding success. It appears that the growth rate of eagles on the CNF is dropping, and the habitat in this region has reached its capacity (USFS 2004d, p. 14-20) (PR# 312).

Activity and productivity flights were conducted for bald eagles in 2007. A total of 259 nests were surveyed. Of these, 113 nests were active with 55 of them fledging young. A total of 66 eagle chicks were observed during the productivity flights; 0.58 young fledged per active nest. This productivity is up slightly from 2005, the last year bald eagles were monitored on the CNF, when the average was 0.41 young fledged per active nest. For the period from 1987 thru 2004, CNF bald eagle monitoring shows an average of: 151 (range, 88-189) active breeding pairs; 96 successful breeding pairs (range, 66-108); and 1.02 young fledged per active nest (range, 0.76-1.39) (USFS 2008) (PR# 327). The CDRM project area supports a number of nesting bald eagles, with at least 16 known historic and current eagle nests.

3.2.5.2.1.2 -- Direct, Indirect, and Cumulative Effects for Bald Eagle

Direct Effects: Conservation of bald eagles on the CNF occurs at two scales: across the landscape, and at known nesting sites. Protection of known nest sites provides for the well-being of nesting pairs for the near-term, and is accomplished through the application of buffer zones around nest sites, per the USFWS Bald Eagle Management Guidelines (USFWS 2007) (PR# 330). These buffers provide protection from direct effects of nesting birds and nests due to project activities, and also provide protection of proximate eagle habitat from indirect effects due to project activities. The buffers apply to 5 nests that have project activities occurring within these zones.

Indirect Effects: Landscape scale conservation measures affect the distribution and supply of eagle habitat across the CNF over the long-term. These conservation measures are supported by the Forest Plan through objectives provided at the landscape ecosystem (LE) scale. LE scale objectives promote eagle conservation by maintaining or enhancing habitat sufficient to support prey base, nesting and roosting habitat. Forest-wide Forest Plan LE MIH objectives for the Mesic Northern Hardwoods and Boreal Hardwood Conifers is to increase mature and older red and white pine forest. These two tree species constitute most of the eagle nest trees.

The proposed thinning of red pine (153 acres), shelterwood- uneven-aged (101 acres) treatment of red pine, and shelterwood harvest of white pine (16 acres) would improve eagle habitat over the long-term by promoting "super-canopy" pine trees.

About 527 acres are proposed for conversion and/or planting/seeding of white pine. These treatments would have a positive long-term impact on bald eagle habitat.

Cumulative Effects: Activities on other land ownerships within the CDRM project area are also guided by the Eagle Management Guidelines, application of which should result in adequate site-specific protection of nesting bald eagles.

Determination of effects:
Alternative C ***may impact individual bald eagles or their habitats, but would not likely contribute to a trend towards federal listing or loss of viability to the population or species.*** This is due to potential improvements in habitat over-time and nest protection buffers during project implementation. Table 3.2.5.2.1.2.a displays Forest Plan compliance.

Table 3.2.5.2.1.2.a -- Forest Plan Compliance for Bald Eagle

Forest Plan Guidance	Compliance Met in Alternative C
O-WL-15 Promote bald eagle conservation	*Contributes to objective through following buffer zone guidance*
O-WL-6 Reduce or eliminate adverse effects of management activities	*Follows buffer zone guidance of Eagle Management Guidelines*

3.2.5.2.2 -- Northern Goshawk

3.2.5.2.2.1 -- Existing Condition for Northern Goshawk

Goshawk habitat consists of large tracts of mature, closed canopy, deciduous, coniferous and mixed forests with an open understory in fairly contiguous blocks, intermixed with younger forest and openings for production of prey species. This species appears to be uncommon in Minnesota, and there are concerns about its population status throughout the Lake States (USFS 2004b, p. 32) (PR# 313). Over the past 10 years, the number of active goshawk territories known on the CNF has ranged from 7 to 16. Nesting success varies by year: in 2008, 12 known territories fledged young on the CNF.

Risk factors for goshawks include forest fragmentation and isolation of primary habitats, cutting and regeneration in nesting areas that result in vegetative simplification (Crocker-Bedford 1990) (PR# 324), predation by other raptors such as great-horned owls and red-tailed hawks, and mammals such as fisher. Human disturbance at the nest site may result in nest failure and abandonment. The Regional Forester's Sensitive Species Risk Evaluation for Northern goshawk (USFS 1999) (PR# 322a) indicates logging may be a threat to goshawks on the CNF.

Environmental Baseline: Goshawk habitat occurs within the CDRM project area. About 47% (10,372 acres) of the 22,239 acres of potential goshawk habitat on USFS land within the project area is currently suitable habitat based on forest type and stand age. The remaining acres, 11,867 (53%) is currently too young to be consider suitable goshawk habitat. However, with age and stand development, these forest stands could provide for goshawk habitat needs in the future. Within the project area, there are 5 known goshawk territories; Flenner Lake,

Pimushe, Bass Lake, Webster Lake, and Skimmerhorn. These territories cover about 60% (55,944 acres) of the project area.

3.2.5.2.2.2 -- Direct and Indirect Effects for Known Northern Goshawk Territories

For analysis purposes, 3 zones (Nesting, Post-fledging, and Foraging) are analyzed within each known goshawk territory (USFS 2004b, pp. 33-34) (PR# 313). Direct, indirect, and cumulative effects for goshawks include not only the habitat in these 3 zones within the project area, but also include habitat outside of the project area when these zones extend beyond the project area boundary. Also, the foraging zones for Bass Lake, Webster Lake, and Pimushe territories overlap each other. Detailed analysis of each individual territory can be found in the BE.

Direct Effects: No direct effects are expected from implementing the CDRM project. This is due to protection buffers and timing restrictions around known nest sites.

Indirect and Cumulative Effects: Vegetation treatments proposed in the CDRM project have the potential to indirectly and cumulatively impact goshawks by reducing the amount and/or suitability of habitat across the landscape. A list of stands proposed for treatment and associated mitigation measures are located in Appendix H of the EA.

3.2.5.2.2.3 -- Cumulative Effects for Goshawk Territories and the CDRM Project Area

The USFS is the predominant public landowner in the project area. About 1,237 acres of potential goshawk habitat was harvested on USFS lands in the project area in the past 10 years (1998-2008).

Present impacts: There are about 486 acres of clearutting; 15 acres of partial cut; 13 acres of shelterwood; 176 acres of thinning; and 26 acres of uneven age management currently being harvested in the CDRM project area. The State of Minnesota (MN DNR) has about 96 acres of timber harvest and Itasca County has about 50 acres of timber harvest currently occurring within the CDRM project area.

Future impacts: The proposed action would result in about 1,075 acres of regeneration harvest in potential goshawk habitat on USFS Land. MN DNR plans about 530 acres of regeneration timber harvest on State lands within the CDRM project area over the next 5 years. The MN DNR plans regeneration harvest in suitable goshawk habitat within known territories (Bass Lake, Webster Lake, and Skimmerhorn).

Beltrami County plans about 240 acres of aspen regeneration harvest within the CDRM project area. Itasca County plans about 474 acres of regeneration harvest within the CDRM project area. The dominant harvest method on other ownerships has been the clearcutting of aspen. Since we do not know the exact locations of these cutting units we were unable to include them in Table 3.2.5.2.2.3.a. However, the cumulative effects of these harvest activities would likely reduce the overall habitat quality for northern goshawks across the project area.

Table 3.2.5.2.2.3.a displays suitable goshawk habitat after implementation of the CDRM project and all other public lands in the 5 goshawk territories. It reflects timber harvest (even-aged regeneration) planned by the USFS and MDNR but not the counties, as well as harvest already completed in the past.

Table 3.2.5.2.2.3.a -- Amount of suitable goshawk habitat on all public lands in the goshawk territories after implementation of the CDRM project.

Zone	Existing Habitat	Target Minimum[1]	Alt. C [2]
	Acres (%)		Acres (%)
Flenner Lake			
Nest	21 (66 %)	100 %	21 (66 %)
Post-Fledging	152 (75 %)	60 %	129 (63 %)

Zone	Existing Habitat Acres (%)	Target Minimum[1]	Alt. C [2] Acres (%)
Foraging	2437 (65 %)	40 %	2264 (61 %)
Pimushe			
Nest	20 (87 %)	100 %	20 (87 %)
Post-Fledging	68 (40 %)	60 %	68 (40 %)
Foraging	3816 (56 %)	40 %	3816 (56 %)
Bass Lake			
Nest	27 (66 %)	100 %	27 (66 %)
Post-Fledging	157 (51 %)	60 %	143 (46 %)
Foraging	3552 (50 %)	40 %	3403 (48 %)
Webster Lake			
Nest	27 (66 %)	100 %	27 (66 %)
Post-Fledging	100 (50 %)	60 %	100 (50 %)
Foraging	3606 (49 %)	40 %	3243 (44%)
Skimmerhorn			
Nest	74 (81 %)	100 %	74 (81 %)
Post-Fledging	209 (54 %)	60 %	209 (54 %)
Foraging	2781 (42 %)	40 %	2501 (37 %)

1 Target minimum is the minimum desired management goal for the amount of mature forest goshawk habitat within each zone. It provides a quick basis for comparison with existing conditions and those that would be created under each action alternative. In the case of nest and post-fledging zones, the Forest Plan provides direction regarding these minimums. The Forest Plan does not provide guidance for the foraging zone.

2 Alternative C just subtracts treated acres from existing acres. It does not show any ingrowth from stands aging naturally. This is discussed in the summaries below.

As seen in Table 3.2.5.2.2.3.a, nest zone target minimums (100%) are not met in any of the goshawk territories across all public ownerships. Post-fledging target minimums (60%) are only met in the Flenner Lake territory. These conditions would not be increased by the CDRM project, with the exception of Flenner Lake, where new regeneration harvest is proposed in the post-fledging zone. Also, the MN DNR plans 14 acres of regeneration harvest in the Bass Lake post-fledging zone.

Regeneration timber harvest in the CDRM project is proposed in one post-fledging zone and four foraging zones. Alternative C would have the highest impact on the Flenner Lake, Skimmerhorn and Webster Lake territories, due to the amount and spatial distribution of regeneration harvest proposed in these territories.

Cumulative Summary of Impacts to Each Goshawk Territory due to harvesting on all ownerships:
In the Flenner Lake territory there is a 12% initial decrease in habitat in the post-fledging zone and a 4% initial decrease in the foraging zone. After implementation these zones would still be above the target minimums. In 5-10 years there would be a slight increase (3 %) in the amount of suitable habitat in the foraging zone and no change in suitable habitat in the post-fledging zone due to stand aging.

In the Pimushe territory there is no regeneration harvest planned. In 5-10 years habitat is expected to improve as stands age.

In the Bass Lake territory, the MN DNR plans regeneration harvest in the post-fledging and foraging zones. No regeneration harvest is planned by the USFS in the post-fledging zone. Habitat minimums would continue to be met in the foraging zone after implementation of Alternative C. Habitat on USFS land in all three zones is expected to improve over time as stands age.

In the Webster Lake territory there is a 5% initial decrease in the amount of suitable habitat in the foraging zone, but the target minimum is still met with project implementation. In 5-10 years there would be an increase (3%) in the amount of suitable habitat in this zone.

In the Skimmerhorn territory there is a 5 % initial decrease in the amount of suitable habitat in the foraging zone. Forage zone target minimums are at the minimum after implementation of Alternative C. In 5-10 years there would be a slight increase (3 %) in the amount of suitable habitat in this zone. This brings the suitable habitat acreage up to 40 percent.

Since no timber harvest on USFS land is planned in the nesting and four of the post-fledging zones, habitat on USFS land in these zones would improve over-time as stands age.

3.2.5.2.2.4 -- Determination of Effects for Goshawk Territories and the CDRM Project Area

Alternative C ***may impact goshawks or their habitat, but would not likely contribute to a trend towards federal listing or loss of viability to the population or species.*** This is due to the temporary loss of habitat due to regeneration harvest. Habitat is maintained at or above minimum requirements within zones where regeneration harvest occurs. The CDRM project complies with the CNF Forest Plan (Table 3.2.5.2.2.4.a).

Table 3.2.5.2.2.4.a -- Forest Plan Compliance for Northern Goshawk

Forest Plan Guidance	Compliance Met in Alternative C
O-WL-17 Maintain, protect or improve habitat for all sensitive species … including at the landscape level site level by managing specifically for high quality potential habitat or known locations of sensitive species	Habitat requirements are met in all goshawk zones that have vegetation treatment proposed
O-WL-32 Provide habitat for population goal minimum of 20-30 breeding pairs.	Contributes to maintaining habitat for goshawks
S-WL-8 Maintain/enhance suitable habitat in nesting zone; operating restrictions during nesting season	Contributes to maintaining habitat for goshawks
G-WL-8 Maintain suitable habitat in post-fledging zone; operating restrictions during nesting season	Contributes to maintaining habitat for goshawks

3.2.5.2.10 -- Mesic Northern Hardwoods Sensitive Plants Guild

3.2.5.2.10.1 -- Existing Condition for Mesic Northern Hardwoods Sensitive Plants Guild

The following five species are evaluated as a guild, due to similarities in habitat requirements: blunt-lobed grapefern, goblin fern, lanceleaf grapefern, one-flowered broomrape, and Goldie's wood fern. All of these species are associated with mesic northern hardwood forests. Species information is based on USFS 2004c, USFS 1999a, USFS 1999b, USFS 1999c, and USFS 1999d (PR# 314, 323-326).

Environmental Baseline: Suitable habitat within the CDRM project area which is proposed for project activities was surveyed for the presence of these species. No plants were found within proposed treatment units. There are seven historic goblin fern sites within the project area.

Sensitive plants are typically habitat specialists. Their distribution and abundance has declined since historical times. The Mesic Northern Hardwoods Sensitive Species Plant Guild (MNH Guild) contains species that are currently and historically associated with northern hardwoods, and micro-sites within these forest communities. Timber harvest range-wide, and on the CNF, has resulted in younger, more even-aged and fragmented northern hardwoods forests that occupy a smaller portion of the landscape. Consequently, suitable ecological conditions for these plants are frequently isolated, and the plants generally occur at very low abundance. There are limited, if any, opportunities for sub-populations of these plants to interact.

3.2.5.2.10.2 -- Direct, Indirect, and Cumulative Effects for Mesic Northern Hardwoods Sensitive Plants Guild

Proposed CDRM project activities which would affect the environment of MNH Guild species include timber harvest and site preparation. Timber harvest can cause impacts to plant habitats from ground disturbance associated with logging, and with associated activities, such as construction of landings, skidding, site prep, and potential erosion/sedimentation and soil compaction. Timber harvest can alter forest overstory composition and structure, and result in changes to light conditions on the forest floor, which can result in a direct reduction in habitat suitability, or can allow competing species to flourish.

Direct effects: Direct effects to known sensitive plant sites due to timber harvest, road building, site preparation and reforestation are unlikely to occur. All of these activities are proposed to occur within the project area, but project surveys have not detected MNH plant guild occurrences within these stands.

Table 3.2.5.2.10.2.a -- MNH plant guild habitat in the CDRM project area and habitat affected by Alternative C.

Species	Habitat Indicator	Current Condition	Alt. C[1]
Blunt-lobed grapefern	Upland northern hardwoods (MIH 3) mature, old, older	3,764	0
Goblin fern	Upland northern hardwoods, quaking aspen, paper birch (MIH 3, 4): mature, old, older	7,429	779
Lanceleaf grapefern	Upland northern hardwoods, aspen (MIH 3, 4): mature, old, older	5,963	658
One-flowered broomrape	Upland northern hardwoods and oaks (MIH 3): all	4,117	0
Goldie's wood fern	Upland northern hardwoods (MIH 3): old, older	410	0

1 Individual tree/group selection (609 acres individual tree/174 acres group selection) would not reduce the acres or patch size in northern hardwoods. Only the acres of regeneration type of harvest are listed.

Indirect effects: Changes in forest cover type and age due to timber harvest may affect long-term opportunities for the MNH guild plants across the CDRM project area. Table 3.2.5.2.10.2.a provides estimated amounts of habitat within the CDRM project area and changes in habitat in Alternative C. The CDRM project also proposes individual tree/group selection harvest in northern hardwoods. This type of treatment may benefit the MNH plant guild in the long-term by creating mature gap-phase forest.

Alternative C proposes 779 acres of regeneration harvest in mature/old/older aspen/birch forest types. Decreases in acres of MNH plant guild habitat are due to even-aged regeneration harvests in aspen and birch stands. Historically, range-wide emphasis on aspen regeneration on forest lands has caused conflicts with goblin fern habitat and colonies, due to short rotations, conversion to aspen, and biases in timber typing which tend to favor aspen (Berlin et al. 1998, p. 61) (PR# 36). Even-aged regeneration harvest of aspen sites which have the potential to support northern hardwoods perpetuates the current predominance of aspen across the CNF's landscape, and reduces the potential for goblin ferns to occur. About 38 acres of aspen would be converted to northern hardwoods which would benefit this plant guild in the long-term.

Forest Plan guide G-TM-6 (p. 2-19) (PR# 72) provides protection of seasonal ponds. Since blunt-lobed grapefern is frequently associated with this habitat, application of G-TM-6 should help to reduce potential project effects to grapefern habitat.

Cumulative effects: Timber harvest range-wide, and on the CNF, has resulted in younger more even-aged fragmented northern hardwood forests that occupy a smaller portion of the landscape. The 2004 Chippewa Forest Plan sets a new course for forest management on the CNF, moving towards older northern hardwoods managed through uneven-aged harvest techniques, with larger patch sizes a goal. The MN DNR plans about 281 acres of un-even aged harvest in northern hardwoods.

Determination of effects for Mesic Northern Hardwoods Sensitive Plants Guild:

Alternative C ***may impact individual MNH guild plant species or their habitats, but would not likely contribute to a trend towards federal listing or loss of viability to the population or species.*** This is due to the temporary loss of habitat due to regeneration harvest and the potential for habitat improvement in the northern hardwoods forest type resulting from this project.

3.2.5.2.11 -- Upland Disturbed Sensitive Plants Guild

3.2.5.2.11.1 -- Existing Condition for Upland Disturbed Sensitive Plants Guild

The following three species are evaluated as a guild, due to similarities in habitat requirements: pale moonwort, least moonwort, and Ternate grapefern. All of these species are associated with upland disturbed, barrens, or early successional forest habitats. These species would be collectively referred to as "Upland Disturbed Sensitive Plants Guild (UD Guild)". Species information is based on USFS 2004c (PR# 314).

Environmental Baseline: The UD Guild contains species that are currently found in habitats which experienced some heavy ground disturbance (e.g. roadside ditch, old log landing, old building sites, old roads, old field, edges of trails, and gravel pits) in the past, but which are currently dominated by graminoids and forbs. Few are known from sites that originated from a natural disturbance (e.g. wildfire, windthrow). However, some are found in forested habitats (USFS 2004c) (PR# 314).

Historical natural disturbances such as wildfire and windthrow created early successional forest habitat in a variety of patch sizes. Early successional forest habitat on the current landscape is dominated by patches of human origin that are on average smaller than historical patches. Historically, disturbance and succession created a mosaic of suitable habitat for this suite of plants that shifted across the landscape. Today, early successional habitat still shifts across the landscape, but more early successional habitat is maintained in that state through repeated disturbance of, for example, roadside ditches or log landings. Current ecological conditions differ from historic in that disturbance regimes and patch sizes have changed. In addition, suitable forested habitat is being impacted by exotic earthworms (USFS 2004c) (PR# 314). Because the current populations of UD Guild plants occur in limited abundance and disjunct locations, disturbances could impact populations of these plants.

Suitable habitat within the CDRM project area which is proposed for project activities was surveyed for the presence of these species. One site containing both Pale and Least Moonworts was located in a "Wildlife Opening." This opening is proposed for maintenance by mowing. Based on previous surveys and those completed in 2008, no other occurrences of the UD guild plants were located within 250 feet of potential vegetation treatment areas.

3.2.5.2.11.2 -- Direct, Indirect, and Cumulative Effects for Upland Disturbed Sensitive Plants Guild
Direct effects: Direct effects to known sensitive plant sites due to timber harvest, road building, site preparation, reforestation, and prescribed burning are unlikely to occur. All of these activities are proposed to occur within the project area, but project surveys within proposed activity stands have not detected UD Guild plant occurrences within these forested stands. There are no known UD Guild plants near these proposed activities.

The wildlife opening that contains both moonwort species is proposed to be mowed. Mowing would maintain this opening in early successional vegetation which is conducive with maintaining habitat for these species. Mowing would take place in the fall after spore maturity.

Indirect effects: Because UD Guild plants are associated with previous disturbance, it is not anticipated that activities within potential plant habitats would result in a negative impact due to disturbance particularly over the long-term.

Cumulative effects: There are currently no additional Forest Service plans for timber harvest near known locations of UD Guild plants. Cumulative effects to UD guild habitat would be similar as described for direct and indirect effects. Because this plant guild is associated with disturbance, activities on other lands may be beneficial or detrimental depending on the type of activity.

Determination of effects for Upland Disturbed Sensitive Plants Guild:

Alternative C ***impact individual UD guild plant species or their habitats, but would not likely contribute to a trend towards federal listing or loss of viability to the population or species.*** This is due to the potential direct impacts from mowing the wildlife opening that contains the moonworts. This type of treatment may have a short-term impact to individual plants, but a long-term benefit by maintaining habitat.

3.2.5.2.12 -- Ram's - Head Lady's Slipper and Fairy Slipper
3.2.5.2.12.1 -- Existing Condition for Ram's - Head Lady's Slipper and Fairy Slipper
The ram's-head lady's slipper and fairy slipper are found in a variety of coniferous habitats, particularly lowland conifers dominated by cedar and the transition zone between upland hardwoods and lowland conifers.

Environmental Baseline: Suitable habitat within the CDRM project area which is proposed for project activities was surveyed for the presence of this species. There are 18 ram's head lady's slipper sites and 9 fairy slipper sites in the project area.

3.2.5.2.12.2 -- Direct, Indirect, and Cumulative Effects for Ram's - Head Lady's Slipper and Fairy Slipper
Proposed CDRM project activities which would affect these orchids include timber harvest and site preparation. Timber harvest can cause impacts to plant habitats from ground disturbance associated with logging, and with associated activities, such as construction of landings, skidding, site prep, and potential erosion/sedimentation and soil compaction. Timber harvest can alter forest overstory composition and structure, and result in changes to light conditions on the forest floor, which can result in a direct reduction in habitat suitability, or can allow competing species to flourish.

Direct Effects: Direct effects to known sites due to timber harvest activities are unlikely to occur. All known sites would be protected with buffers from ground disturbing activities.

Indirect Effects: Changes in forest cover type and age due to timber harvest may affect long-term opportunities for these orchids across the CDRM project area landscape. About 234 acres of potential habitat (black spruce, tamarack, cedar) would be treated in Alternative C.

Cumulative Effects: Across the CNF, cedar swamps are typically not targeted for vegetation treatment and known sites are protected from ground disturbing activities. The MN DNR plans regeneration harvest in 168 acres of potential habitat in black spruce and tamarack. No treatments on MN DNR lands are planned in white cedar. This results in a negligible potential for cumulative effects.

Determination of effects for Ram's - Head Lady's Slipper and Fairy Slipper:
Alternative C **may impact ram's-head lady's slipper and fairy slippers or their habitat, but would not likely contribute to a trend towards federal listing or loss of viability to the population or species.** This is due to the potential for long-term habitat loss due to harvest activities in potential habitat. All known sites would be protected.

3.2.6 – MANAGEMENT INDICATOR SPECIES

3.2.6.1 – EXISTING CONDITION and DIRECT, INDIRECT, AND CUMULATIVE EFFECTS FOR MANAGEMENT INDICATOR SPECIES

Management indicator species are those species that are monitored over time to assess the effects of management activities on their populations. MIS monitoring also indicates the effects on populations of other species with similar habitat needs, which represent major biological communities. NFMA regulations [CFR 36, part 219.19, paragraph a-6] (PR# 14) state that "Population trends of management indicator species would be monitored and relationships to habitat changes determined." This direction applies specifically to the forest planning process, but also has implications for project planning. Analysis of effects to gray wolf, bald eagle, northern goshawk and white pine are located in the Threatened and Endangered, Sensitive species, and Vegetation Sections.

Gray Wolf
Refer to the wolf section in the Threatened and Endangered Species Section (3.2.4.1) for population status and effects analysis.

Bald Eagle
Refer to the bald eagle section in the Sensitive Species Section **(3.2.5.2.1)** for population status and effects analysis.

Northern Goshawk
Over the past 10 years, the number of known goshawk breeding territories has risen steadily on the CNF, from 9 known in 1996 to 49 known in 2008. The number of successful breeding pairs has more than doubled, from 7 active breeding territories in 1996 to 16 active territories in 2008. In 2008, twelve of these territories successfully fledged young. There is variability is successful nests each year which can be attributed to a number of factors including weather and nest predation. Refer to the northern goshawk section in the Sensitive Species Section **(3.2.5.2.2)** for effects analysis of known nest territories in the CDRM project area.

White Pine
According to the Forest Plan (page 2-57) (PR# 72), the historic condition of upland forest-wide vegetation composition consisted of 6% white pine. The CNF currently consists of 1% white pine. Table 3.2.6.1.a displays the current acreage and age classes of white pine in the CDRM project area. A forest-wide vegetative objective is to increase white pine to 2% by decade 1. Under Alternative C about 527 acres would be planted/seeded with white pine. (See Section 3.1 also for more discussion of white pine.)

Table 3.2.6.1.a – White pine age class distribution on USFS land in the CDRM project area.

Successional Stage	Current Condition
Young (0-9 years)	75
Sapling-pole (10-49 years)	14
Mature-old (50-119 years)	56
Old-old growth (120 + years)	42
Total acres	187

3.2.7 – MANAGEMENT INDICATOR HABITATS

3.2.7.1 – EXISTING CONDITION and DIRECT/INDIRECT EFFECTS FOR MANAGEMENT INDICATOR HABITATS

The Forest Plan (USFS 2004a pp. 2-22, 2-23, 2-32) (PR# 72) provides guidance regarding vegetation composition and structure. More specific guidance relating to MIH's 1-9 for each Landscape Ecosystem (LE) can be found on pages 2-55 to 2-80(PR# 72). The 9 MIH's include upland forest, upland deciduous, northern hardwoods, aspen-birch, upland conifer, uplands spruce-fir, red and white pine, jack pine, and lowland black spruce-tamarack. By moving towards objectives for these MIH's the CNF would move toward long-term desired conditions for the amount, quality, and distribution of MIH's and their associated wildlife and plant species. Detailed descriptions of the forest types and ages that comprise each MIH are found in Appendix C of the Forest Plan. The CDRM project area is within 3 LE's; Boreal Hardwood Conifer (BHC), Mesic Northern Hardwoods (MNH), and Tamarack Swamp (TS). The following analysis compares how well the CDRM project incorporates landscape-scale forest-wide direction regarding vegetation composition, age, and structure.

Depending on the LE, the objective is to generally increase forest age, especially of the very oldest age classes, and particularly in the upland conifer types of red and white pine, northern hardwoods, and upland spruce/fir. The ability to achieve objectives for a variety of TES species is directly related to moving towards these vegetative objectives.

At the project level there are several changes in MIH's in the BHC LE as a result of the CDRM project. The major changes in the BHC LE would occur in the aspen/birch and lowland BS-Tamarack MIH's (Table 3.2.7.1.a). All other changes in MIH's are minor changes at the LE scale.

Table 3.2.7.1.a -- BHC LE in the CDRM project area grown out 10 years after implementation of Alt C.

MIH	Young				Mature				Old			
	Existing Condition	FP Obj.[1]	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs
Upland Forest	808	-	0	1,064	5883	-	6139	5849	1503	+	3186	2502
Upland Deciduous	599	-	0	792	4401	-	4109	3942	1289	+	2723	2118
N. Hardwoods	44	-	0	82	2290	-	2093	2093	181	+	404	404
Aspen/Birch	554	-	0	710	2111	-	2016	1849	1098	-	2310	1705
Upland Conifer	210	-	0	272	1482	+	2030	1907	214	+	463	384
Upland Spruce/Fir	131	-	0	181	938	m	1196	1078	89	+	298	250
Red/White Pine	75	m	0	60	544	+	834	829	38	+	79	79
Jack Pine	4	-	0	32	0	m	0	0	87	-	87	55
Lowland BS-Tamarack	62	+	0	305	3028	-	2311	2164	1100	+	1854	1697

1 This is the Forest Plan Objective for MIH's in Decade 2: "+" increase, "-" decrease, and "m" for maintain.

This project would continue to increase/maintain the amount of young aspen/birch (0-9 years old) within this LE which does not follow the objectives for this MIH. Within the aspen/birch MIH, the objective is to decrease the amount of young aspen/birch. Some reduction of young aspen/birch acreage would occur as part of the CDRM project through type conversions to other forest types. About 67 acres would be converted to conifer forest types and about 38 acres to northern hardwoods. This does result in an overall reduction in aspen acres across this LE. Also, the young aspen/birch class is reduced rather quickly due to stand aging. All these changes contribute to changes in two other MIH's: Upland Forest and Upland Deciduous.

For the most part, the CDRM project would meet the objectives for the lowland BS-Tamarack MIH. There would be a major increase in the young age class and a reduction in the mature age class. These changes both meet the objectives for this MIH.

At the forest-wide level these changes in MIH's are less pronounced. It appears that the proposed action would contribute similar changes in MIH's at the forest-wide level.

Within the MNH LE there are some minor changes in MIH's within the CDRM project area. Overall, these changes would have little effect on the MNH LE across the forest.

Table 3.2.7.1.b -- MNH LE in the CDRM project area grown out 10 years after implementation of Alt C.

MIH	Young				Mature				Old			
	Existing Condition	FP Obj.[1]	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs
Upland Forest	162	-	0	178	1743	-	1431	1368	644	+	1309	1228
Upland Deciduous	117	-	0	102	1617	-	1186	1129	585	+	1217	1152
N. Hardwoods	0	-	0	19	1195	+	864	864	250	+	606	606
Aspen/Birch	117	+	0	83	421	-	322	264	334	+	611	547
Upland Conifer	44	+	0	76	126	+	245	239	59	+	92	76
Upland Spruce/Fir	44	+	0	27	96	+	213	208	1	+	22	22
Red/White Pine	0	-	0	50	31	+	31	31	58	+	70	54
Jack Pine	0	m	0	0	0	m	0	0	0	m	0	0
Lowland BS-Tamarack	16	+	0	13	344	-	282	282	129	+	219	206

1 This is the Forest Plan Objective for MIH's in Decade 2: "+" increase, "-" decrease, and "m" for maintain.

Within the TS LE, the only major change in MIH's in the CDRM project area (Table 3.2.7.1.c) is in the lowland BS-Tamarack MIH. The CDRM project would meet objectives for this MIH in this LE by increasing the amount of young forest and decreasing the amount of mature forest. This project would contribute to meeting these MIH objectives at the forest-wide scale.

Table 3.2.7.1.c -- TS LE in the CDRM project area grown out 10 years after implementation of Alt C.

MIH	Young				Mature				Old			
	Existing Condition	FP Obj.[1]	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs	Existing Condition	FP Obj.	CDRM ALT A + 10 yrs	CDRM ALT C + 10 yrs

Lowland BS-Tamarack	11	+	0	**72**	355	-	317	**245**	162	+	243	243

1 This is the Forest Plan Objective for MIH's in Decade 2: "+" increase, "-" decrease, and "m" for maintain.

3.2.7.2 – CUMULATIVE EFFECTS FOR MANAGEMENT INDICATOR HABITATS

Cumulatively, Forest Plan monitoring (USFS 2007) (PR# 326) of MIH's 1-9 indicates varying trend departures in habitat objectives in the BHC, MNH, and TS LE's across the Forest:

In the BHC LE:

- The amount of old and older red and white pine has decreased (17%) rather than increased. The CDRM project helps to change this trend through stand aging.
- The amount of old and older jack pine has increased (25%) rather than decreased. The CDRM project helps to change this trend by treating older jack pine.
- The amount of young lowland conifer has decreased (19%) rather than increased. The CDRM project helps to change this trend by treating mature/old lowland BS-Tamarack.

In the MNH LE:

- The amount of old and older upland spruce-fir has decreased (27%) rather increased. The CDRM project helps to change this trend through stand aging.

In the TS LE:

- The amount of young upland conifer has decreased (17%) rather than increased. The CDRM project contributes a minor increase (6 acres) to young upland conifer.
- The amount of mature upland conifer has increased (17%) rather than being maintained. The CDRM project maintains existing mature upland conifer.
- The amount of young red and white pine has decreased (92%) rather than being maintained. The CDRM project contributes a minor increase (6 acres) to young red and white pine.
- The amount of young lowland conifer has decreased (37%) rather than increased. The CDRM project helps to change this trend by treating mature BS-Tamarack.

Overall, the CDRM project does not contribute to current negative trends of MIH's 1-9 in the LE's within the CDRM project area. At the forest-wide scale the cumulative impact of the CDRM project with other projects implemented across the forest would determine over time if objectives are met. By meeting these landscape scale objectives, habitat for wildlife would be maintained/increased across the CNF. Forest-wide monitoring of MIH's would be important for identifying trends. Refer to the Vegetation Section for additional analysis.

3.2.8 – LARGE MATURE FOREST PATCHES, UPLAND INTERIOR HABITAT, and MANAGEMENT INDUCED UPLAND EDGE HABITAT (MIH 11, 12, 13)

3.2.8.1 – EXISTING CONDITION FOR LARGE MATURE FOREST PATCHES, UPLAND INTERIOR HABITAT, and MANAGEMENT INDUCED UPLAND EDGE HABITAT (MIH 11, 12, 13)

Landscape Scale Habitat- MIH 11-13

The Forest Plan (USFS 2004a pp. 2-23, 2-24, 2-33) (PR# 72) provides guidance regarding spatial distribution of forest vegetation. Patch size, edge, and forest or habitat fragmentation are elements of spatial distribution which affect a variety of sensitive species. The following analysis compares how well the CDRM project incorporates landscape-scale forest-wide direction regarding patch size, edge, and habitat fragmentation.

Large, mature upland patches (MIH 13):

The CDRM project area currently contains (entirely within, partially within, or intersecting the project area) 5 mature upland forested patches of at least 300 acres each in size, as shown in the Table 3.2.8.1.a.

Table 3.2.8.1.a -- Mature, upland forested patches in the CDRM project area (2008).

Patch Size Class		Existing Condition (2008)	
Size	**Acre Class**	**No.**	**Acres**
Small	1-40	290	3,329
Moderate	41-100	35	2,191
	101-300	26	3,555
	Subtotal moderate	**61**	**5,746**
Large	301-500	2	783
	501-1000	3	2,179
	Subtotal large	**5**	**2,962**
Very Large	1001-2500	0	0
	2501-5000	0	0
	5001-10000	0	0
	Subtotal very large	**0**	**0**

3.2.8.1 – DIRECT/INDIRECT AND CUMULATIVE EFFECTS FOR LARGE MATURE FOREST PATCHES, UPLAND INTERIOR HABITAT, and MANAGEMENT INDUCED UPLAND EDGE HABITAT (MIH 11, 12, 13)

All of the alternatives are analyzed to the year 2012. Due to forest aging, Alternative A (no action) results in the development of a very large patch (1001-2500 acres) within the project area as shown in Table 3.2.4.1.6.b.

Table 3.2.8.2.a -- Mature upland forested patches in the CDRM project area by alternative (year 2012).

Patch Size Class		Alternative A (2012)		Alternative C (2012)	
Size	**Acres**	**No.**	**Acres**	**No.**	**Acres**
Small	1-40	291	3,222	295	3,035
Moderate	41-100	35	2,187	38	2,321
	101-300	28	4,335	24	3,715
	Subtotal moderate	**63**	**6,522**	**62**	**6,036**
Large	301-500	2	786	1	468
	501-1000	2	1,543	2	1,544
	Subtotal large	**4**	**2,329**	**3**	**2,012**
Very Large	1001-2500	1	1,249	1	1,121
	2501-5000	0	0	0	0
	5001-10000	0	0	0	0
	Subtotal very large	**1**	**1,249**	**1**	**1,121**

Alternative C proposes differing harvest treatments and amounts within these patches which reduces patch size and acreage, but still gives one very large patch. The proposed harvest treatments include thinning, group selection, salvage, and even-aged regeneration harvests. Even-aged harvest treatments that do not maintain at least 50% canopy cover within these patches result in a reduction in patch size, number, and acres. Alternative C results in the development of a very large patch but it is slightly smaller (128 ac) than the patch that develops from Alternative A. This smaller size is due to regeneration harvest within the patch.

This very large patch is dominated by aspen (about 50%) and northern hardwoods (about 30%) but also includes red pine, white pine and other upland species. Ideally, these very large patches should be dominated by long-lived species such as northern hardwoods and red/white pines. About 38 acres of aspen within this patch would be planted/seeded with white pine and white spruce. This would increase the acres of long-lived tree species within the patch. Parts of this patch are within the Webster Lake Hunter Trail area and would likely be management for ruffed grouse habitat in the future.

Under Alternative C, three other large patches would be maintained in the CDRM project area near Meadow Lake, South Twin Lake, and Pimushe Lake. The Meadow Lake patch is dominated be aspen (about 53%) and northern hardwoods (about 46%) with a small inclusion of burr oak. This patch is within the Meadow Lake Hunter Trail System and would likely continue to be managed for ruffed grouse habitat in the future.

The South Twin Lake patch is dominated by northern hardwoods (about 65%) and aspen (34%) with small inclusions of red pine and spruce. This patch contains stringers of forest which do not provide ideal upland mature interior forest habitat. Future management of adjacent stands could improve this patch by creating larger blocks of habitat where these stringers currently exist.

The Pimushe Lake patch is dominated by northern hardwoods (about 87%) and aspen (13%). Due to its block shape, this patch provides the best upland mature interior forest habitat in the CDRM project area. It is also within a proposed Research Natural Area. About 5 acres of openings within or directly adjacent to this patch would be planted to white pine/white spruce or allowed to revert back to northern hardwoods.

Also, under Alternative C, one 301-500 acre patch is reduced to a 101-300 and a 41-100 acre patch due to aspen regeneration harvest. The remaining parts of this patch are dominated by northern hardwoods and spruce.

Cumulatively across the Forest, Alternative C would contribute to Forest Plan Standards, Guidelines, and Objectives due to the development of a very large patch and maintaining 3 large class patches.

Management induced edge habitat and Upland interior forest habitat (MIH 11 and 12):
MIH 11 provides objectives to reduce the amount of management created edge while maintaining small patches and edge habitat. MIH 12 provides for interior forest habitat in a variety of upland and lowland vegetative communities. Even-aged regeneration harvest reduces patch size, increases edge, and removes or reduces interior forest conditions. Table 3.2.4.1.6.b indicates the affect of even-aged regeneration harvests in patches of a variety of sizes within the CDRM project area.

Alternative C results in the development of a very large patch in the project area. The development of this patch results in less edge and more interior forest.

3.2.9 – NEOTROPICAL MIGRATORY BIRDS

3.2.9.1 – EXISTING CONDITION FOR NEOTROPICAL MIGRATORY BIRDS

Northern Minnesota and the CNF are located within the Boreal Hardwood Transition Zone that occurs between the mixed hardwood forest to the south and the boreal forests to the north. Twenty five neotropical migratory bird species on the Forest are associated with this zone. These species are associated with a variety of habitats on the CNF including mature forest, young forest, shrublands, marshes, and openings.

3.2.9.2 – DIRECT/INDIRECT AND CUMULATIVE EFFECTS FOR NEOTROPICAL MIGRATORY BIRDS

Alternative A would not impact migratory birds because no vegetation treatment would occur.

Effects to mature forest habitat that is utilized by migratory birds are discussed in detail in other sections of the EA and in the BE for this project. The sections of the EA of interest include the RFSS section, and the MIH's 1-9 and 11-13 sections. As stated in the MIH 13 section, Alternative C results in the development of a very large patch. This would benefit migratory birds that prefer mature upland interior forest. Conversely, migratory birds associated with young forest would benefit from the proposed regeneration harvest.

3.2.10 – SELECTED GAME SPECIES

3.2.10.1 – GENERAL FOR SELECTED GAME SPECIES

Game species of interest in the project area include ruffed grouse, white-tailed deer, and woodcock, because hunting is a really important use of this area for the public including the Leech Lake Band of Ojibwe members. All three species benefit from increases in young aspen-birch.

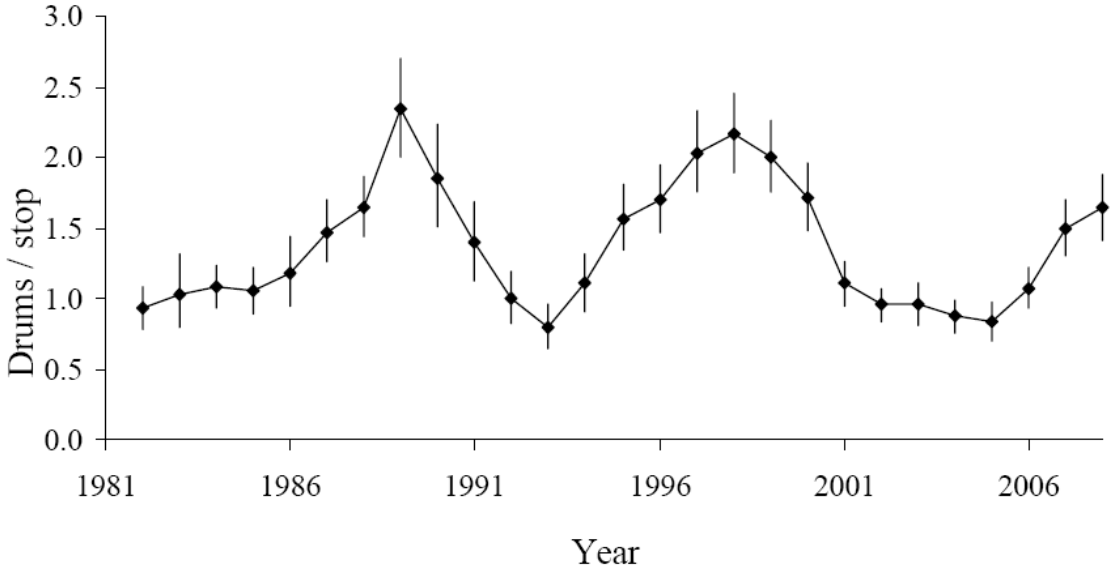
3.2.10.2 – EXISTING CONDITION and DIRECT/INDIRECT AND CUMULATIVE EFFECTS FOR RUFFED GROUSE

Ruffed grouse on the CNF appear to reflect similar trends to those across northern Minnesota, with a 10-year cycle being characteristic of their population dynamics. Figure 3.2.10.2.a displays recent ruffed grouse counts in the northeast survey area including the CNF (MN DNR 2008) (PR# 329a).

Due to forest aging, Alternative A would result in an overall reduction in habitat.

Ruffed grouse would benefit from the 735 acres of aspen regeneration harvest proposed in Alternative C. About 50 acres of aspen in the Carter Lake Hunter Trail area would be strip-cut specifically to improve grouse habitat. This area is dominated by the same age class of aspen, thus treatment would increase stand diversity, improve grouse habitat, and provide for better long-term management of grouse habitat. Proposed regeneration harvest (54 acres) in the Webster Lake Hunter Trail area would also increase aspen stand diversity which would provide continued habitat for grouse.

Figure 3.2.10.2.a - Ruffed grouse drums per stop in northeast zone of northern Minnesota



Cumulatively, ruffed grouse habitat would be maintained across the landscape where recent regeneration harvest of aspen or birch occurs. Although the CDRM project provides for the manipulation of grouse habitat through regeneration harvest of aspen and birch forests, and conversion of some aspen-birch forests to increase conifer composition on the CNF per LE objectives, these activities are not proposed at such a scale as to substantially affect grouse population levels.

3.2.10.3 – EXISTING CONDITION and DIRECT/INDIRECT AND CUMULATIVE EFFECTS FOR WHITE-TAILED DEER

White-tailed deer are at or near an all-time high on the CNF. Habitat is excellent with the abundant clearcutting that has been done over the last 3 decades, especially the recent aspen regeneration.

Due to forest aging, Alternative A would result in an overall reduction in habitat.

White-tailed deer would benefit from the early successional characteristics provided by Alternatives C with 856 acres of aspen-birch regeneration harvest. With forest aging, there is an overall reduction in young aspen-birch stands after project completion (2013). Alternative C would also treat about 359 acres of deer thermal cover resulting in a one percent decrease in deer thermal cover by 2013 (See Wolf Section) (and Table 3.2.10.3.a).

Under Alternative A, the Pimushe Loop Road (FR 2514) would remain open to all vehicles. Deer poaching is known to occur in this area and would continue to occur under Alternative A. Under Alternative C, the south ½ mile of this road would be closed to highway vehicles and the north part of the road and its spurs would be closed to both highway vehicles and OHVs. This would greatly reduce the potential for deer poaching to occur in this area.

Cumulatively, deer foraging habitat would be maintained across the landscape were recent regeneration harvest of aspen-birch occurs. Although the CDRM project provides for the manipulation of deer habitat through regeneration harvest of aspen-birch forests, and conversion of some aspen-birch forests to increase conifer composition on the CNF per LE objectives, these activities are not proposed at such a scale as to substantially affect deer population levels.

Maintaining foraging habitat for a high deer population would continue to have detrimental heavy browsing effects on certain vegetation across all ownerships. In particular, the establishment of white pine and white cedar seedlings. Heavy deer browsing also affects the forest understory in general, especially when the area has already been invaded by earthworms.

Table 3.2.10.3.a -- Effects to deer habitat from the CDRM project.

Deer Habitat Indicator	Existing Condition (2008)		Alternative C 2013	
	Acres	%	Acres	%
Deer foraging habitat: Acres and percent of aspen-birch forest <25 years old*	5,236	23	4,219	19
Deer thermal cover: Acres and percent of deer thermal cover (upland and lowland conifers of appropriate forest types/ages)**	8,236	27	8,102	26
*% of total upland forests on NF lands; **% of total forest on NF lands; ArcMap 2008				

3.2.10.4 – EXISTING CONDITION and DIRECT/INDIRECT AND CUMULATIVE EFFECTS FOR AMERICAN WOODCOCK

American woodcock on the CNF have been declining along with the national long-term population trend. The statewide and national population trends have been declining, possibly due to the succession of old farm fields to forest. There is very little harvest within riparian management zones on the CNF.

Due to forest aging, Alternative A would result in an overall reduction in habitat.

Alternative C may benefit woodcock through regeneration harvest of aspen-birch and maintaining existing openings. Cumulatively, woodcock habitat would be maintained across the landscape were recent regeneration harvest of aspen-birch occurs near riparian areas and wildlife openings are maintained.

3.2.11 - WILDLIFE OPENINGS

There are 237 wildlife openings totaling 351 acres in the CDRM project area that are being considered for management.

Alternative A would keep the openings in their current condition. Over-time they would succeed to the surrounding forest type and/or brush.

Alternative C proposes to maintain 153 openings (219 acres); naturally regenerate 39 openings (63 acres) to northern hardwoods; and plant 45 openings with white pine/white spruce/fruiting shrubs (54 acres) and white spruce/white pine/fruiting shrubs (15 acres). This would benefit wildlife by maintaining diversity in forest stands through opening maintenance and planting/seeding of conifers/fruiting shrubs. The openings that are allowed to succeed to the surrounding forest type are in northern hardwoods. This forest type typically does not have "natural" openings, therefore these stands would return to a more typical northern hardwoods forest structure.

3.2.12 - SWAMP CREEK BRIDGE REPLACEMENT

The current Swamp Creek Bridge has little or no effect on wildlife and TES species, other than some sedimentation into an old beaver impoundment.

Brian Healy (District fisheries biologist) looked at the Swamp Creek Bridge site on 8/19/2003 for mussel valves and found none. He looked at the site for aquatic TES and said that the site was not suitable (PR# lll and sss). Other surveys were done for this bridge in 2003 with no species found, other than a goshawk in a stand 1550 feet from the bridge (PR# ttt and uuu and vvv). In 2008 these survey results were reanalyzed and found to be adequate, with no new surveys needed (PR# xxx).

Alternative A would leave things as they are, with a minor amount of erosion from the sides of the dam and water running down the road. Both of these are introducing a very small amount of sediment into the creek. However this sediment is trapped immediately in an old beaver impoundment with the dam about 20 feet downstream.

Alternative C would replace this bridge with a new, wider structure. The effects of this project are primarily discussed in Section 3.4 Water Quality. There may be some sedimentation during construction, but over the next 10 years replacing the bridge should reduce the amount of sediment overall. No species of concern other than a goshawk were found during biological surveys so there would be no effects on them. The goshawk nest is 1,550 feet from the bridge, so effects would be minor, since timing restrictions listed in Appendix H would be implemented if this nest is active when the bridge is being replaced.

3.3 - GATHERING AND TRADITIONAL USES

Gathering and traditional uses are considered within the treated stands and within the CDRM area, where the impacts are felt. This is within the last 14 years where we have good data on treatments, a general look at the last

150 years (age class table), and the next 5 to 25 years where effects are noticeable. For purposes of this discussion, long-term effects are those at least 10 years in the future and short-term effects are those 10 years or less in the future being most noticeable in the first 5 years.

3.3.2. - MGMT DIRECTION AND FOREST PLAN CONSISTENCY

The EIS and associated documents for the Forest Plan revision (PR# 72a) contain several items that deal indirectly or directly with gathering and traditional uses. It contains a table (Table DEIS-11) that listed the plants that were of particular interest to the Forest or the LLBO and the regulatory status of each one. All of these species are considered in the analysis or in the biological surveys leading up to the proposed action.

The Forest Plan (PR# 72) contains several items that deal indirectly or directly with gathering and traditional uses:

Goal: Provide a variety of uses, values, products, and services for present and future generations by managing within the capability of sustainable ecosystems. (FP Page 2-5)

D-SE-4 The Forest continues to emphasize agency, tribal, and public involvement with increases in inter-governmental coordination with federal, state, county governments and agencies; a high level of communication and dialogue with a broad range of stakeholders; and successful dialogue between Tribal governments and Chippewa NF officials. (FP Page 2-35)

S-TR-3 Forest management activities would be conducted in a manner to minimize impacts to the ability of Tribal members to hunt, fish, and gather plants and animals on Forest Service administered lands. (FP Page 2-36)

3.3.3. - EXISTING CONDITION and DIRECT/INDIRECT EFFECTS SORTED BY ISSUE OR TOPIC

Eight non-key issues listed in Section 1.6 of this EA pertain to traditional resources but only 6 of them would be dealt with intensively here; plus there are two Topics of Concern:

Treat Near Tribal Lands (Topic of Concern):
Elsewhere there was a concern expressed about treatments that were adjacent to Tribal lands. Since the LLBO reservation is so small in the CDRM area, it did not come up as an issue earlier.

RFSS Plant Management:
Some RFSS are also important for gathering.

Transportation System:
Access is important to the ability to gather traditional resources.

Wildlife Habitat:
Wildlife openings are available for hunting.

Deeryards:
Winter deeryards have a bearing on deer populations for hunting.

Grouse Management:
Vegetation management has a bearing on grouse populations for hunting.

OHV Travel:
Access is important to the ability to gather traditional resources and OHVs are part of this.

Eagle and Goshawk Management:
Eagles are important to the Band. However this would be dealt with only a little bit in "gathering" since it is covered extensively under "wildlife".

Water Quality:
Wild rice can be affected by water quality which can be affected by vegetation treatments. However this would not be dealt with in the CDRM EA since very little wild rice is gathered in it and our treatment would not affect those waters.

Traditional Resource Gathering (Topic of Concern):

Any vegetation treatment can have negative or positive effects on the various resources that are gathered. Since the LLBO reservation is so small in the CDRM area, it did not come up as an issue earlier.

It should be noted that almost all traditional gathering is done on non-tribal lands. Only a very small part of the CDRM area is inside the reservation boundary and there are only three tiny tracts of tribal lands in it, totaling about 93 acres. In the CDRM area only a few resources are mentioned as being important for gathering by the Leech Lake Band of Ojibwe (LLBO) and those only in very small areas, e.g. berries, sugar maple sap, and medicinal plants. Due to sandy, dry soils; blueberries are common in two locations in the CDRM area, but not to the extent they are in previous projects, such as Lydick and Northwoods EAs. It is probable that non-Band residents do more gathering in this area due to the location, with hunting, firewood, and berries being important near the town.

In addition to the direct meetings with the LICs and DRM, a report was prepared in 2003 by Leo McAvoy that described the history of the local LLBO and its use of the land. Ideas and conclusions from this report are woven throughout Section 3.3, including their attachment to the land and traditional resources and to the types of resources they use. (PR# 71)

The main "gathering" concerns are with sugar bushes and berries; but numerous other activities occur in the CDRM area and would be discussed below. Table 3.3.3.a shows the relationship of the issues, indicators, GIS database information, and effects to gathering.

Table 3.3.3.a -- Indicators and Effects Related to Gathering

Indicator	Alternative A	Alternative C
Treatments near Tribal Lands		
Acres of treatments within ¼ mile of tribal lands	0	47 acres in 2 harvested stands 3 acres mowing in 2 wildlife openings 2 acres of riparian planting in 1 stand Benefits and impacts to vegetation are as mentioned elsewhere in the EA.
RFSS Plant Management		
Negative and positive effects on RFSS that are also gathered.	See Traditional Resources Section for discussion of all plants.	See Traditional Resources Section for discussion of all plants.
Transportation System		
Miles of open roads decommissioned.	FR 2215 and 2514 left open so available for gathering, but too soft to be used a lot.	Only 2.9 of the 11.0 miles of roads being decommissioned or deleted are currently open and driven by vehicles and only one of them is in the LLBO reservation area (0.1 miles). The closing of roads FR 2514 and 2215 with gates and berms would decrease access a little but most of these roads were very soft and should have been hiked not driven anyway. The northern part of FR 2514 is in the Candidate Research Natural Area so should not have vehicles driven in it. So little effect to gathering.
Miles of roads over ¼ mile long decommissioned.	0	Only 12 of the 73 road segments being decommissioned or deleted are over ¼ mile long with the longest being 0.75 miles and none are in the LLBO reservation area. Only 3 of these roads are even slightly drivable now due to blockages or overgrown conditions.

Indicator	Alternative A	Alternative C
		So little effect to gathering.
Miles of roads decommissioned on LLBO reservation in CDRM area.	0	Only 1 short segment of road is being deleted inside the reservation and it is basically gone now (0.1 miles). So little effect to gathering.
OHV Travel		
Miles of open OHV roads now being closed to OHVs in CDRM area.	0	15.3 miles out of 127 miles being closed. So little effect to gathering.
Miles of open OHV roads on the LLBO reservation in CDRM area.	Very small area with only parts or all of 5 roads are open to OHVs - about 1.7 miles.	Only 1.4 miles (4 roads) after one of these is closed to OHVs since it goes only to a house. So little effect to gathering.
Wildlife Habitat		
Number/acres of wildlife openings reverting to forest cover.	0	39 (63 acres) reverting to hardwoods naturally - none inside reservation. 45 (69 acres) seeded to spruce/pine/ fruiting shrubs - 1 (3 acres) inside reservation boundary to white pine mainly. Gain 69 acres of fruiting shrubs, keep most openings for hunting, but lose 132 acres of open hunting area.
Deeryards		
Number/acres of deeryards affected by treatments.	0	One cedar stand out of 111 deer yards is being harvested by shelterwood-UAM cutting, and part of the stand would be fenced to allow cedar regeneration. So little effect to gathering.
Grouse Management		
Acres of improved ruffed grouse habitat.	0	50 acres of strip cuts in aspen for dense regeneration along the Carter HWT in a sustainable management system. So improved, sustainable grouse hunting.
Eagle Management		
Acres of treatments within eagle territories.	0	About 33 acres in 5 stands intersect eagle territories and would need seasonal restrictions or dropped portions. This would protect the nesting areas from disturbance. So little effect to gathering.
Traditional Resources (3.3.3.9)		
Acres treated specifically to improve traditional resources.	0	See below.
Acres/miles with potential to degrade traditional resources.	0	See below.
Potential positive effects from treatments: plant white pine in riparian, NNIS control, and plant fruiting shrubs in openings.	0	Plant 26 acres of white pine in riparian. Control NNIS on 1 acre. Plant fruiting shrubs in 69 acres. Release leaves more diversity and large fruiting shrubs than in the past. So more gathering opportunities.
Potential negative effects from treatments: clearcutting, mechanical scarification, and	0	Clearcut 1,108 acres. Mechanical scarification on 943 acres. Close open roads - 0 miles on reservation, 2.9 miles in CDRM area.

Indicator	Alternative A	Alternative C
closing roads and OHV access.		OHV changes - no major changes. But closed roads were not readily drivable anyway. Clearcuts are temporary loss of old trees but other benefits from young trees. Scarification is temporary loss of gathering in parts of stands. Release removes some species and sets ages back on some fruiting shrubs, reducing gathering opportunities slightly.

Several of the proposed projects do not affect gathering, so are not dealt with further in this section:

Little Moose Lake boat landing, Webster Lake Bog Walk, Nelson Lake parking, the OHV trailhead, Swamp Creek Bridge replacement, and the added ATV trail are all recreation/transportation projects not gathering ones.

The roads added to the transportation system exist now

Removing the road prism does not affect access to gathering sites.

Reforesting the beaver pond does not really add or detract from gathering opportunities.

3.3.3.9 -- Non-Key Issues -- Traditional Cultural Resources

3.3.3.9.1 -- Existing Condition - Traditional Cultural Resources

Any vegetation treatment can have negative or positive effects on the various resources that are gathered. Since the LLBO reservation is so small in the CDRM area, it did not come up as an issue earlier.

Indicators

Acres treated specifically to improve traditional resources.
Acres/miles with potential to degrade traditional resources.
Potential positive effects from treatments: plant white pine in riparian, NNIS control, and plant fruiting shrubs in openings.
Potential negative effects from treatments: clearcutting, mechanical scarification, and closing roads and OHV access.

The Continental Divide EA Project Area was reviewed for the presence of documented traditional use areas and traditional resources using the Traditional Resource GIS database provided by A. LeVasseur, Chippewa National Forest Archeologist and discussions at LIC meetings. There are eight (8) categories of traditional uses in the database in the CDRM Area (berries, blueberries, sugar maple, medicinal plants, red wouldows, princess pine, porcupine quills, and hunting), plus fuelwood gathering is known to be done in this area. In addition the Specialist Report has Tables 3.3.4.1.1.a and 3.3.4.1.1.b that list numerous species of plants that are of interest to Leech Lake members. The only portions of these tables and the analysis of these species and the other eight (none) categories of use that are included in the EA are the ones with direct effects that need to be known to make a decision.

Treatments and management do have effects that are both positive and negative and both short-term and long-term. We recognize that sometimes short-term negative impacts lead to long-term positive benefits, e.g. harvesting timber may crush blueberries, but in a few years they would rejuvenate and should be more productive due to increased light.

3.3.3.9.2 -- Direct/Indirect Effects - Traditional Cultural Resources

Following is a listing of most of the 8 categories of traditional uses listed in special GIS layers and many other species which are important to traditional gathering of resources, which were mentioned under Existing Conditions. Effects due to this alternative are discussed for each one, either specifically or in general depending on the type of information that is available and the type of effects. Only the resource categories that have effects would be listed here.

Table 3.3.3.9.2.a -- Traditional Cultural Resources (selected ones with effects from treatments)

Resource	Existing	Alternative A	Alternative C
Berry/fruit picking (berries in general)	Berry and fruit of many various kinds are found in the CDRM area.	They are analyzed later since there are so many different types of berries/fruit and their habitats are quite different.	They are analyzed later since there are so many different types of berries/fruit and their habitats are quite different.
Berry/fruit picking (blueberry)	This is described in great detail in Project Record 295 with only a short summary in the CDRM EA, since there are not many blueberry picking areas in it. Blueberries are common on drier, sandy sites and are associated with fire.	Alternative A would have no harvesting or treatments to increase berry production. The dense hazel understories would remain or increase so berry production is expected to continue to decrease. On the positive side, there would not be any disruption of existing plants due to logging equipment operations, mechanical scarification, or prescribed burning.	The various types of harvesting and the release in Alternative C would increase berry production due to increased light to the forest floor and a decrease in competing vegetation. There would be some disruption of existing plants due to logging equipment operations and mechanical scarification, but if the root systems are not destroyed the plants would recover and be better in 1 to 2 years. Alternative C would harvest in very few stands that are good habitat for blueberries. The 32 acres of clearcutting of jack pine and scarification/seeding of jack pine would make good conditions for blueberries for at least 2 decades.
Tree resources (fuelwood gathering)	Fuelwood is usually gathered in timber sale stand from the leftover slash.	Firewood in old harvest units is available, but within 2 to 4 years, there would be little usable fuelwood left in the CDRM area, due to gathering and decay of existing pieces.	Firewood would continue to be available in previously harvested stands, plus there would be 2,697 acres of new harvesting where at least some fuelwood would be made, especially at log landings.
Tree resources (sugar maple)	Sugar maple for sap is found in several sugar maple stands. These same stands have the associated understory plants that are valuable. Very shade tolerant. Found on rich soils.	Sugar maple sap and associated plants would be available as in the past. There would be no disruption of the overstory or understory so the plants would continue to grow as they are. Individual sugar maple trees would not be encouraged to grow larger more rapidly, so trees that are presently too small to tap would not become available for a longer time than if thinning was done.	Under Alternative C there would be slight changes on about 339 acres (16 stands). Only one of the stands is in a TCR area. Single tree selection harvesting in these sugar maple stands would remove selected trees by size class, thereby increasing the diameter growth on the residual trees, so trees that are presently too small to tap would become available faster. Although some of the larger maples would also be removed. This would increase the sunlight to the ground making the brush a little denser and less park-like. Use as a sugarbush would be retained but altered slightly as mentioned.
Animal Resources	Hunting) is common in the area, including 3	By doing no regeneration harvesting, Alternative A would not be maintaining the	Alternative C would encourage huntable species by clearcutting 1,108 acres and seed tree cutting 118 acres. Other harvest methods are useful but not to

Resource	Existing	Alternative A	Alternative C
(hunting)	hunter walking trail systems. Different game species require different habitats but young forest is needed by the most common ones,	current populations of species that require clearcuts or very young tree regeneration. The current young forests would be beneficial for several more years, but would eventually grow too old and large to be good habitat.	the extent of the open conditions in a clearcut or seed tree cut. Even with this level of clearcutting or seed tree cutting, there would be abundant habitat of other types, since there are almost 37,000 acres of NFS lands in the CDRM area.
Animal Resources (porcupine quills)	Porcupines are relatively common animals that browses on young to middle aged pine.	Porcupine for quills continue to remain common, since the pine would continue to be common for decades even with the lack of treatments in Alternative A.	Porcupine for quills continue to remain common, since the pine would continue to be common for decades with the stands that are not treated under Alternative C and with the stands that are planted with red and white pine.
Plant Resources (medicinal plant gathering)	Covers a wide range of plants and forest habitats from very wet to very dry.	Medicinal plants would continue to be available unless the species rely on open conditions for maintenance. With the lack of specific information about species or locations, it is difficult to analyze specific effects, however the only habitats that are being lost under Alternative A are the open conditions of a clearcut and the periodic soil/vegetation disturbances of harvesting.	Medicinal plants would continue to be available under Alternative C as all habitats in the CDRM area are maintained. With the lack of specific information about species or locations, it is difficult to analyze specific effects, however no habitats are being lost under Alternative C as treatments under it create the open conditions of a clearcut and the periodic soil/vegetation disturbances of harvesting and prescribed burning. There may be a displacement of gathering from specific locations that are logged, until plants grow back after disturbances.
Plant Resources (red wouldow)	River banks or near streams, lakes, and ponds. Sprouts if cut.	No effect.	Possible minor disturbance from the edge of harvest units and riparian planting and site preparation by cutting. Plants crushed or cut would sprout and grow again.
Plant Resources (princess pine)	A common understory species in coniferous and mixed forests on dry, well-drained, or sandy soils. It produces long rhizomes.	No effect.	This plant could be negatively affected under Alternative C in a few stands that are harvested and/or scarified. The harvesting crushes plants and the scarification removes them, but not all parts of the stands are treated intensively and the plants would grow-in and fill the disturbed areas again in the future. The harvesting benefits the plants by increasing light levels in the intermediate harvesting.
Juneberries Serviceberries *Amelanchier spp.*	In open woods, along bogs and wet sites. Sprouts if cut.	No effect, although it also does not release the species for improved growth.	Timber harvesting, release, and riparian planting site preparation would give more sunlight to the species, although it would also temporarily decrease the species by top-killing and by physical crushing. Some may be planted in 69 acres of wildlife openings. Over the next decade or two, there should be an increase in the number of these shrubs. Release leaves most fruiting shrubs intact rather than cutting them and setting their age/growth back as in the past.
ash -	Black ash occupies	No effect.	Alternative C has thinning and uneven-aged management in 50 acres of

Resource	Existing	Alternative A	Alternative C
green/black	poorly drained swamps, bogs, and lowlands. Risk of loss from the emerald ash borer.		black ash stands. This would reduce the number of ash in the stand, but increase the growth rate on the residual trees. There would be disturbance to the understory but this would be winter logging which would minimize it. The increased light due to the reduced canopy would increase the amount of ground vegetation.
balsam fir	Exists as an understory or sub-dominant canopy tree species in many forested stands in the project area. It is highly shade tolerant.	No effect.	Bough gathering occurs in the CDRM area. Many of the balsam fir trees in harvested stands would be cut or crushed, but we are trying to retain fir under 4 inches DBH. Since gathering is usually done in shorter/younger trees, the existing ones in harvested or other stands would grow out of the desired condition within 10 to 20 years even if they are retained. Since balsam fir is very shade-tolerant, more seedlings/saplings constantly appear in the understory of stands, making more available for gathering, although it is less likely they would be appearing in clearcut stands until the stand ages considerably.
Red osier or dogwood *Cornus stolonifera*	A riparian species in moist forest habitats, swamps, and low meadows. Suppressed in shade. Sprouts if cut.	No effects	Little or no harvesting in riparian zones but about 26 acres of riparian planting of white pine. The site preparation and release may require cutting some dogwood stems, however they would sprout. Thus the only loss is a year or two of large size. The increased light to the understory should be beneficial to the growth of the existing dogwood.
Hazelnut *Corylus cornuta*	Produces thickets and sprouts after crushing or cutting. Favored by open conditions. May be killed by deep disking or trenching.	No effect.	Harvesting on about 1,915 acres would crush or cut much of the hazel in the stands, but it sprouts and the increased light to the ground would result in denser hazel. Stands which are harvested and scarified (about 671 acres) for seeding may see a reduction in hazel for a year or two, although not all roots would be removed so it would resprout, but maybe not as densely as existing. This harvesting is on a small portion of the CDRM area (about 5%) so really has only a minor effect on the hazel in the area.
Wintergreen *Gaultheria procumbens*	Mainly in red pine and jack pine forests. Shade tolerant but increases with open conditions. Rhizomes cut or crushed may sprout.	No effect.	Alternative C has about 373 acres of harvesting in red and jack pine stands where this species could be expected. About 341 of these acres are intermediate harvesting which could help the species by increasing light to the ground vegetation. All of the harvesting could mechanically injure some of these plants, but this is a short-term effect with plants re-colonizing areas by rhizomes.
swamp tea (Labrador tea) *Ledum spp.*	Most common on wetter sites with low subsurface water flow & low nutrients. Sprouts from rhizomes or root crown.	No effect.	Alternative C has about 231 acres of harvesting in lowland conifers where this species could be found. The mechanical damage to the shrubs is usually short-term with sprouting occurring rapidly. This harvesting is on only a very small portion of the species range.

Resource	Existing	Alternative A	Alternative C
mammals - small	Prefer small piles of slash and woody debris for habitat, along with coarse woody debris and snags.	No effect, but no new slash either.	Alternative C has a large amount of harvesting that meets the criteria for making small brush piles. The harvesting would be beneficial to many species, with the increased habitat in slash and piles.
paper birch bark	Component of many hardwood or mixed hardwood/conifer stands. It would stump sprout. Bark is a valuable traditional resource.	No effect, but also does not regenerate the species for the future.	Alternative C has clearcutting of 19 acres and seed tree cutting of 102 acres of paper birch stands. This would remove most of the birch in these stands, making them unavailable for birch bark peeling, unless they are peeled prior to harvesting. In 60 to 80 years most of these stands would again contain large paper birch.
plum, chokecherry, pin cherry *Prunus*	Habitat ranges from riparian to upland. Moderately shade tolerant. Sprout if crushed or cut.	No effect but also does not release the species for improved growth. The species is not planted in wildlife openings, so it is not benefited there.	Alternative C would have harvesting and release in stands where these species exist. The increased sunlight from harvesting would improve the vigor and productivity of these species, although it would also temporarily decrease the species by top-killing and by physical crushing. Some may be planted in 69 acres of wildlife openings. Over the next decade or two, there should be an increase in the number of these shrubs. Release leaves most fruiting shrubs intact rather than cutting them and setting their age/growth back as in the past.
Raspberries *Rubus idaeus*	Forms thickets after disturbance. Seed remains viable for 60-100 years or more. Decreases as the canopy closes.	No effect but there is also no disturbance to encourage it, e.g. harvesting or scarification.	Alternative C would have much harvesting that would cause the type of disturbance favored by this early successional species. It would become common for several years in highly disturbed locations in harvested stands.
spruce - white/black	Shade tolerant and fire intolerant. From swamps to uplands	No effect.	Alternative C has timber harvesting in about 256 acres of white spruce (primarily thinning but 49 acres of clearcutting) and about 43 acres of black spruce (clearcutting). This is only about 10% of the white spruce and 3% of the black spruce in the CDRM area. All of these stands would be reforested with white and black spruce respectively, so there is no loss of acreage just of size. In addition there are 36 acres of conversion of aspen and openings to white spruce and white spruce is being seeded as a component of the understory on about 351 acres, thus increasing its presence. The thinning would improve the vigor of the white spruce. This would improve the age class distribution of both species.
Musclewood or American	Rich, moist soils in bottomlands, riparian	No effect.	Alternative C has little or no harvesting in the riparian habitat that this species favors. The site preparation cutting for the riparian planting could

Resource	Existing	Alternative A	Alternative C
hornbeam *Carpinus caroliniana*	areas. Tolerant of shade and requires it. Can sprout.		possibly cut a few of these trees but they would sprout, so no permanent loss.
Sweetfern *Comptonia peregrina*	Grows on droughty sites, e.g. sandy banks, roads or powerlines. Shade intolerant invader of newly opened canopies and disturbed sites.	No effect.	Alternative C has some timber harvesting in stands that could be habitat for this species, e.g. jack pine or red pine. It would be more vigorous and dense after treatment.
Bog adder's mouth *Malaxis paludosa*	Mossy hummocks in rich conifer swamps dominated by black spruce, etc.	No effect.	Alternative C has harvesting in about 76 acres of black spruce and tamarack which could be habitat for this species. The harvesting would be in the winter which would protect the species somewhat, if present.
Partridge berry *Mitchella repens*	Mildly acidic, well-drained mesic soil, and mossy hammocks and bogs. Shade tolerant.	No effect.	Alternative C has harvesting in forest types that could contain this species, but not along lakeshores and in wet parts of the stands, except in winter when the snow would help protect the species. It could affect individuals of this species but regeneration from rhizomes should repopulate the area.
White pine *Pinus strobus*	An MIS in the 2004 Forest Plan. Moderately shade tolerant.	No effect but also does not increase the amount of white pine in the CDRM area, as desired by the Forest Plan.	Alternative C has 16 acres of shelterwood cutting in white pine to regenerate the species. White pine is being seeded or planted in about 527 acres of stands, usually as a small component. This includes riparian area planting and opening conversion.
New England violet *Viloa novae-angliae*	Prefer "moist woods".	No effect.	Alternative C has timber harvesting in some stands that could be defined as "moist woods," so could have some negative effects on the species, since the harvesting may be done in the summer. Only as very small portion of its habitat would be treated so there would be little impact on the species.
Barren strawberry *Waldsteinia fragarioides*	Moist to dry pine forests and clearings.	No effect.	Alternative C is harvesting in 373 acres of red and jack pine, so there could be mechanical impacts to the species. However most of the habitat for this species would not be treated in the CDRM area.

3.3.4.2 – CUMULATIVE EFFECTS

Spatial framework and Timeframe:
(Same as for Direct and Indirect Effects.) Plus, treatments on other ownerships. Treatments on private land are not readily available for gathering and not well documented so not included here.

Past Impacts:
Harvesting and other treatments on State, Tribal, and County lands have about the same impacts as similar treatments on NFS lands. There is no specific recent harvesting on other ownerships, but over the last 11 years about 4% of the State and County land base has been regenerated, so those types of effects on gathered resources have been made.

From 1995 to 2008 on NFS lands in CDRM area there were 5,636 acres of harvesting with 3,443 being clearcut (403 and 246 acres per year, respectively). The proposed cutting in CDRM area is 2,697 acres and 1,108 clearcutting (averaged over 10 years in Alternative C this is 270 acres of harvesting and 111 of clearcutting), which is about half of the previous level of cutting. This past harvesting has resulted in the resources that are being gathered now or has removed some old trees from production (e.g. birch bark). (PR# 283)

Little or none of this past harvesting has been in lowland conifer stands. Traditionally we have avoided treatments in these stands due to lack of markets and lack of need for treatmen. Thus the traditional gathering aspects of these types of stands have not been impacted. Although conversely the stands have not been thinned or treated to accelerate individual tree growth or to maintain understory plants. Alternative C would treat about 258 acres of black spruce, tamarack, and cedar stands, thus making both these negative and positive impacts to the stands and increasing the averages of harvest in these types. Alternative A would continue the past trend of no harvesting in this type.

Management by prescribed burning for blueberry production or other berries or fruiting shrubs and for ecosystems was prescribed in most of the past 8 years of EAs. With essentially no prescribed burning, Alternatives A and C would reduce the average amount of burning.

Release in the past often resulted in all species except the planted conifers being cut, so the fruiting shrubs had to sprout and grow several years before becoming productive. This averaged about 94 acres per year in the CDRM area (1,311 acres in 14 years). The CDRM project would have about 140 to 210 acres per year (707 acres in 10 years treated 2 or 3 times).

There was no known change in the transportation system that would have affected access for gathering in past actions. All of the past 8 years of EAs have prescribed various amounts of road decommissioning, but it was of roads that were seldom used. The decommissioning in Alternative C would make minor changes but not much different from the closing of logging roads in the past. There is no known prescribed closing of roads on other ownerships.

Present Impacts:
Some blocks of the final timber sales from the Rambling Woods and Northwoods EAs are still active at this time, about 716 acres with about 486 acres of this being clearcutting. Itasca County has 50 acres of active timber harvesting and the State has 96 acres active. There is no known active harvesting on Beltrami County or tribal lands in 2009. These cuts are similar to past actions and to the cuts proposed in CDRM EA treatments so the effects would be a continuation of past effects.

Future Impacts:
In the next 7 years the State plans about 1,066 acres of harvesting (556 acres are clearcutting), Beltrami County about 240 acres of aspen regeneration, and Itasca County about 474 acres of regeneration (in aspen, white spruce,

and other types). There are no known harvest plans for the small amount of Leech Lake Band of Ojibwe land in the CDRM area. The Forest Service has no plans for additional timber sales (beyond CDRM) in the next 5 years in the CDRM area. In the longer term it is probable that there would be more similar sales. There would be continued treatments that indirectly benefit blueberry production, berries, and fruiting shrubs. Under the action alternatives, this would continue to be at least as productive for gathered resources as it has over the last decades. Plans on private land are unknown, but would probably be as little as in the past.)

With the continuation of the practice of leaving fruiting shrubs intact during release in future projects, there would be no decrease in gathering or actually an increase on these shrubs that now have more sunlight for better production.

Activities on the State, LLBO, and private lands would impact traditionally gathered resources much the same as the activities on NFS lands and in the CDRM area EA. These resources are the by-products of vegetation management, e.g. timber sales or fuels management. It is likely that the past types and amounts of management would continue into the future for at least the next 5 years and probably for 25 years or more. This should be enough disturbance to maintain resources such as blueberries, other berries, and wildlife. Alternative A if applied to CDRM area and future analyses in the area would result in a reduction of these traditionally gathered resources on NFS lands, thus making them less available or putting more pressure on other ownerships to supply them. Meetings were held with the Sugarbush Local Indian Council, which is close to this project area and they did not express concerns over this project reducing traditionally gathered resources.

3.4 - WATER QUALITY AND WATERSHED HEALTH/AQUATIC SYSTEMS AND FISHERIES

Water quality effects are analyzed at the sub-watershed (6th code HUC) scale for the effects of land clearing, fire, or timber harvest on runoff regimes; which in turn affect channel forming flows, erosion and sediment deposition, and ultimately water quality. It was found by Verry (PR# 19a) that impacts to runoff regimes related to clearcutting last until the stand is 15 years old, assuming regeneration has occurred. When stands reach approximately 15 years or age, less solar radiation reaches the forest floor and snowmelt and runoff regimes between previously harvested young stands and mature forested areas are synchronized (PR# 19a - Verry 1983). Other effects on aquatic systems and fisheries are analyzed on the impacted area and waters within 100 to 200 feet downslope from there, since sediment is rapidly captured by vegetation and does not flow even this far usually. Effects are only noticeable until the bare soil is revegetated, usually 1 to 2 years.

3.4.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

Topic of Concern 1: Water Quality and Aquatic Habitats are not a key or non-key issue in this EA in Section 1.6, but there is a concern that watersheds containing high percentages of area in a young and open condition may be at risk due to channel scouring from rapid spring snowmelt.

Indicators: Percentage of upland in the watershed in young and open condition (<15 years old).
Amount of sedimentation into water from ground disturbing projects.

Topic of Concern 2: Fish/aquatic species were not identified as an issue in Section 1.6. Concern exists that watersheds containing high percentages of young and open conditions may be at risk due to channel scouring from rapid spring snowmelt. These conditions increase the potential for effects to fish/aquatic habitat.

Indicators: Percentage of uplands in the watershed in young and open condition.
Amount of sedimentation into water from ground disturbing projects.

There are twenty-five Level 6 Hydrologic Unit Code (HUC) watersheds partially or completely within the project area totaling 216,337 acres. The current watershed characteristics are shown in Table 3.4.3.a in the Specialist Report (PR# 330). Young and Open conditions range from 11% to 38% with an average of 22%, far from the 60%

threshold. When the percentage of young and open approaches 60%, increased runoff from uplands during snowmelt can result in flooding and excessive stream channel erosion (PR# 19a - Verry 1983). This can lead to impacts to channel stability, and aquatic and riparian habitat.

A number of the project area watersheds have road crossings that are barriers to aquatic organism passage or have erosion concerns. These sites are therefore having an impact on overall watershed conditions.

Only one project has the potential to introduce a lot of sediment directly into streams (Swamp Creek Bridge) and several have a minor potential for this, however most of the vegetation projects are designed to have filter strips, buffers, or no bare soil within 100 feet of water, thereby preventing sedimentation.

Swamp Creek Bridge is 15 feet long and 14 feet wide and about 3 feet above normal water level. It was built in 1953 of treated timbers and is accessed by an aggregate road. There are some safety concerns due to deteriorating condition of the railings and other timbers. (PR# 71c and 71e) Photographs of this bridge are found in Appendix J.

The repairs needed in 2003 included shim bearings at the piers, excavating backwalls to repair timbers and install whalers to keep walls integral with piers, clean gravel off the deck and brush the corners, repair or replace deck and stringers as needed, grade the road to remove side berms and increase the crown for 200 feet on each side of the bridge, check and repair posts if required, replace the 2 x 6 guardrails with standard rails, and install a solid deck (PR# 69d). It was recommended that the approach not be paved due to the low volume of traffic over the bridge (PR# 69c). Another fieldtrip saw erosion behind the wing walls and pilings separating from the wing walls (PR# 68d).

The water at the Swamp Creek Bridge flows very slowly because this is a wide flat marsh and there is a very old beaver dam just downstream from it (PR# 70f). There is no well-defined stream channel (PR# 69c). Even with this slow flow, there are times when flow could be constricted by a road or bridge, e.g. peak flow during spring runoff. The stream substrate appears to be organic muck (PR# 70f), except where road sediment or fill has encroached into it. Submerged aquatic vegetation is heavy in places (PR# 70f). The riparian vegetation is primarily alder and a cedar swamp downstream of the bridge and cattails sedge upstream (PR# 70f and 68d).

It falls within the area managed under the Forest Plan as a General Forest Management Area.

For comparison purposes, the current road for the first 100 feet on either side of the bridge covers about 0.14 acres of wetland with fill (30 foot wide road and ditches x 100 feet x 2 sides/43,560 feet per acre = 6,000/43,560 acres = 0.14 acres). There is no apparent bed of sediment deposited in the stream or impoundment.

Other projects with a minor potential to put sediment into water are:

- Mechanical site preparation of 943 acres.
- Riparian planting of 26 acres is done within 100 feet of water.
- Scarification and seeding of wildlife openings is only done within 200 feet of water five times.
- Similar to the harvesting, the regenerating of aspen by cutting strips would be done in two stands within 200 feet of water.
- Treatments by Nelson Lake and Little Moose Lake to reduce erosion and sedimentation.
- The removal of the road prism from the Gull River wetland for part of FR 3400 has the potential to get sediment into the river and wetland during treatment.
- Reforesting Compartment 55 Stand 7 (24 acres) would involve breaking a beaver dam.
- Decommissioning the 8.7 miles of roads.
- Closing and/or gating three roads/sets of roads.
- Adding the ATV trail between Benjamin and Rabideau Lakes.

3.4.4 - DIRECT AND INDIRECT EFFECTS
3.4.4.1 – EFFECTS OF VEGETATION MANAGEMENT on WATERSHED HEALTH

Alternative A
Under Alternative A, young timber stands would continue to age, no additional young or open forest would be created, so the hydrology would not be further altered. There would be no road decommissioning or planting of wildlife openings, so they would continue to function as young and open conditions.

Under Alternative A sediment from Swamp Creek Bridge would continue to slowly erode off the road and from behind the wing walls and abutments, settling in the creek at and downstream from the bridge. As erosion continues, the banks become even more susceptible to erosion during surge events than in Alternative C. The road is not raised, leaving the bridge structure closer to the water and with no road slope away from the creek crossing. This should be adequate to prevent damage to the bridge and to have an unimpeded flow of water through the structure, but it does not have the added safety margin that Alternative C would.

Effects on other projects from Alternative A are:

- Mechanical site preparation - none is done so no effects.
- Riparian planting - none is done so no effects.
- Scarification and seeding of wildlife openings - none is done so no effects.
- Similar to the harvesting, the regenerating of aspen by cutting strips - none is done so no effects.
- Treatments by Nelson Lake and Little Moose Lake are not done, so the current levels of sedimentation would continue.
- The removal of the road prism from the Gull River wetland for part of FR 3400 is not done so ATVs continue to use the river crossing and there is a minor amount of sediment put into the water and the river bed is disturbed and rutted. Fish habitat would continue to be disturbed in this one very tiny area, with sedimentation problems for a few hundred feet downstream.
- Reforesting Compartment 55 Stand 7 (24 acres) is not done so the sediment stays in place. The stand remains a flooded beaver pond with warm, calm water rather than a flowing stream.
- Decommissioning the 8.7 miles of roads is not done but has little effect since most of these roads are not used much now so are not adding much erosion/sedimentation to the nearby waters or wetlands.
- Closing and/or gating three roads/sets of roads is not done but would have little impact on sedimentation. Most of the problem on these roads is compaction and rutting. Any sediment created is captured within about a hundred feet of the roads in the existing vegetation, never reaching water.
- Not adding the ATV trail between Benjamin and Rabideau Lakes would have little impact. It is being used now with only minor soil disturbance.

Alternative C
The implementation of proposed regeneration prescriptions, and temporary road building would contribute to the young and open forest condition in sub-watersheds within the project area. These harvest prescriptions would set the age-class of the stand back to zero, and would result in increasing the young and/or open component in the watershed. However, as discussed above, all watersheds in the project area are below the level where detrimental impacts occur, so these small increases would not result in anywhere near to 60%. All but 2 of the sub-watersheds are over 4,000 acres, so even if all of the clearcutting was done in one sub-watershed it would only increase the young and open condition by 25% which would still not reach 60% in any of the sub-watersheds and it is known that the cuts are scattered over many sub-watersheds. Also, the eventual reforestation of decommissioned roads proposed in this alternative would decrease the amount of young and open acres in the project area. Implementation of Best Management Practices found in the Minnesota Voluntary Site Guidelines Book (MFRC 2005) (PR# 72b) and Forest Plan standards and guides would lead to revegetation of disturbed soils within a growing season.

Under Alternative C Swamp Creek Bridge effects would be:

- The new amount of wetland or water that is covered with fill under Alternative C is estimated to be a maximum of about 0.05 acres {road 11 feet wider tapering unevenly to 0 plus ditches each 3 feet wider due to raising the road for about 100 feet on each side of the bridge = (11 + 3 +3) x 100/2 x 2 sides/43,560 = 2,250/43,560 = 0.04 plus uneven tapering = 0.05 acres.} This is about a 30% addition to the current amount of fill in this location.
- The erosion/sedimentation that is currently occurring around the bridge would be stopped, so there would be no additional sediment from this source.
- There is the potential for sediment to get into the stream during construction from the bare soil for about 100 feet in all the ditches as the road is raised and widened and from the bridge site where the abutments/pilings are removed and/or new ones placed. However, various artificial barriers would be used to prevent or minimize this, and the old beaver dam just downstream from the bridge would catch any sediment that does get in the water. If the work is done during the low-flow season, most or all sediment would settle in this impoundment. If this dam is ever removed, this sediment should be stable and remain in place to be revegetated.
- The road would be raised less than one foot, putting the bridge structure that much higher above a 100 year flood event, increasing the hydraulic opening, and sloping the road away from the bridge. This makes damage to the bridge slightly less likely than in Alternative A. It assures an unimpeded flow of water through the structure.
- The road profile would be sloped back from the bridge at a 1% grade, be re-crowned, and have berms removed for about 100 feet to prevent water flow and sediment onto the bridge.
- Some sediment may be pushed into the creek as new pilings are pounded into the soil.
- Some sediment may come from the areas where peat is excavated to get the road and new fill onto a soil base.
- Dewatering the construction area during excavation and filling should help minimize sediment in the water and allow some to be removed before water flows in the stream again.
- Even with the construction, this should put less sediment into the water over the next 10 years than leaving the current conditions.
- Putting treated timbers (copper naphenate) into water could introduce contaminants, but this would be minimized by design.

Effects on other projects from Alternative C are:

- Mechanical site preparation of 943 acres is buffered from water by at least 100 feet so would not cause problems.
- Riparian planting of 26 acres is done within 100 feet of water, but the site preparation would be such that minimal bare soil is exposed and there would not be increased sedimentation.
- Scarification and seeding of wildlife openings is only done within 200 feet of water five times and all of these have at least a 50 to 100 feet vegetation buffer left untreated, so no sedimentation would occur.
- Similar to the harvesting, the regenerating of aspen by cutting strips would be done in two stands within 200 feet of water, but there would be little or no soil disturbance so no sedimentation.
- Treatments by Nelson Lake and Little Moose Lake involve a slight chance of sediment getting into the lakes or wetland during the treatment, but using the proper sediment buffers (e.g. fences or bales) should minimize this. The repairs would greatly reduce the future potential for sedimentation and erosion and subsequent impacts to water quality and fisheries habitat.
- The removal of the road prism from the Gull River wetland for part of FR 3400 has the potential to get sediment into the river and wetland during treatment, however sediment barriers such as fences or bales would be used to prevent this and the exposed sites would be rapidly revegetated to reduce bare soil. Sedimentation is expected to be minimal or none. Removing the road prism would prevent future crossing

of the river at this point by ATVs, thus reducing physical and sedimentation effects on water quality and fish habitat here and for a few hundred feet downstream.

Reforesting Compartment 55 Stand 7 (24 acres) would involve breaking a beaver dam. This sudden increase in water flow could cause some pulling of soil out of the pond and some increased erosion downstream for the few minute of increased water flow, but this is expected to be minimal since the water is not very deep. Additional sedimentation could occur during rainfalls before the site dries out and is able to be replanted and seeded with ground cover. However the stand is relatively flat so overland flow should not be great and there are enough rough areas to capture some of the flow.

Decommissioning the 8.7 miles of roads should have minimal effects since most of these roads are not used much now so are not adding much erosion/sedimentation to the nearby waters or wetlands.

Closing and/or gating three roads/sets of roads would have little impact on sedimentation. Most of the problem on these roads is compaction and rutting. Any sediment created is captured within about a hundred feet of the roads in the existing vegetation, never reaching water.

Adding the ATV trail between Benjamin and Rabideau Lakes would have little impact. It is being used now, so not much change in effects is expected.

3.4.4.2 – CUMULATIVE EFFECTS

The cumulative effects are discussed for all ownerships for direct and indirect effects because the watersheds incorporate all lands. Thus past and present effects are already discussed for young and open conditions. For other projects, the roads and treated stands under CDRM EA are similar to all the other roads and stands near waters that have been treated in the past. Effects on sedimentation and water quality from harvesting and other soil disturbing treatments last only as long as the bare soil is exposed, usually less than 2 years, so there is no overlap between the CDRM treatments and past treatments. Past roads treatments also do not overlap the CDRM treatments in space or time, so no cumulative effects.

None of the treatments still being done under Rambling Woods or Northwoods EA involve treatments near water, so no overlap presently.

Cumulative effects on water from the bridge project would come from treatments on/along the road or marsh that disturb soil or vegetation within a few hundred feet of this site. There are no known past, present, or future similar treatments within 10 years or a mile of this project, so no known cumulative effects.

Future Impacts:

County, State, and tribal agencies are planning an estimated 1,351 acres of timber harvest in the project area in the next 10 years however, the exact location of the harvest is not known. This level of harvest would not drive the young and open percentage near the 60% threshold because State and County lands are scattered, so would interact with only some of the cutting on NFS lands. No additional harvest activities or other ground disturbing activities on National Forest System lands are planned within the project area in the next 5 years.

3.5 – FISH/AQUATIC ORGANISMS

Due to the interconnected nature of Water Quality and Fisheries/Aquatic Systems these two analyses have been combined in Section 3.4.

3.6 - FIRE

3.6.1. - SCOPE OF THE ANALYSIS

The scope of analysis includes the area within the immediate vicinity of treatment units for vegetative effects and 3 miles downwind for smoke management. Timeframes are 30 days for smoke effects by which time smoke from

piles would be long gone and 5 years following treatment for vegetation effects by which time even the most intensely burned area would be revegetated (Ottmar and Vihnanek 1999, Reinhard et al. 1996, Sestak and Riebau 1988) (PR# 21b).

3.6.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

There approximately 244 acres proposed for pile burning (estimated at about 5% of the area or about 12 acres). The removal of activity fuels would be comprised by chopping, burning or hand hauling. The most likely method to be used to remove the activity fuels is pile burning. In certain areas where it is applicable mastication would be used to lower the fuel heights.

Topic of Concern: The level of fuel loadings due to harvesting is a concern in the area due to Fire Regime and Condition Class categories. Most of the CDRM area is a Condition Class 3 (substantially altered) with some areas designated as a Condition Class 2 (moderately altered).

3.6.4 – EFFECTS

3.6.4.1 – DIRECT AND INDIRECT EFFECTS

3.6.4.1.0 - Explanation of Effects

The USDA Forest Service recognizes that every treatment used for hazardous fuels reduction or vegetative manipulation (prescribed fire, timber harvest, mechanical treatment, etc.) has both positive and negative factors associated with it. Each specific treatment is prescribed for different scenarios with the intent to meet many different objectives after thorough scrutiny by different resource area professionals.

Burning of piles of slash may tend to encourage noxious weeds in the overheated soils. (See the effects analysis in Section 3.15 - Non-native Invasive Species)

Prescribed Fire

Prescribed fire is the most practical tool to reduce fuels (activity and green shrubs) in certain situations:

The proposed pile burning is normally done in the winter when it is safest for preventing escaped fires.

Some piles of brush and trees would be retained for wildlife habitat and smoke would be present but should rise into the mixing layer before drifting far from the burning units, all prescribed fire activities would be conducted in a manner that should not impact houses or roads outside the burning units.

Provisions of the Minnesota Smoke Management Plan would be designed into the prescriptions for all of the burning. This would minimize effects to air quality.

3.6.4.1.1 – ALTERNATIVE A (NO ACTION)

There would be no harvest and consequently no activity fuel generated from mechanical operations. Prescribed fire would not be used for pile burning or for site preparation therefore no seeding or planting would occur and noxious weeds would not be encouraged. No Condition Class improvement would occur. The stands would continue to age and therefore contribute to higher fuel loadings and be susceptible to insect, disease and wind events that would eventually contribute to higher fuel accumulations. Blueberry production would not increase and would probably decrease due to increased shrub densities and a dense litter layer.

3.6.4.1.2 – ALTERNATIVE C

Under Alternative C smoke is expected to come from pile burning on up to 244 acres of stands (estimated at about 5% of the area or about 12 acres).

The effects of smoke are important if drift is over roads or toward houses, especially if the smoke concentration is high. The public would be notified of the burns as appropriate. Piles would be burned when dry enough for rapid

consumption. Pile burning, smoke in the near vicinity may be heavy during the initial ignition of these but is expected to dissipate and lift shortly thereafter. Remnant or hanging smoke could be expected for 1 or 2 days following the burn depending upon characteristics of the burn unit and weather conditions, however; this effect should be fairly localized. Although smoke may be emitted from heavy fuels in the unit for up to approximately 15 days, only during the initial timeframe (ignition period) would the smoke be emitted in any volume and would dissipate thereafter. The MN Smoke Management Plan (PR# 164) would be followed regarding emissions and specific guidelines.

The surface area immediately under where these piles have been burned would be devoid of vegetation anywhere from 1 to 4 years (J. Tobin, R. Rockis; pers. Comm.). This can be shortened or minimized by making smaller piles and by seeding species that would temporarily grow under these conditions. Usually after 4 years pass, the result of the burning activity goes unnoticed. Depending upon the intensity of the burn, surrounding vegetation (within 50 feet of the pile) may experience short term effects such as wilt or scorch but usually rebounds within the growing season or within a year.

Most fuel reduction in the CDRM area would be done by mechanical or hand treatments since conditions are more controlled, treatment windows are longer, and there is not danger from drifting smoke. Thinning and other intermediate harvesting also tends to reduce fuel density (ladder fuels) by cutting or crushing many of these small trees.

Slash fuels from harvest operations would be treated by machine piling or by machine scattering. Machine scattering breaks up slash concentrations or the slash pieces themselves to create a fuel bed that is less concentrated. This treatment does not reduce fuel loading but is practical on sites that have slash removal concerns due to soil or other requirements but would result in lower intensity wildfires if they happen rather than high intensity "jackpot" burns. Mastication (chewing) or hydro axing of material generated during a harvest operation, a hand thinning, or hand brushing; in addition to standing shrub species component would also result in the aforementioned effects.

3.6.4.2 – CUMULATIVE EFFECTS

The analysis conducted here is for the CDRM EA area regarding vegetative treatment effects. Smoke effects include the immediate vicinity of burn units upwind and the entire project area downwind for smoke management. Timeframes for vegetative effects are about 13 years past (CDS timeframes) and 5 years in the future. Timeframes are 30 days for smoke effects since these are localized and short-lived.

Past Impacts:

The following table would be used to examine past impacts. The activities shown are those that have the greatest effect on fire/fuels treatments.

Table 3.6.4.2.a -- Past Activities that Affect Fuel Levels in CDRM Area

Activity	CDRM 1995-2008 Acres
Timber Activity	5,636
Site Prep Burning	208
Marsh Burning	24
Fuels Management	211
Broadcast Burn Natural Fuels	0
Pile Burn Natural Fuels	221
Other burning	4
Mechanical Treatments	615
Blueberry enhancement	0

Past mechanical treatments and prescribed burning in the CDRM EA area that affected fuel loading were 615 acres of mechanical and 668 acres of burning in the last 14 years or 44 and 48 acres per year repectively. Over the next 10 years under Alternative C we would do about 94 acres per year of mechanical site preparation and 1 acre per year of fuels burning, thus increasing the mechanical average but decreasing the burning.

Cumulative effects of past vegetative treatments has contributed to the current conditions (e.g. fuel loading).The past effects of burning or not burning are the same as the associated effects listed in section 3.6.4.1.2 since the treatment types were generally the same.

The amounts of similar treatments on other ownerships of land are unknown, but estimated to be much less than on the NFS lands, so the effects from NFS lands show what has happened in the area.

Present Impacts:
There were no known fuels treatments on any ownerships in the last year. The harvesting being completed under the Rambling Woods and Northwoods EAs would have some fuels reduction associated with some of stands. It would be similar to proposals in the CDRM EA and to past actions, so effects would just be a continuation of current effects.

Future Impacts:
There are no similar known treatments on other ownerships of land. In general the State and County do not do as much fuels reduction as on NFS lands, so it is safe to say that their impacts on a smaller level of harvesting would be very minor. Cumulative effects of future treatments can be correlated to the associated effects of those treatments listed in section 3.6.4.1.2 since the treatment types are generally the same.

3.7 - RECREATION

On NFS lands within the CDRM EA area within the last and next 5 years there would be impacts to the recreation resource.

The only issue from Section 1.6 that deals with recreation is Issue 1 Pimushe Trail.

Issue 1 - Pimushe Trail

Closing one half mile of FR 2514 to vehicles over 1,500 pounds would prevent local residents from using the Forest.

Conversely, closing one half mile of FR 2514 to vehicles over 1,500 pounds would protect local residents' property and would prevent resource damage to the Forest.

Indicators

Ability to access the Forest from various points near FR 2514 that is being closed.

Amount of resource damage prevented by closing this portion of FR 2514.

Topic of Concern: There are several other small projects that have incidental effects on recreation use.

Indicators

Amount of effect on the associated recreation use.

The Continental Divide project area provides the land base and water base for a broad range of recreation opportunities that include dispersed recreation, trail use, off highway vehicle use, wild ricing, trapping, duck hunting, driving for pleasure, fishing, upland hunting, motorized boating, canoeing, and camping. There are numerous developed and dispersed recreation sites in the area, including 16 lake accesses. About 13 miles of the Lady Slipper Scenic Byway (Co. 39) bisect the CDRM area. It would be reconstructed in 2009 to 2012.

The project area has moderate hunting pressure, commonly for deer, bear, grouse, woodcock, and ducks. There are 3 Hunter Walking Trails (HWT) in the area: Webster Lake HWT, Carter Lake HWT, and a small portion of Meadow Lake HWT. Hunting is also done in the maintained wildlife openings, of which this project is affecting 366 acres (238 openings).

According to the 2006 National Visitation Use Monitoring Report, the most popular activities bringing people to the Forest include: driving for pleasure, fishing, snowmobiling, and hunting. Recent surveys by the Minnesota Department of Tourism indicate that recreation visitors are keenly interested in the history of the area.

Recreation depends heavily on the transportation system for driving, ATV/OHV use, and land access. Section 3.10 (Transportation System) goes into great detail on this, but there are a few projects in the CDRM EA that directly affect recreation use and would be discussed here also, including:

Removing the road prism by Gull River.
Decommissioning 8.7 miles of roads.
Gating the south part of FR 2514.
Berming/gating the north part of FR 2514 and spurs.
Berming/gating FR 2215 and spurs.
Adding another ATV trail between Benjamin and Rabideau Lakes.

At least one scoping comment from the public associated the south part of FR 2514 with a poaching and vandalism problem.

There are more than 95 miles of low standard roads that are open for off-highway vehicle (OHV) use and 33 miles of high standard roads. The Forest can construct up to an additional 90 miles of ATV trail under the Forest Plan, with about 0.4 miles proposed in this EA. Cross-country travel by OHVs is not permitted on the Forest.

3.7.4 – EFFECTS
3.7.4.1 – DIRECT AND INDIRECT EFFECTS
3.7.4.1.1 – ALTERNATIVE A (NO ACTION)
Alternative A would maintain the current levels and types of recreation opportunities in the Continental Divide EA area in their current state. Vegetation would continue to grow and tree mortality would occur over time. Opportunities for hunting, OHV use, fishing, and blueberry gathering in the project area would not change substantially over the next 5 to 10 years.

Hunting in the CDRM EA area would not be changed by harvesting or the reforestation of 108 acres (108 openings), however it would also not be improved by added aspen regeneration along the Carter Lake HWT.

Effects of Alternative A on other specific treatments not included above include:

Removing the road prism by Gull River is not done so ATVs can continue using this "shortcut".
Decommissioning 8.7 miles of roads is not done so these roads can continue to be drive at their current levels which is not much.
Gating the south part of FR 2514 is not done so all vehicles can continue using this "shortcut". The poaching and vandalism problems would continue as mentioned by the public.
Berming/gating the north part of FR 2514 and spurs is not done so vehicles continue to drive in the area.
Berming/gating FR 2215 and spurs is not done so vehicles continue to drive in the area.
Adding another ATV trail between Benjamin and Rabideau Lakes is not done so ATV use is not allowed on two portions of this road/trail, however it is expected that unauthorized use would continue. We have had no success in stopping it in the past.

3.7.4.1.2 – ALTERNATIVE C

Under Alternative C dispersed recreation would continue to occur at current levels and types.

Harvest activities would be apparent through the noise of the operations near recreation sites and from the logging truck traffic on the roads. These impacts would only last as long as the logging operations do - less than 1 year in any give stand and up to 5 years for all of the sales in the CDRM EA project. Most impact would be felt by the Rabideau CCC camp where there is a thinning and by Webster Lake Campground where there are several harvest units within ¼ mile.

Individuals participating in dispersed recreation activities such as hunting, bird/wildlife watching, localized cross-country skiing, opportunities for solitude, and recreational gathering would experience the same type of short term impacts.

Opportunities for fishing would not be directly affected with this alternative as there are no direct effects to the availability of fisheries, other than the improved access to Little Moose Lake.

The OHV Trailhead constructed near the Webster Lake Campground could increase use at the campground and would more fully utilize OHV riding opportunities in the area. However this could also create a conflict between quiet and noisy campers.

OHV's would have 112 miles of forest roads to travel in the project area after the change in OHV Use of 15.3 miles of roads closed to OHV use.

Replacing the Swamp Creek Bridge, located on FR 2236 south of Webster Lake Campground would affect campers, hunters, and OHV users during the month or so when the road would have to be closed at that site. It would create longer driving distances and times if coming from or going to the south. This would be most apparent during the open campground season, which is May to November. There would be only one way out of the campground back to Hwy 39 for about one month. Getting from one end of the bridge to the other via the detour is about 9 miles.

The Webster Lake Bog Walk would be extended to the lake so visitors may see all of the ecosystems in the bog and the lake.

The roads leading to the user developed access at Little Moose Lake and the carry-in access at Nelson Lake would be repaired to prevent more resource damage. The carry-in access at Little Moose Lake would be hardened to prevent further erosion and sedimentation.

A ½ mile portion of FR 2514 would be closed to vehicles over 1,500 pounds. There are several other existing roads that would take visitors to Pimushe Lake. To get from one end of this road to the other using high quality gravel and paved roads would be about 3.5 miles, but would probably not take any longer than driving this ½ mile rutted segment in a pickup. This should alleviate most of the public concern over poaching and vandalism due to an open loop road.

Hunting in the CDRM EA area would be changed by harvesting, with most hunted species benefitted by the increased young and open stands. The reforestation of 108 acres (108 openings) would remove them from the open conditions that are most beneficial to deer and grouse, although the fruiting shrubs would help them. The mowing of 234 acres (154 openings) would keep them in this desirable condition for these species. About 50 acres of dense young aspen regeneration would be made along the Carter Lake HWT which would be highly beneficial to grouse and to grouse hunters who use this area. Keeping this on a sustainable 40-year rotation would be beneficial to grouse.

Effects of Alternative C on other specific treatments not included above include:

Removing the road prism by Gull River is done, so ATVs can no longer cross the river at this point. This was not a heavily used crossing so losing it is not a large impact to recreation use. It would improve conditions for recreation uses in the river and downstream lakes that depend on cleaner water.

Decommissioning 8.7 miles of roads is done but would have a little impact on some users but most of these roads were seldom driven now and are short, so the impact would not be much.

Gating the south part of FR 2514 is discussed in the previous paragraph.

Berming/gating the north part of FR 2514 and spurs is done so vehicles can no longer drive in this area, other than one special use access permit to private land. This is a proposed Candidate Research Natural Area in the Forest Plan that requires a semi-primitive non-motorized condition; so vehicles should not be there. However some local resident use this area for hunting and other recreation. They would not be happy with the loss of access to this area. However these are soft roads, some of which are highly compacted and rutted, so they were not desirable recreation roads. Walking them would be much better for the resources.

Berming/gating FR 2215 and spurs is done so ATVs and other vehicles can no longer drive in this area. These are soft roads, some of which are highly compacted and rutted, so they were not desirable recreation roads. There is also a goshawk nest needing protection near one of them. Walking them would be much better for the resources.

Adding another ATV trail between Benjamin and Rabideau Lakes is done. The public desires to use this access route between the lakes for some recreation purposes and have been doing it despite our enforcement efforts. This use would now be authorized and properly controlled.

There are no harvest activities within the project area that would create a major negative visual effect on the Lady Slipper Scenic Byway. There are two cuts proposed that are near the Byway. The patch clearcut which involves cutting patches of black spruce out of Comp 84 Stand 21. This cut is mostly concealed behind Comp 84 Stand 18 (mixed swamp conifer) and Comp 84 Stand 44 (spruce plantation from 1978). There is no guarantee a patch would not be near the highway but there is a very slim chance that the cut would have any negative visual effect as seen from the Byway. There is also a commercial thinning proposed along the Byway. This type of treatment has been completed along the Byway in the past and did not create any long term visual effect for the Byway .

3.7.4.2 – CUMULATIVE EFFECTS-

Spatial and temporal timeframes are the same as for direct and indirect effects, since our effects are primarily on NFS lands.

Past Impacts:

Within the CDRM EA area, past timber harvesting, reforestation, and facility construction has left the area in the condition it is on all ownerships. Other than timber sales, not much has been done in the last 5 years. The most noticeable recent development is the decision made in December 2007 that addressed forest access using OHVs on NFS, State, and County lands. Past harvesting and facility construction has left the current hunting and scenic conditions for recreation. It is similar to what is proposed in the CDRM EA area and had similar effects which we are continuing.

Present Impacts:

There are currently timber sales with in the CDRM area that are finishing up parts of the Rambling Woods and the Northwoods EAs. Beltrami County and the State also have a small amount of active timber sales within the CDRM area. These are similar to the ones proposed under the CDRM EA and would just keep the land looking actively managed.

Future Impacts:

It is expected that trends in management on other ownerships would continue as in the past, with the State and Forest Service contributing much of the harvest activity including both regeneration harvest and thinning in pine.

The State's proposed 1,069 acres of harvesting does not impact the Scenic Byway. It is probable that the 240 acres of proposed Beltrami cutting would not impact it either. Within the next 5 years the Ladyslipper Scenic Byway would be reconstructed. None of these activities would significantly effect the enjoyment of recreationists.

3.8 - AIR

Air quality is affected by smoke which can drift for miles downwind but is only produced for 2-3 days in any given burn. Air quality is also affected by dust, which seldom drifts more than 100-300 feet and lasts only 5 to 10 minutes after a treatment is completed. While this is short-term, we would look at the last 13 and next 5 years to see how often these short-term "annoyances" occur.

3.8.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

Issue:

None of the issues specifically addressed air quality, but it is a resource that needs to be discussed under NEPA.

Presently there are no known air quality problems in the CDRM area. Smoke comes mainly from prescribed burning, which is not a common occurrence in this project area. Dust comes from activities such as road construction, road use, OHV driving, and road maintenance, which are more common but very short-term.

3.8.4 – EFFECTS

3.8.4.1 – DIRECT AND INDIRECT EFFECTS

3.8.4.1.1 – ALTERNATIVE A (NO ACTION)

There are no known changes from the current average amounts of smoke and dust from all sources on NFS land and roads and those on other ownerships. Road maintenance would continue to make some very short-term dust.

3.8.4.1.2 – ALTERNATIVE C (PROPOSED ACTION)

The temporary road construction and obliteration (about 3.3 miles) and road decommissioning (about 8.7 miles) have the potential to produce some added dust, but effects would be minimal: short term (5-10 minutes longer than the treatment itself before the dust settles) and for a very short distance (up to 100-300 feet) from the treated site. Road use for timber harvesting is about the same as it has been for the past 2-3 decades, varying year to year; so dust from it is a very minor on-going occurrence. The "new" ATV trail has been in existence and used for years, so the minor dust from it is an on-going occurrence. The replacement of Swamp Creek Bridge and the mechanical site preparation would create some dust, but it would again drift only a few hundred feet and would be gone minutes after the treatment is completed.

Smoke is only expected to come from the burning of slash piles in some timber sale units, totaling up to 244 acres (estimated at about 5% of the area or about 12 acres). However, it is expected that most of the fuel removal would be done during the logging or by mastication, so there would be less than these 12 acres of burning. This burning would be done only one time per stand with smoke emitted for a maximum of about 2 to 3 days per pile. Provisions of the Minnesota Smoke Management Plan (PR# 164) would be designed into the prescriptions for all of the burning. This would minimize effects to air quality.

3.8.4.2 – CUMULATIVE EFFECTS

Past Impacts:

Within the last 14 years on NFS lands in CDRM area there was about 564 acres of burning, averaging 40 acres per year. Forest-wide, the last 21 EAs signed in the last 7 years (2002 to 2008), two of which included parts of CDRM, proposed an average of 1,246 acres of burning per EA. Thus Alternative A with no burning and Alternative C with 1 acre per year (5% of 244 total acres) would reduce the average amount of smoke. Prescribed

burning on State, County, tribal, and private ownerships is not known but is not believed to have been much in the past in the CDRM area, except for the periodic burning of the Morph Meadow Wildlife Management Area.

In the CDRM area, there has been no known permanent road construction on other ownerships or NFS lands in the last 10 years, only road use and maintenance on all ownerships. Thus past impacts to the air from dust have been minimal and are similar to what is described earlier in this EA. Over the last 14 years there has been about 615 acres of mechanical site preparation (about 44 acres per year) in the CDRM EA area. There has been dust from ATV/OHV use in the past at about the current level. Alternative A would continue the same effects. Alternative C would add minor amounts of temporary road construction and road decommissioning. It would increase the average mechanical site preparation with about 94 acres per year (943/10 years).

Present Impacts:
There is no known road construction in the CDRM area on any ownership other than the reconstruction of part of County Road 22. There is no known burning. Thus, there is no change in dust or in smoke from the past. Projects being completed under the Rambling Woods and Northwoods EAs would be a continuation of past impacts from timber sale roads and fuel reduction and similar to those in CDRM EA, so similar effects would continue.

Future Impacts:
The only known planned burn on other ownerships is the periodic burning of Morph Meadows by the State (a marsh burn), plus it is probable that less than an average of 100 acres per year would be burned elsewhere based on past experience.

There are no known future road construction or decommissioning projects on NFS lands or on other ownerships of land in the CDRM area other than the reconstruction of County Road 39 in the next 5 years; thus most of the future impacts would come from this project as discussed earlier. Dust from harvesting and site preparation is expected to remain relatively constant in future projects. The amount of ATV/OHV use and dust from it is expected to remain relatively constant whether the new ATV trail is added and other OHV Use Map changes are made or not.

3.9 - ENVIRONMENTAL JUSTICE

Within the CDRM area portion of Beltrami and Itasca Counties over the last 15 years and the next 10 years there would be projects that could affect different groups differently. Under Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) (PR# 29) and Chippewa National Forest policy (PR# 47a and 129), when populations of low-income persons (below poverty level) or minorities of the county are greater than twice the state percentage for low-income or minority populations or there is expected to be a disparate effects on such populations, an environmental justice assessment must be conducted.

3.9.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

None of the issues in Section 1.6 dealt with environmental justice but it is a resource that needs to be considered.

Topic of Concern: Are there disproportionately high and adverse human health or environmental effects of USDA programs and activities on minority and low-income populations?

Aspects of the project related to environmental justice include the opportunity to comment on the EA and analysis and have input to it, employment in timber harvesting, contracting reforestation and TSI treatments, access for recreation, access for gathering traditional forest products, lake access, opportunities for gathering of traditional products in the treated stands (either those being removed or those increased by the treatments), increases in or loss of traditional products due to the treatments, and other minor effects from other projects. Traditional uses and gathering would be dealt with in Section 3.3. The CDRM area is split in half between Beltrami and Itasca

Counties. Demographic information indicates that an analysis under EO # 12898 is relevant for Beltrami County under Chippewa NF policy but not for Itasca County (PR# 129) (PR# 44, 45, and 46)

3.9.4 – EFFECTS
3.9.4.1 – DIRECT AND INDIRECT EFFECTS
3.9.4.1.1 – ALTERNATIVE A (NO ACTION)
No treatments are being done, so there are no new effects and no disproportionately high effects on any one group.

3.9.4.1.2 – ALTERNATIVE C
Although there are more treatments proposed in Alternative C than in Alternative A, the proposed activities treat all groups and people fairly and equally under the provisions of the Forest Plan. There are no disparate risks or effects for any given group of people.

3.9.4.2 – CUMULATIVE EFFECTS
Within the last 15 years there have been no known projects on public or private lands that have had disproportionately high negative effects on minorities or low-income groups of people in the CDRM area; there are none presently, and it is not anticipated that there would be any in the future. All projects on NFS lands have been in line with the Forest Plan that was determined to be in line with Environmental Justice requirements.

3.10 - TRANSPORTATION SYSTEM

Within the CDRM EA boundary over the last 5 and next 5 years there are road projects that need to be analyzed. (See Appendix G for a summary of the recommendations for decommissioning, deleting, and adding roads from the roads analysis.) (PR# 285) All road information comes from the GIS database - "cdrm_roads_120808.xls."

The main Forest Plan desired condition in the Continental Divide project area is to "D-TS-2 -- The National Forest road system is the minimum needed to provide adequate access to both NFS and non-NFS land. (FP Page 2-47)"

3.10.3. - EXISTING CONDITION and DIRECT/INDIRECT EFFECTS
The Roads Analysis (PR# 285) and Appendix G give a great deal of details and information about the road system in the CDRM area (particularly Tables 2.2a to 2.2h). Table 2.2h is copied in Section 3.10.4.1.2 "Effects in Alternative C." There are one key issue and 4 non-key issues that deal with aspects of the transportation system.

Issue 1. Pimushe Trail (FR 2514):
Closing one half mile of FR 2514 to vehicles over 1,500 pounds would prevent local residents from using the Forest.
Conversely, closing one half mile of FR 2514 to vehicles over 1,500 pounds would protect local residents' property and would prevent resource damage to the Forest.
Indicators
Ability to access the Forest from various points near FR 2514 that is being closed.
Amount of resource damage prevented by closing this portion of FR 2514.

Non-key Issue A. Non-native Invasive Species:
Management to prevent earthworm invasions of stands.
Indicators
Design features to minimize the spread of earthworms.

Non-key Issue B. Transportation System:
Closing or decommissioning roads prevents access to parts of the Forest for the public.

Indicators

Miles of road closed that are currently used by the public.

Non-key Issue C. Water Quality:

Need to protect water quality near wild rice lakes.

Indicators

Acres of ground disturbing activities potentially affecting wild rice lakes.

Non-key Issue D. OHV Travel:

There are still problems with the OHV map designations of use (which roads are open or closed to OHV travel.

Indicators

Changes to OHV Use Map that could affect the public.

CDRM_RA area is a very heavily roaded area with at least 2.62 miles of total roads per square mile on total terrestrial land (at least 359.9 miles on the 88,027 acres of total land (137.5 square miles) (out of 93,481 acres of land/water dropping 5,454 acres of lakes 10 acres and larger)), with well over half of these being non-Forest Service roads (private, State, and County, but no Tribal Roads). This analysis would only mention total roads on total land, since this is what is used for wildlife analyses. This is based on the GIS map and database, which does not include all of the private road mileages. This high density is because of access needs to the many ownerships of land, past timber activities, and moderate recreational use. The road density is fairly uniform over the entire area. Roads in the CDRM area are used for a multitude of uses including recreation, gathering of traditional forest products, timber management, and property access.

U.S. Highway 71 and County Roads 20 and 39 are the major, paved roads in the CDRM area that connect towns. There are several other paved or heavily-used gravel roads in the area (e.g. FR 2201, 2206, 2207, 2208, and County Roads 22, 55, 300, and 328) that connect large parts of the District. Then there are a multitude of smaller gravel and native surface roads that branch out to within about 1/2 mile of all NFS lands (and other ownerships). Tables 3.10.3.a to 3.10.3.g in the Specialist Report (PR# 330) give many facts about the 359.9 miles of roads in the GIS database concerning surface, administration, damage, closure, use, functional class, and maintenance level.

This is an area with "heavy" soils and abundant wetlands, so many of the roads are easily rutted or compacted and many are not drivable except when frozen or very dry.

Alternative A proposed no treatments beyond routine maintenance and the on-going reconstruction of Co. 22 and Co.39.

Alternative C proposes in Table 3.10.4.1.2.a that we maintain as they are 337.9 miles of roads, decommission 8.7 miles, delete from the system 2.3 miles that barely exist, close roads west of Pimushe Lake with gates (2.5 miles), add 7.6 miles of road to the system, change two roads to "entries", 0.4 miles of "roads" should be added to the OHV trail system, and leave 1.2 miles of short segments as "entries". The roads to other ownerships should be under special use permit eventually. Decommissioning can be by natural closure over time (on unclassified roads) or by active management where resource damage is occurring.

Alternative C also includes the replacement of the Swamp Creek Bridge with a new bridge. This is discussed in Section 3.4 Water Quality.

Map 3.10.3.a -- All roads in Continental Divide Area (Same as Map G-1 in Appendix G)

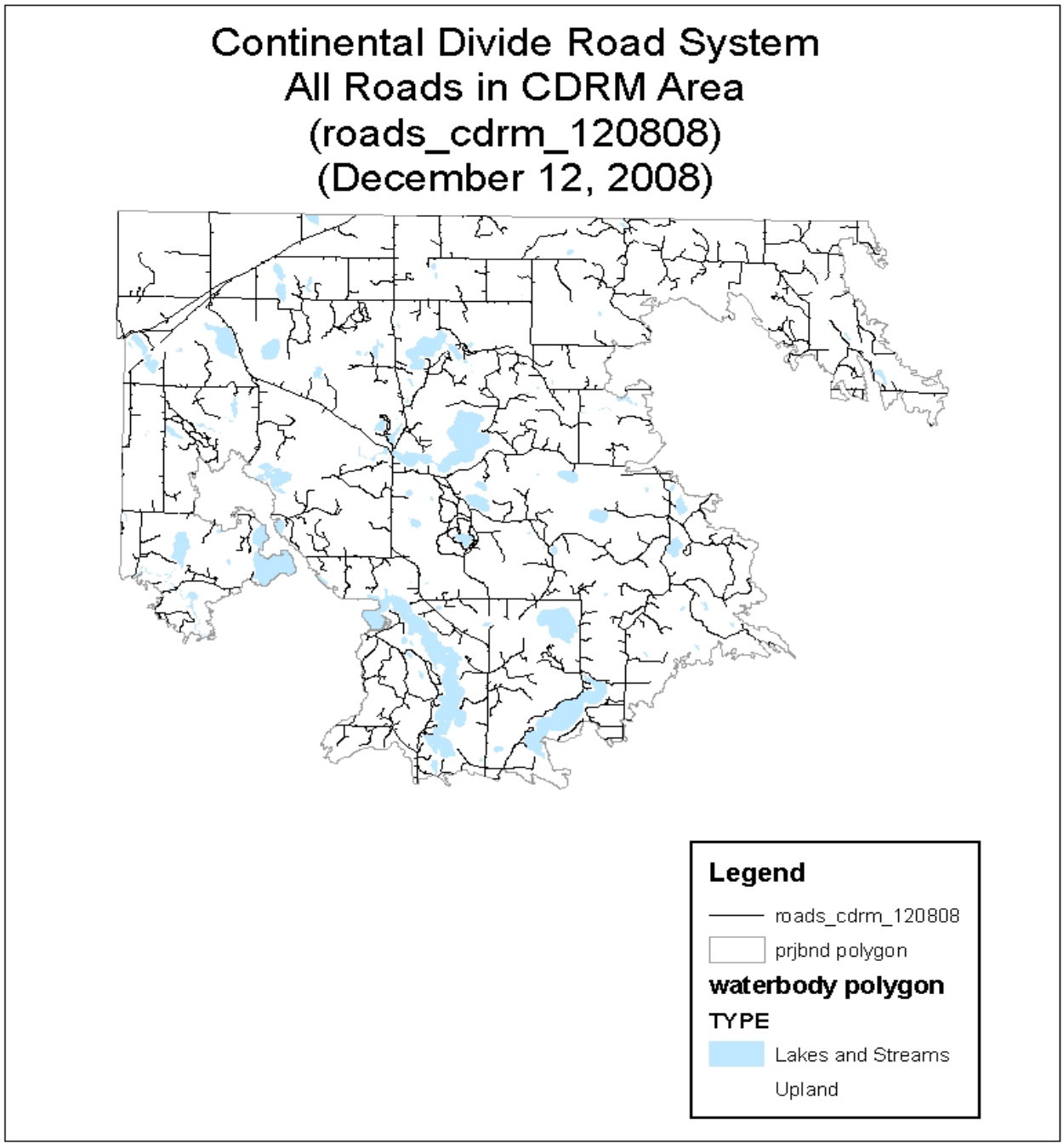


Table 3.10.4.1.2.a (Table 2.2h from Roads Analysis) - Recommendation for Existing Roads in CDRM area

Recommendation from *	Miles of Road	% of the roads	Miles of System Road	% of the System Roads	Miles of Non-system Road
Maintain (FS) existing roads (m)	256.4	71.3	256.4	81.1	0
Maintain Other Owner (m_pvt)	81.5	22.7	52.8	16.7	28.7
Maintain but gated or closed (gated_m, m_closed)	2.5	0.7	2.5	0.8	0
Decommission existing roads (decom, decom_transfer, decom_on_nfs, decom_temp))	8.7	2.4	3.0	0.9	5.7
Delete or already "decommed"	2.3	0.6	1.2	0.4	1.2
Add existing road to "trail_system" (add_trail)	0.4	0.1	0	0.0	0.4
Add existing road to "system" (add)	5.8	1.6	0	0.0	5.8
Add due to Other Owners (add_pvt)	1.8	0.5	0	0.0	1.8
Change to "Entry" not on system (entry)	0.4	0.1	0.2	0.1	0.1
Total	359.8	100.0	316.1	100.0	43.7
Temporary Roads - Build and Decommission (13 road)	3.3	0		0	
Entries on NFS (not to be put on Road System)	0.7	0		0	
Entries on private (not to be put on Road System)	0.5	0		0	
Driveways on private (not to be put on Road System)	11.2	0		0	
Hiking or Biking or Snowmobile Trails (m_trail)	6.7	0		0	
Private roads to be recognized in some analyses (private, m_pvt (atv))	1.1	0		0	
Decom or Delete "non-roads", e.g. ATV trails	0.3	0		0	
Total Non_roads	23.8				

* Source: (cdrm_roads_120808.xls)

Resources where the current conditions do not meet desired conditions follow.

Recreation

FR 2206K leads to a user developed carry-in access to Little Moose Lake. It has very deep mud holes and ruts that have resulted in the road being moved at least twice. Only 4x4 vehicles can presently drive on it. Alternative A leaves it in this relatively unusable condition with compaction and sedimentation into the lake. Alternative C fixes the road so all vehicles can drive it, there is not rutting or compaction, and sedimentation into the lake from it is eliminated.

The road to Nelson Lake carry-in canoe landing is channelized into the hill, leading to erosion and sedimentation. Vehicles drive part-way down the hill to park and access the landing. Alternative A leaves these condition in

place. Alternative C encourages parking in a large lot at the top of the hill and makes side drains so water flowing down the hill exits the road periodically before it can cause much erosion.

LLBO, Traditional Gathering
Native Americans rely on roads for gathering of traditional resources and for access to other areas of cultural or spiritual importance. The present road system appears to be adequate for gathering purposes. Gatherers (Leech Lake Band of Ojibwe in particular) want all roads left open, but have not mentioned the need for new roads in the CDRM area. The section on Road Closures discusses this further. Alternative A leaves all current roads in their current condition for gathering, even though many of them are blocked or not drivable now. Alternative C closes or eliminates 11.0 miles of roads, only about 2.9 miles of which were very drivable now. This would result in minimal changes to gathering access.

Road Closures (Non-key Issue B)
The majority of the roads are "open" to public vehicle use (at least 251.7 miles). There are 108.3 miles of closed roads. About 18% of the roads (about 64.3 miles) are closed with gates. Other obstructions (e.g. berms, slash/logs, brush, trees, boulders, signs, posts, logs, etc.) close at least another 44.0 miles (12%) to driving. Thus 70% of the roads are open to driving, which is a large part of the area. Natural resource theft, trespass, garbage dumping, and vandalism are somewhat related to the amount of roads available for access. Generally speaking, more roads equates to more problems.

Roads are decommissioned (obliterated) in locations where the roadbed would not be needed for at least 20 to 30 years or more. The roads that would be gone fall under the following categories:

They were previously bermed and ATV/OHVs have bypassed the berms.
They have no evidence of use by vehicles now (and often no noticeable foot travel either).
They are less than ¼ mile from much better roads.
They are less than 1/10 mile long.
They are user developed so should not exist.
They are behind gates that are closed all year, so not accessible.
They are spurs off of private land that have no other use to us.

Past experience has shown that there may need to be more effective road closure and obliteration on long roads or roads with established use patterns. Four recent, informal studies dealing with road closure effectiveness showed 51 to 70% effectiveness (with the small study showing 98% effectiveness). It shows that not all closures are effective and that we can do better.

In addition to permanent decommissioning, there are proposals in the CDRM EA for gating ½ mile of FR 2514 to vehicles larger than 1,500 pounds and berming 2.1 miles of FR 2514 and spurs and FR 2215 and spurs. These are being done for resource protection and management area management.

Alternative A leaves all roads in their current condition with no closures or additions and FR 2215, 2514, and spurs are not gated or blocked. This allows rutting to continue of these specific roads. Alternative C decommissions or eliminates 11.0 miles of roads and adds 7.6 miles of existing roads to the "system". In reality this makes little difference since most of the eliminated roads were not usable or drivable now and the added roads already exist on the ground. Gating a half mile of FR 2514 to allow only OHVs less than 1,500 pounds would reduce future rutting of the road but also make a longer trip to get from private land on one end of the road to lands on the other end (about 3.5 miles vs. ½ mile), although the amount of time it takes would be roughly the same due to road quality. Berming the northern 2.1 miles of FR 2514 and spurs would remove this land from availability for OHVs and highway vehicles, although officially this area is off-limits now based on the Forest Plan designation as a Candidate Research Natural Area (semi-primitive non-motorized area). FR 2215 and its spurs would be gated to protect a soft, rutted road from both OHVs and highway vehicles.

Solitude, Sense of Place
There is almost no location more than ½ mile from a road (either system or unclassified), so solitude and primitive recreation opportunities are minor. This would not change substantially under either alternative.

Non-native Invasive Species (Non-key Issue A)
Roads are the vector for spreading many non-native invasive species, including earthworms. (See Section 3.15 NNIS for more discussion.) Nothing done with the roads under either alternative would change this much. The 3.3 miles of temporary road construction would not affect the spread of NNIS if they are revegetated rapidly after work is completed.

Road Construction and Reconstruction
County Road 39 would be widened and repaved in about 2009 to 2012 and County Road 22 should be widened and paved between 2008 and 2010. This is not affected by either alternative.

Road Density and TES Species
See the wildlife section (3.2) for a discussion of lynx and wolf density needs.

During the last 5 years, there have been no known newly constructed permanent roads on NFS lands, only temporary roads associated with sales. (PR# 1290a)

The decommissioning and addition of roads would have little effect on the system with Alternative C reducing density to about 2.53 miles per square mile from the 2.62 in Alternative A. About 1.2 miles of roads are barely entrances to the forest (26 entries, 0.7 miles) or State lands (21 entries, 0.5 miles) off main roads and would be kept as such under either alternative, but not on the transportation system. They make good parking spots for dispersed recreation users and are good locations for accessing the forest for future timber sales.

Wetlands
Wetlands are very common in the area, being almost 1/3 of the area (31,572 acres). There are about 24.9 miles of roads crossing wetlands in the CDRM area, ranging from a few feet to one mile long, with most of them being about 200 feet long or less. At cursory glance, it does not appear that rutting or erosion on these roads is much worse than on the total road system. Several system roads and temporary roads cross wetlands in order to do timber harvesting. This is done by either constructing solid, stabilized roadbeds with drainage structures or by winter logging so the wetlands are frozen and rutting does not occur. Alternative A leaves these roads as they are with no temporary roads in wetlands. Alternative C decommissions about 16 (1.0 miles) of roads from wetlands, adds about 5 segments (0.9 miles) of wetland roads to the system, and may do minor amounts of temporary roads through wetlands, which would subsequently be obliterated. Thus our effects on wetlands due to the treatments are minimal.

The road prism from the Gull River crossing by FR 3400 is still in place even though the bridge was removed years ago. OHVs still use this as a crossing, causing sedimentation from the banks. Under Alternative A this crossing would remain as a sediment source. Under Alternative C this wetland mitigation project would remove the road prism from the wetland, restoring about 1 acre of wetland conditions and blocking the use by OHVs reducing the amount of sediment in the river.

Stream Crossings
About 10 of the 62 stream crossings in the CDRM area have erosion or fish crossing problems noted in the GIS database. Neither alternative would affect these since none of these are proposed for reconstruction in this EA, however much of the needed corrective action could be considered road maintenance with culvert replacement or repositioning.

By not replacing the bridge in Alternative A, there would continue to be a narrow, old, deteriorating bridge that is barely adequate for the timber and recreation traffic that uses this portion of this road. There would be no disruption of traffic since no construction would be done. Most of the effects of this project are discussed in Section 3.4 Water Quality.

Under Alternative C the Swamp Creek Bridge would be replaced with a wider, stronger, and safer new bridge. This would make use for timber management and recreation easier and safer. There would be a detour of all traffic for about a month while the bridge construction is occurring. This would be a 9 mile detour from one end of the bridge to the other. Most of the effects of this project are discussed in Section 3.4 Water Quality.

Erosion, Compaction (Non-key Issue C)
Only about half of the roads in the Continental Divide Resource Management Area are capable of being driven year-round. The other half are on softer ground and are easily rutted. Roads totaling only about 126.6 miles are known to have problems with rutting and erosion in small localized locations. Most of these are very spotty or very minor, but quite a few roads have ruts 8-12" deep and large, soft mud holes. Due to the abundance of ground cover (dead and live vegetation) and the rapid natural revegetation of exposed mineral soil; rutting and erosion cause little or no sedimentation problem. A few Forest Service roads are contributing sediment directly to a stream, lake, or wetland, but this is primarily at a very few stream crossings. Neither alternative would affect these since none of these are proposed for reconstruction in this EA, however much of the needed corrective action could be considered road maintenance or would be corrected by normal road grading.

Sedimentation is the only potential concern for the wild rice lakes in the CDRM EA area. This could come from projects directly adjacent to the lakes or from those by streams feeding these lakes. Neither alternative would affect these since Alternative A has no sediment producing projects and BMPs under Alternative C would prevent sedimentation into these streams or lakes.

Temporary Roads
Where existing roads do not access lands, temporary roads can be used for management activities. With the high road density in this area, this need is not too common. Alternative A would have no temporary roads. Alternative C would have about 13 temporary roads (about 3.3 miles) leading to harvest units, plus, one existing road would be used as a temporary road before being decommissioned (Road U1103). With proper design features and BMPs these roads would be constructed and obliterated, leaving little impact.

ATV, OHV (Non-key Issue A)
ATV use is fairly common in the CDRM area with at least some use seen on 112.3 miles (31.2% of the roads). Use could not be seen or inferred on gravel or paved roads, so actual total use is probably much higher. Unfortunately, about 35.3 miles (9.8% of total roads) of this known use is on roads that have berms, gates, or signs and were not supposed to be driven on. OHV use is acceptable on the Forest but must be in the correct locations and under controlled conditions. The Forest's OHV Plan was completed and the decision signed in November of 2007. It designates roads where OHVs can be used and others where such use is not allowed based on "closed unless posted open."

The Webster Lake area has a lot of interconnected roads where OHVs are allowed, but no good, large parking area for cars and trailers.

The Decision Notice for the OHV Use Map did leave some questions unanswered on particular roads labeled "delay" or "defer". In addition there are some roads that had decisions made in 2007, but which need revision due to subsequent field-checking. In this EA we are proposing recommendations on these roads, plus recommendations of a few other "atv roads" seen during the road inventory. Table G.19 in Appendix G lists a summary of the recommendations. The full list of roads is in the Specialist Report (PR# 330).

Alternative A would leave the OHV system as it is, would not add the OHV trail between Benjamin and Rabideau Lakes, would not add a developed OHV trailhead near Webster Lake, and would not close OHV trails that are a problem.

Alternative C would add 0.45 miles of "roads" (2 segments - 3401_to_lake and atv_benj) to allow the legal travel of OHVs from Benjamin Lake parking area to Rabideau Lake. It would decommission 0.35 miles of non-road (4 segments called "atv", plus "atv_g") where it is not desirable. It would reduce the amount of road available for OHV use on the OHV Use Map by 15.3 miles, where these roads do not provide good driving.

The gating of ½ mile of FR 2514 to allow only vehicles only under 1,500 pounds would protect the soil and water resources from rutting, compaction, and sedimentation. Alternative C develops an OHV trailhead with signage and parking in an existing opening several miles north of Webster Lake, making the use of this system of roads more convenient for OHVs.

Timber Management
The forest road system has a very minor affect on the amount of timber offered. However, fewer roads means longer skidding or forwarding distances thus increasing logging costs.

Garbage Dumping
There is a minor amount of garbage dumping along some of the woods roads near Blackduck. Neither alternative would affect roads where this is a known problem.

3.10.4.2 – CUMULATIVE EFFECTS
Past Impacts:
Within the last 5 years there has been no construction or reconstruction of roads in the CDRM area other than temporary roads for the timber sales coming out of the past EAs. There has been no known road construction on other ownerships except temporary roads for sales. Past impacts have led to the current road density. Alternative A maintains the transportation system as it is. Alternative C adds decommissioning to this trend.

Present Impacts:
There have been no known changes to the transportation system on NFS lands or on other ownerships during the last year. There is some ongoing decommissioning of roads under the Rambling Woods and Northwoods EAs, however it was looked at again in the CDRM EA and would only be done if we re-proposed it in this EA.

Future Impacts:
There are no known future changes to the transportation system within the CDRM area in the next 5 years on federal or non-federal lands other than those in this project and the proposed reconstruction of the Scenic Highway. However it is probable that there would be a few additional private roads to land and houses as more land is developed in the area. There would be a very small amount of logging on State, County, and Leech Lake lands, with access roads that could be permanent or temporary and of unknown lengths.

3.11 - ECONOMICS
The Forest Plan covers broad economic issues and effects. This EA covers the Timber Sale/Reforestation part of this project for the projects within the CDRM area that come out of this analysis over the next 10 to 25 years. The economic analysis aslow covered all the other projects in the CDRM EA area, but they were more "disclosure" rather than analysis since there were usually not alternatives other than "no action." They are not included in the following discussion because they do not help the decision maker in his decision. More details on other aspects of

the projects are found in the Specialist Report (PR# 330), the Economic Analysis Narrative and Spreadsheet (PR# 280 and 281), and the QuickSilver reports (PR# 282)

3.11.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

None of the issues specifically addressed economics, but it is a resource that needs to be discussed under NEPA.

The program incorporates the projected revenue from stumpage as well as the cost associated with harvest preparation, administration of sales, site preparation, reforestation, and timber stand improvement. (PR# 282) The economic analysis should be used as a means of comparing the cost/benefits of the commercial timber harvest between alternatives, not as a total analysis of everything within the CDRM area.

3.11.4 – EFFECTS

3.11.4.1 – DIRECT AND INDIRECT EFFECTS

3.11.4.1.1 – ALTERNATIVE A (NO ACTION)

None of the dollar value costs or benefits associated with the action alternatives are found in the No Action Alternative, therefore there is no economic analysis for it.

3.11.4.1.2 – ALTERNATIVE C

According to Table 3.11.4.1.b Alternative C has a very low benefit/cost ratio (0.53) due to very high reforestation costs for all of the planting/seeding and low revenues with the recently fallen timber prices.

Table 3.11.4.1.b - Economic Factors - Costs of Sale and Reforestation through 2014/2034 (PR# 282)

	Alt. C
Volume of Timber Harvested (CCF)	24,183 CCF
Value of Timber Harvested *	$959,040
Cost of Sale-Associated Cruising, Administration, Temporary Roads, Reforestation, and TSI	$1,810,441
Present Net Value **	(-$851,402)***
Benefit/Cost	0.53

* Actual funds generated from the commercial timber harvest would depend on stumpage prices in the year of offer (likely FY 2010, 2011, and 2012). Values were calculated using the base selling price from July 2008.

** Present net value of a series of activities for selling timber and regenerating the stands over the next 5 to 25 years, depending on the type of activity.

*** See the second paragraph below. The value is likely not this negative.

Alternative C brings in almost $1 million from the various sales. If only the costs of preparing and administering the sales and building the temporary roads were considered, there would be just short of a $350,000 profit. However, subsequent planting/seeding is expensive ($140,000 site preparation and $150,000 reforestation) and the TSI is very expensive ($1.3 million) for over 707 acres of pine, spruces, tamarack, and cedar. This is actually cheaper than if it was all planting due to the reduction in animal damage control and pruning with seeding.

The above analysis is based on many economic assumptions. Quite often when the treatments are performed there are significant differences in timing and costs, however these same differences would be in all action alternatives so would not affect the relative differences between them for analysis purposes. This analysis was based on conservative estimates of timber revenues and generous estimates of costs and numbers of treatments to get the worst-case scenario for outcomes. Timber usually sells for more than the base rates and we can often get by with fewer releases and prunings, plus contracting costs can be quite a bit lower due to good competition. Thus the deficit is not likely to be as large as shown above.

3.11.4.2 – CUMULATIVE EFFECTS

Cumulative effects for economics are best analyzed at the Forest Plan level and only deal with activities on NFS lands. The Economic Analysis from the revision process for the 2004 Forest Plan is found in the EIS Volume I pages 3.9-1 to 3.9-23 and Volume II, Appendix B, pages B-8 to B-11 (PR# 72a). It is incorporated by reference into this document. The Specialist Report (PR# 330) goes into much more detail for the Forest Plan economic analysis. Since it does not have much, if any, effect on the decision for this project, it is not included here.

The CDRM area is a small portion of the Chippewa National Forest and an even smaller portion of the area that is affected economically by activities within the Forest. The CDRM project would be providing timber outputs for about 3 to 5 years and contracting opportunities for about 15 to 25 years, with most of the benefits or costs found within very small portions of these timeframes. It is only one of about six projects that are active at any given time on the Blackduck District, so it is a very small contributor to the economic health of the economically affected area. Thus the cumulative effects of this project are small. However in total with the stream of projects coming from the Forest, it is important. What is done in the CDRM area by this project has little or no effect on what would be done on other ownerships in the same general area.

3.12 - VISUAL RESOURCES

This is a summary of the specialist report. More information, more analysis, and the details behind these conclusions are found in the project record in the Specialist Report (PR# 330)

3.12.1. - SCOPE OF THE ANALYSIS

Vegetation treatment effects would be analyzed within CDRM Area on NFS lands where stands are visible from a road, trail, or lake with High or Moderate Scenic Integrity Objective for the life of the most visually disruptive portions of the projects (e.g. harvesting and reforestation).

3.12.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

The only issue for visual conditions was a non-key issue in Section 1.6:

Vegetation Management and Visual Conditions:
Concerns over visual quality and clearcutting.

Indicators:
Number of treatments visible from High or Moderate SIO travel corridors or use areas.
Number of clearcuts and regeneration harvests visible from High or Moderate SIO travel corridors or use areas.
Number of treatments done within High or Moderate SIO travel corridors or use areas.
Whether or not the appropriate SIOs are met.

Given the relatively flat nature of the landscape within the management area and the dense forests, panoramic vistas in the project area are rare. However some opportunities for viewing large areas and distant areas exist at large bodies of water, private fields, clearcuts, and large wetlands.

The Scenic Integrity Objective (SIO) zones are looked at in two ways. There are ¼ mile wide zones along major travelways and major viewing areas, called STRIPS below. There are large areas on the landscape beyond these zones (including the STRIPS), called ZONES below. Only STRIPs are mentioned in this analysis.

The HIGH Scenic Integrity Objective (SIO) STRIP includes ¼ mile wide zones along the Scenic Highway, Highway 71, FR 2207 and 2236 that lead to Webster Lake Campground, Turtle River, and the shorelines of Gilstad, Rabideau, Webster, Benjamin, Pimushe, North Twin, Bass, Big Rice, and Moose Lakes. The HIGH SIO ZONE encompasses about 13.7% of the NFS lands (5,059 of 36,946 acres). This is about average for the Forest.

The MEDIUM Scenic Integrity Objective (SIO) STRIP includes ¼ mile wide zones along CR 20, CR 22, CR 32, FR 2208, FR 2207 from FR 2208 to FR 2236, and Anderson Lake and encompasses 4.2% of the NFS lands (1,535 of 36,946 acres).

Scenic Integrity Objectives (SIOs) were used and considered in the development and design of the proposed action and the subsequent alternatives. All proposed projects would be designed to meet the Forest Plan Standards and Guidelines (PR# 72) as listed in Section 3.12.2 above. (Based on GIS maps.)

Table 3.12.3 -- Comparison of Scenic Integrity Objectives on the CNF and the Lydick Area
(This is only in the Specialist Report (PR# 330).)

In all cases, only treatments that are visible from affected viewpoints (selected roads or lakes) or within the established STRIPS along these viewpoints would be included in the analysis and tables. Stands that are not visible from an affected viewpoint or close to it are not considered to have an effect on the SIO for the normal visitor because they would have to travel cross-country or on low quality roads to see them.

3.12.4 – EFFECTS
3.12.4.1 – DIRECT AND INDIRECT EFFECTS
3.12.4.1.1 – ALTERNATIVE A (NO ACTION)
No harvesting, reforestation, mechanical site preparation, TSI, road decommissioning, or other ground or vegetation disturbing projects are being proposed so there are no impacts to the visual resources from planned activities. Over the next 50 years there would be slow changes in the species composition of many stands as early successional species are replaced by later successional species, e.g. aspen replaced by northern hardwoods. All SIOs would be met for the first 10 years at least.

3.12.4.1.2 – ALTERNATIVE C
The Scenic Integrity Objectives (SIOs) would be met in all of the affected stands, although the activities would be visible. This would be by a combination of boundary design, reserve trees, and specially designed treatments.

Tables in the Specialist Report show the number of stands that are being treated in the HIGH and MEDIUM SIO STRIPS and how much of the treatment is visible from the affected viewpoint. Only key points are mentioned here.

In the HIGH STRIP only the 58 acres of clearcutting, 23 acres of shelterwood cutting, 136 acres of scarification, decommissioning 2 roads, and replacement of Swamp Creek Bridge would be highly visible. One year after the treatments, only the clearcutting and shelterwood cutting would still be apparent, due to the lack of trees. All of the other treatments would have revegetated and blended into the surrounding landscape again. With careful design the clearcutting and shelterwood cutting can be made less noticeable and meet the desired SIO, but would be visible unless totally buffered from the travelway.

In the MEDIUM STRIP only the 11 acres of clearcutting, 18 acres of shelterwood cutting, 16 acres of seed tree cutting, 103 acres of scarification, and decommissioning 2 roads would be highly visible. One year after the treatments, only the clearcutting, shelterwood cutting, and seed tree cutting would still be apparent, due to the lack of trees. All of the other treatments would have revegetated and blended into the surrounding landscape again. With careful design the clearcutting, shelterwood cutting, and seed tree cutting can be made less noticeable and meet the desired SIO, but would be visible unless totally buffered from the travelway.

There are several other similar highly visible treatments along lesser-used gravel roads (MEDIUM SIO ZONE or LOW SIO ZONE). These have to meet less restrictive scenic integrity objectives, which would also be met by proper design.

Over the next 50 years with the same type and level of harvesting, there would be increasing amounts of tree and other vegetation diversity as Forest Plan objectives for stand/tree sizes and age compositions are approached.

3.12.4.2 – CUMULATIVE EFFECTS

Spatial framework and Timeframe:
(Same as for Direct and Indirect Effects.) Plus treatments on other ownerships would be looked at.

Past Impacts:
Within the last 5 years the Rambling Woods EA (none from the Northwoods EA) proposed highly visible treatments in the HIGH SIO STRIP that have been completed including 25 acres of clearcutting, scarification, and TSI along the Scenic Highway and 24 acres of shelterwood cutting along FR 2236 (none in the MEDIUM SIO STRIP). This is much less than the amount proposed in the Continental Divide EA. These treatments met the established SIOs, but are visible due to the recent work.

Present Impacts:
Highly visible treatments from Rambling Woods EA in the HIGH SIO STRIP that have not yet been completed but are in active timber sales include 60 acres of clearcutting and 14 acres of scarification and TSI along the Scenic Highway. In the MEDIUM SIO STRIP there is still 25 acres of active clearcutting to be completed. Plus there is one visible clearcut on State land along the Scenic Highway. These are all designed to meet their established SIOs.

Future Impacts:
There would probably be some cutting on other ownerships along these roads or lakes in the next 5 years. It is expected that trends in management/harvesting on other ownerships would continue as in the past. They do not have to meet the same visual quality management restrictions as we do, but the results are usually visually acceptable, based on past experience.

Over the next 50 years, there would be increasing amounts of diversity on National Forest system lands as Forest Plan objectives for stand/tree sizes and age compositions are approached. Large, long-lived conifers would increase in density and size.

3.13 - CULTURAL RESOURCES

Cultural resources are looked at inside treated areas during the time of treatment and for a few years afterward..

3.13.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT

Issue: None of the issues specifically addressed cultural resources but it is a resource that needs to be considered.

The general area contains numerous cultural resource sites resulting from human settlement and other activities over the last 10,000 years. The Continental Divide study area has only a small area inside of the exterior boundaries of the Leech Lake Reservation. Lands and resources both within and outside the Leech Lake Reservation boundary are very important to Indian people for subsistence gathering, for the collection of plants for medicines, for spiritual and ceremonial purposes, and, in general, for living and being Indian. There are known cultural resource sites in the Continental Divide RM area. All stands proposed for treatment have received surveys to identify cultural resource sites or would have surveys before treatments are done. If sites are found, the stands would either be dropped from treatment or the site areas would be avoided by treatments.

3.13.4 – EFFECTS
3.13.4.1 – DIRECT AND INDIRECT EFFECTS
3.13.4.1.1 – ALTERNATIVE A (NO ACTION)
Under the no action alternative, no ground disturbing activities would occur so there are no new effects to cultural resources eligible for listing on the National Register of Historic Places.

3.13.4.1.2 – ALTERNATIVE C
All known cultural resource sites would be "protected by avoidance" from proposed timber harvesting and other ground-disturbing activities. There would be no new effects on archeological sites that may be eligible for listing on the National Register of Historic Places. An indirect effect to archeological sites may be increased site visibility and access, which may increase unauthorized artifact collecting and vandalism. This would have a very minor impact on the treated acres and essentially no impact on the effects analysis. It would result in the loss of about 61 acres of harvested (or otherwise treated) stands in pieces of 48 stands that would need to be deleted from the units. If any sites are found during treatments, the work would stop and the site would be subsequently avoided. Any new sites found during project implementation would be recorded and protected in consultation with SHPO and THPO, as appropriate.

Heritage surveys for the Swamp Creek Bridge replacement were covered by SHPO in 2003 who stated that the "Bridge structures themselves are determined as not eligible to the National Register. SHPO letter states that there is no concern regarding affects to archaeological sites if work is confined to previously disturbed areas. THPO did not respond to general scoping" (PR# 71d).

3.13.4.2 – CUMULATIVE EFFECTS
For 20 years we have surveyed and avoided cultural sites and would continue to so do, thereby avoiding impacts to such sites. There is no cumulative overlap with other ownerships.

3.14 - SOIL
3.14.1 – SCOPE OF ANALYSIS
Soils effects are examined for soil erosion, soil compaction, rutting, prescribed fire effects, and nutrient loss, all of which are reasonably confined to the soil directly beneath where the disturbance factors are taking place and most of which are evident for only about 5 years.

3.14.3 – EXISTING CONDITION and DIRECT/INDIRECT EFFECTS
Issues
The effect of the Continental Divide Resource Project on the soil is not a key issue. However, soil erosion, compaction and rutting, nutrients in sandy soils, miles of roads and fire intensity are soil resource issues important to examine.

There are three soil types that are a concern in this analysis area:

1. **Soils with a high water table** – very poorly drained to somewhat poorly drained soils. These soils are more susceptible to compaction and rutting since they remain wet most or all of the time. There are 906 acres in the CDRM EA. area that have wet soil types. The degree and extent of soil compaction depends on the harvesting system used, site conditions during operation, and soil texture. If the soil does become compacted there are varying reports about how long it would take for the effects of compaction to recover to pre-harvest levels (Jaakko Poyry, 1992) (PR# 27). Recovery periods varied from a few years to several decades. In general, the rate of recovery was proportional to the degree of compaction. Limiting operation of heavy equipment used in harvesting to dry or frozen soil conditions is a mitigation measure used to keep

compaction within acceptable limits. Preventing compaction also applies to using heavy equipment during site preparation or mechanical brush piling.

Alternative A would have no effects on these soils. Alternative C through the use of BMPs and design features treatments on the 906 acres of wetter soils would have no substantial compaction effects.

2. **Steep slopes** – The concern is the potential for soil erosion if the mineral soil is exposed. This can be mitigated by avoiding these slopes with heavy equipment or by avoiding a continuous downhill path for water to channel. If that cannot be avoided, water bars and slash should be applied to the trail to reduce the potential for soil erosion. There are 290 acres of soil types with steep slopes in harvest units having a greater potential for soil erosion to occur. The steep slopes by Nelson Lake road and Little Moose Lake carry-in boat access also have erosion problems. Roads on steep slopes have erosion potential to be considered when decommissioning.

   Alternative A would have no effects on these soils, although it leaves the erosion potential by the two lakes. Alternative C through the use of BMPs and design features treatments on the 290 steep acres would have no substantial erosion effects. It would correct the erosion problems by Nelson Lake with new drainage features and Little Moose Lake with hardening of the landing site. Decommissioning roads would have little soil effect, since these roads are not being actively used much and do not appear to be steep with erosion potential.

3. **Low nutrient soils** – These are excessively well-drained deep sands that are lower in nutrients compared to other soil types on the Forest. Leaving slash at the site (see G WS-10, Forest Plan, 2004) (PR# 72), which contains nutrients, would mitigate this effect. There are 292 acres in the CDRM EA area having low-nutrient soil types. According to the Generic EIS on Timber Harvesting and Forest Management in Minnesota (Jaakko Poyry, 1992) (PR# 27) pines are more efficient in utilizing nutrients and should be planted or regenerated on low-nutrient soils. In Alternative C conifers are being regenerated in 2 of the 3 clearcut stands that have low-nutrient soils. There are 8 acres being regenerated back to aspen.

   Alternative A would have no effects on these soils. Alternative C through the use of BMPs and design features treatments on the 292 acres of low-nutrient soils would have no substantial loss of productivity. Most of the stands with predominant soil types that have low-nutrient soils maintained the conifer type so the tree types utilizing the lower nutrient levels are on the proper site. Stands that are not being regenerated to conifers were regenerated to aspen due to the concern over the cost of conversion to pine or difficulty in accessing the stands for heavy equipment in the non-frozen times of the year. The amount of acres of low-nutrient sandy soils is 292 for Alternative C (see Table 3.14.3.a). Furthermore, there is one (1) stand having 8 acres of low-nutrient soil that is being clearcut and allowed to regenerate back to aspen in Alternative C. Stands planned for site preparation or fuel reduction should leave as much slash as possible.

Prescribed Fire:

Slash that has been piled and burned would severely burn the soil under the piles, but the area to be burned is usually only a small portion of a treated stand. (See Section 3.15 on Noxious Weeds also.)

Alternative A has no pile burning so no effects. Alternative C has pile burning so the soil beneath the burned piles would be severely burned, but the combined area is small (total stand area is less than 244 acres and burned area is less than 5% of the stand area with piling of the slash (<12 acres)), so the effects would be non-existent on most of the <244 of treated stands and minor on the 5% where piles are located.

Roads:
Temporary and permanent roads take land out of vegetation productivity. After logging is completed, the temporary roads would be decommissioned and returned to productivity, while permanent roads would not. Soil erosion is also a concern on newly constructed roads.

The roads west of Pimushe Lake appear to commonly be quite soft and are easily compacted. In particular FR 2514 (Pimushe Trail) has deep ruts and a lot of bare soil for much of its length. It was virtually impassible during the field inventory with 8 to 12 inch deep ruts and a very narrow drivable surface due to the ditches and brush on the sides.

Alternative A has no temporary roads and most of the roads proposed for decommissioning/deleting under Alternative C are naturally closing and revegetating now, so no new land taken out of productivity and some returning naturally. The roads west of Pimushe Lake, particularly FR 2514 (Pimushe Trail) remain open to ATVs and highway vehicles allowing a continuation of the rutting and compaction that exists now. Bare soil is common on it.

Alternative C has 3.3 miles of temporary roads taking land out of productivity for 1 to 2 years before being revegetated. It also decommissions 8.7 miles of road, however this would have little soil effect, since these roads are not being actively used much and do not appear to be steep with erosion potential.

The roads west of Pimushe Lake, particularly FR 2514 (Pimushe Trail) are closed to various types of vehicles so rutting and compaction do not become worse and begin to heal. The southern half mile on NFS land is gated to remain open only to ATVs under 1,500 pounds, which do much less rutting than pickups. Bare soil is still common but the ruts do not become any deeper. Then northern end of FR 2514 and its spurs are closed to all vehicles (except under special use permit) so heal even faster, although bare soil remains common for several years.

3.14.4.2 – CUMULATIVE EFFECTS
Alternative A would have no cumulative effects related to soil compaction, rutting, erosion or nutrient removal because no harvesting or prescribed burning is planned within this alternative.

For Alternative C effects from past actions have been considered in the existing condition. There are no present or reasonably foreseeable future actions within 5 years on NFS lands or other ownerships that would occur within the cumulative effects analysis area that would affect soil productivity other than the ongoing harvesting that came out of the Rambling Woods and Northwoods EAs. The effects from these units are similar to those in the CDRM EA, but do not overlap spatially. While there are other timber sales and actions in the project area, they do not overlap the proposed treatment units in space or time; therefore their effects are not additive or cumulative.

3.15 - NON-NATIVE, INVASIVE SPECIES (NNIS)
We would look at treated areas within the CDRM area and treatments within ½ mile of known infestations on NFS lands for the last 10 years and the next 5. There is some overlap (but not total overlap) between the acres proposed for treatment in the Continental Divide EA and a Forest-wide EA being prepared for the control of NNIS. This EA is being prepared by the Supervisor's Office and is in the analysis phase in April, 2009.

3.15.3. - EXISTING CONDITION/AFFECTED ENVIRONMENT
None of the issues deal directly with NNIS or invasive species (although one non-key issue mentioned earthworms) but it is an area that should be considered when harvesting timber or treating roads because these plants can become a serious problem.

Non-key Issue -- Non-native Invasive Species:
Management to prevent earthworm invasions of stands.
Indicators
Design features to minimize the spread of earthworms.

Topic of Concern: Introduction or Spread of NNIS.
Management activities **could introduce or spread non-native invasive species (NNIS) in the project area** by bringing infested equipment into the project site, by moving equipment through infested areas, or by heavily disturbing the ground. The NNIS are also commonly spread by OHVs and in material from gravel pits.
Indicators:
Indicator 1: Change in number of infested intersections along roads.
Indicator 2: Miles of new upland roads on National Forest System land.
Indicator 3: Acres of upland forest disturbed by management activities within ½ mile of known NNIS occurrences.

Spotted knapweed (*Centaurea maculosa*), tansy, and thistles are some of the most common NNIS in this part of the district. They are very common in localized spots where the ground has been disturbed by management activities or heavy OHV use, e.g. ditches and gravel pits. There are six species (5 plants plus earthworms) in Table 3.15.3.a known in the CDRM area that would be considered. Many more are listed in the Specialist Report (PR# 330). Known patches of NNIS are scattered around, e.g. Scenic Pit, CR 300, Blackduck administrative site, and in five treated stands (1-25-29, 1-56-1, 1-56-2, 1-73-19, and 1-73-23). The proposed treatment for NNIS in the CDRM EA is to do a combination of mechanical treatments and hand treatments. Various other treatment methods are discussed in a group of papers from Ray Newman (PR# 180) and could be used as long as their impacts are within the range of effects of the proposed treatments.

Table 3.15.3.a -- Non-native invasive plants of concern in the Continental Divide Project Area (that are known to exist in the area)

Common Name *	Scientific Name *	Managed *	Life History/Habitat Summary/Spread Vector	Acres
Bull thistle	*Cirsium vulgare*	Secondary	Biennial, spread by seed, occupies disturbed sites (Lym and Christianson 1996)	Unknown but common
Canada thistle	*Cirsium arvense*	Secondary	Perennial, spread long distance by wind and locally by seed and rhizome, occupies disturbed sites (Lym and Christianson 1996)	Unknown but widespread throughout
Common Tansy	*Tanacetum vulgare*	Primary	Perennial; spread by seed and rhizome; disturbed uplands (Voss 1996).	Unknown but widespread in Itasca County
Plumeless thistle	*Carduus acanthoides*	ED/RR	Perennial, newly spreading into area from infested gravel sources and along roadsides and trails. Serious potential problem.	Unknown but has recently been found in several locations
Spotted knapweed	*Centaurea stoebe ssp. micranthos (also C. maculosa & C. beibersteinii)*	Primary	Short lived perennial (biennial), spread entirely by seeds, dry to mesic uplands (Wilson and Randall 2002). Spread locally by human vehicles.	Unknown but becoming alarmingly common
Exotic earthworms Numerous species			Live and feed in the surface soil, mineral soil, and/or plant litter (Gundale 2002); frequently inhabit northern hardwood forests in MN (Gundale et al. 2005).	Unknown. Less common than in less sandy sites.

Plumeless thistle is an invasive thistle that is becoming established locally through the introduction of contaminated gravel onto roads and trails; especially in large numbers just southwest of the Chippewa National Forest. It was found by the MIS survey team in the summer of 2008 but not reported in time to become a treated stand in the CDRM project (1-56-1 and 1-56-2).

Common tansy is a widely distributed species found scattered in and near the CDRM area and especially at the Blackduck office administrative site. It was found by the MIS survey team in the summer of 2008 but not reported in time to become a treated stand in the CDRM project (1-73-19 and 1-73-23).

Spotted knapweed is without a doubt the most compelling invasive plant threat for the CDRM project area. Over the past fifteen years it has become well established along many roads on the District. It has spread through the continued and widespread use of contaminated gravel from infested gravel excavations and the simultaneous widespread local dissemination by off- road vehicles operating on local trail systems and roadsides. Three minor infestations are found in Compartments 25 and 73, where treatments are proposed in this EA in two of them (1-25-29 and 1-73-23(48)).

Exotic earthworms (Non-key Issue): Earthworms are known to exist around boat landings and at scattered locations throughout the Forest, to greater or lesser degrees, however limited inventory data exists for exotic earthworms in the project area. Some timber stands within the CDRM project area show signs of earthworm infestation. The habitat where earthworms have caused the greatest documented impacts to soils in northern Minnesota is in northern hardwood forests such as sugar maple stands, although all forested stands are presumably affected. There would not be much more discussion of earthworms, because other than some minor things we can do to prevent their spread, we cannot control them.

Thistles: Canada and bull thistles are not included in the nine species of most concern but they were recorded in 4 stands that the MIS crew surveyed in the summer of 2008, so they are mentioned here (1-56-1, 1-56-2, 1-73-19, and 1-73-23). They are found near the plumeless thistle, knapweed, and tansy in three of these stands.

Medicinal Uses of NNIS:
A question came up during an LIC meeting concerning potential medicinal uses of the NNIS plants and whether this would be a valuable consideration for gathering. Subsequent research by the Forest botanist showed that there may be some uses for a few of these plants, but most of them sound dangerous (PR# 212 and 213).

3.15.4 – EFFECTS
3.15.4.1 – DIRECT AND INDIRECT EFFECTS
Summary of effects on NNIS are included in Table 3.15.4.1.a and expanded upon in the following discussions.

Table 3.15.4.1.a - Indicators for NNIS analysis for CDRM Area

Indicator	Alt A	Alt. C
NNIS - Design features to minimize the spread of earthworms.	No treatments so no effects.	Cleaning machinery between sites for NNIS would have some positive effects on limiting the spread of earthworms also.
1. Change in number of infested locations along roads.	0	Treat two locations. C73 S48 by a combination of mowing, hand cutting, hand digging, or other mechanical treatments followed by planting/seeding native plants with a cover crop of rapidly establishing vegetation. C25 S29 by densely seeding spruce and pine.

Indicator	Alt A	Alt. C
2. Miles of new upland roads on National Forest System land..	0	3.3 miles of temporary road
3. Acres of upland forest disturbed by management activities within ½ mile of known NNIS occurrences (of the 9 primary species and the thistles).	0	218 acres harvested, with 76 clearcut, 77 thinned, and 65 individual tree selection. Up to about 3 acres of intense pile burning. 24 acres wildlife opening treatments. 3 acres road decommissioning and ditch treatments. (PR# 290)

3.15.4.1.1 – ALTERNATIVE A (NO ACTION)
There are no treatments, so NNIS and earthworms would not be spread more than under present conditions, which is minimal in this area.

3.15.4.1.2 – ALTERNATIVE C
Alternative C includes treatments that could disturb the soil and leave it bare for some length of time, thereby leading to the introduction or spread of NNIS, however with proper design features this should be minimal. Following are specific treatments prescribed in the CDRM EA. There is an EA being prepared on the Forest for the treatment of NNIS, so it is possible that would be more treatments within this area based on that EA.

NNIS Indicator - Design features to minimize the spread of earthworms.

There are no specific treatments designed to limit the spread of earthworms or decrease their populations, since there are no known solutions to these problems. The best we can do is to take advantage of the cleaning of machinery as it moves between stands for timber harvesting. Cleaning the dirt from the tires and other parts would slow the spread of NNIS and to some degree earthworms also.

Indicator 1: Change in number of infested locations along roads.

Under Alternative C there would be about 7 acres of NNIS treated along about ¼ mile of gravel road (FR 2420) and in one wildlife opening. The work in the ditch would be by a combination of mowing, hand cutting, hand digging, or other mechanical treatments followed by planting/seeding native plants with a cover crop of rapidly establishing vegetation. In the wildlife opening white spruce and white pine would be seeded densely to eventually shade out the NNIS. It is anticipated that the NNIS (primarily spotted knapweed) would be reduced in numbers but not totally eliminated in these two locations.

Indicator 2: Miles of new upland roads on National Forest System land.

Alternative C would require the construction of about 3.3 miles of temporary road, which would subsequently be obliterated, including reseeding to eliminate bare soil rapidly. All other access would be over existing roads or skid roads. This would entail some reconstruction and bare soil, but it would all be reseeded promptly after use is completed. NNIS should not have a chance to become established if design features are followed.

NNIS can spread along existing upland roads if mineral soil is exposed or if there is a large seed source. Some non-native invasive plants, like spotted knapweed are already found along roads in the project area. Like Canada and bull thistle or leafy spurge, there is a high ecological risk. They spread along the sides of roads if mineral soil is exposed, but they also have a larger risk of spreading away from roads and into adjacent uplands.

Indicator 3: Acres of upland forest disturbed by management activities within ½ mile of known NNIS occurrences.

Although there are only seven known sites of NNIS, Alternative C has 245 acres of treatments within ½ mile of them. Most of these treatments would expose at least some mineral soil. They include 218 acres of harvesting, which range from thinning and single tree selection that expose almost no bare soil to clearcutting followed by scarification for seeding that exposes a high percentage of the soil in the stand. All of the harvesting also

requires some roads (system or temporary) that would have exposed mineral soil until they can be reseeded and revegetated. This should occur within one growing season of the completion of the treatments. Within a few years the tree canopies in the stands would close and any NNIS that do become established would be shaded-out. Included in this harvesting is about 3 acres of intense pile burning to reduce fuels (5% of about 58 acres of harvesting). This heat seems to leave the soil rather sterile which is prime condition for some species of plants.

Also included are 3 acres of bare soil from road decommissioning and ditch treatments near Nelson Lake. This bare soil would also be reseeded and revegetated rapidly. Similarly 7 acres of scarification and tree seeding in three wildlife openings would be rapidly revegetated. The 4 acres of natural conversion of wildlife openings to northern hardwoods in 3 stands would not expose any new mineral soil and would provide heavy shade within a few years, thus making NNIS not a problem. The wildlife opening maintenance by mowing in 7 stands (13 acres) should prevent NNIS by the periodic mowing.

Factors that would minimize the spread of these species are listed in Appendix H. They include timber sale contract clauses (BT6.35) for cleaning potentially infested equipment; avoiding known patches of NNIS with roads, skid trails, and landings; treating infestations before exposing bare soil; using non-infested gravel sources; rapid revegetation of exposed soil; and rapid treatment of new infestations as they are found.

3.15.4.2 – CUMULATIVE EFFECTS

Spatial framework and Timeframe:
(Same as for Direct and Indirect Effects.) Plus treatments on other ownerships would be looked at.

Past Impacts:
There have been ground disturbing activities on NFS lands and on other ownerships periodically over the last 10 years, with infestations of NNIS that have resulted from them, such as NNIS weeds in old slash piles, along old roads, and in log landings. Cumulatively, the past road building, logging, and other ground-disturbing activities have resulted in the present composition and distribution of these species in the analysis areas.

Present Impacts (current year):
The last harvesting from the timber sales in the Rambling Woods and Northwoods EAs on NFS lands in the CDRM area are being completed over the next two or so years. There are about 50 acres of harvesting on Itasca County lands in 2009 and about 96 on State land. There are no known active sales on Beltrami County, Tribal, or private lands in the CDRM area. Effects are expected to be the same as in the past.

Future Impacts:
There would continue to be ground disturbing activities on other ownerships periodically in the next 5 years - about 1,780 acres of various types of harvesting on the State and county portion of about 57,000 total acres of non-NFS lands. The only activities on NFS lands should be from the CDRM EA as described in the Direct and Indirect Effects section and from the Forest-wide EA being prepared for the treatment of NNIS, so it is possible that would be more treatments within this area based on that EA. Overall this would not be over another 50 to 100 acres of treatment within the CDRM area with almost entirely beneficial effects. We know of no NNIS treatments being done on these other ownerships either in conjunction with this harvesting or as stand-alone projects. We have little control over what happens on other ownerships. We must ensure that we do not spread any infestations from them to NFS lands because of road construction and use of temporary roads to remove timber products.

NNIS would continue to spread in the project area under all alternatives as a result of present and reasonably foreseeable actions on Forest Service and non-Forest Service lands. But this spread would be minimized by measures outlined in the proposed action and in the BMPs/design features in Appendix H.

3.16 - OTHER ITEMS FOR THE FONSI

3.16.1. - SCOPE OF THE ANALYSIS

The FONSI that is the end result of an EA requires that several items be declared non-significant. Most of these are parts of the discussions of the previous resources. Following are statements and analyses that cover the remainder of the items that do not logically fit previously

Ten areas are considered for significance. Items 1, 2, 4, 5, 7, 8, 9, and 10 have been covered in the previous analysis. The other two items are analyzed here.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. (Wetlands are very common in the CDRM area, and have been discussed previously. Historic and cultural resources have been surveyed and discussed previously. There are no park lands, prime farm lands, wild and scenic rivers, or ecologically critical areas in the CDRM area.)

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. (None of the actions cause us to do similar actions in the future.)

CHAPTER 4 - CONSULTATION AND COORDINATION

4.1 - ID TEAM MEMBERS:

Name	Location	Expertise or Position	Sections of Analysis Completed
Leo Johnson	Blackduck RD	NEPA Coordinator, Integrated Resource Analyst	Roads Analysis, Air, Economics, Environmental Justice, Visual, Heritage Resources, Gathering, NNIS, FONSI, Chapters 1, 2, and 4 and Appendices
Linda Burke	Blackduck RD	Forester	Vegetation, Prescriptions
Gary Swanson	Supervisor's Office	Silviculturist	Prescriptions
Cory Mlodik	Blackduck RD	Wildlife Biologist	Wildlife
Carl Crawford	Blackduck RD	Fire Planner	Fire Management/Fuels
Jim Barott	Supervisor's Office	Soil Scientist	Soils
Luke Rutten	Supervisor's Office	Hydrologist	Water Quality, Fisheries
Patti Hines	Blackduck RD	Supervisory Recreation Technician	Recreation
Andrea LeVasseur	Supervisor's Office	Archaeologist	Heritage Resources - Input/data
Jan Geerdes	Blackduck RD	GIS	GIS maps and other products
Millie Baird	Supervisor's Office	Engineer	Input/data
Dave Upgren	Blackduck RD	Forestry Technician - Reforestation	Input/data
Tracy Beck	Blackduck RD	District Ranger	Advice, Coordination

4.2 - CONTACTS:

The Forest Service consulted the following individuals; Federal, State, and local agencies; tribes; and non-Forest Service persons during the development of this environmental assessment. More specifics are listed in Appendix A in the Specialist Report (PR# 330).

4.2.1 - FEDERAL, STATE, AND LOCAL AGENCIES:

MN DNR, US Army Corps of Engineers, USDI BIA, MN Pollution Control Agency, National Park Service, Beltrami County SWCD, Beltrami County officials, Cass County officials, Itasca County Officials, USDI Fish & Wildlife Service, Forest Service Offices, Mississippi Headwaters Board, SHPO, some town officials, and some township officials.

4.2.2 - TRIBES:

Division of Resource Management (DRM), 13 Local Indian Councils (LIC) to varying degrees, the Natural Resource Advisory Council, THPO, and other Tribal officials.

4.2.3 - OTHERS:

Environmental groups, timber industry groups, resource management groups, Bemidji Pioneer, Blackduck American, Cass Lake Times, and interested private citizens.

APPENDIX A - MAIL LIST FOR SCOPING

Due to length, the mailing list for scoping is not included in the Public EA. It is part of the Specialist Report EA (PR# 330) that contains the total text of all of the specialist reports and lengthier versions of all other sections and the appendices. It is Project Record # 226 and 231.

APPENDIX B - LITERATURE CITED

Due to length, the literature cited section is not included in the EA. It is part of the Specialist Report EA (PR# 330) that contains the total text of all of the specialist reports and lengthier versions of all other sections and the appendices.

This literature cited is listed in Appendix E (Project Record), so a repetition here is not needed.

APPENDIX C. RESPONSE TO SCOPING AND BEFORE (CDRM EA)

This Appendix contains all comments from the public that were obtained due to asking about the Continental Divide Resource Management EA (or the Pimushe Road Scoping), arranged chronologically. This project has been mentioned at least briefly in LIC meetings since 2007.

All communications from the public are listed in the Specialist Report (PR# 330), but only those with comments pertaining to the effects of the treatments or the existing conditions of the treatment area are listed here. This explains the numbers that are skipped in the list.

Most of the public comments in Appendix C are direct quotations from the letters or e-mails. The only portions of public comments that are left out of the following write-ups are sentences or paragraphs that do not contain information that would be useful in the discussion or analysis of the project or its effects.

(Referenced in the EA as "Public Comment X.X")

For comments that cannot be fully answered here there is a reference in the Forest Service Reply to the portion of the EA where the comment is answered or discussed ("See Section X.X.X of this EA for further discussion of this comment.")

++

0. Dennis Gimmestad (SHPO) - letter - 12/26/2002 (PR# 68a)

0.1 Bridges:

These bridges appear to be architecturally unremarkable, and none of them is located on a major travel route or critical link to a facility or community. At this time, we find that no historic properties would be affected by the proposed undertakings.

(Forest Service Reply: This should clear it for treatment.)

0a. Catherine McLynn - email - 04/12/2003 (PR# 70)

0a.1 Bridges:

Thank you for informing me of planned bridge repairs and replacements in the Chippewa Natl Forest in Itasca County. I support your proposals wholeheartedly. Thank you.

Please keep me informed. I have been elected to fill the vacancy in District 2 Commissioner seat since former Commissioner Tom Saxhaug became state senator.

(Forest Service Reply: We appreciate the support.)

0b. Mike Day - email - 04/12/2003 (PR# 70a)

0b.1 Bridges:

Thanks for keeping me advised on matters of the Chippewa National Forest. This comment invitation pertains to bridges in the Forest.

I am always concerned about the environmental impact of encroaching population and its attendant and inexorable urbanization. I ask that no bridge be repaired or rebuilt which has as its sole purpose the promotion of tourism, recreation and development. I approve any and all that have the express purpose of promoting agriculture, animal husbandry and the environment of woodlands and wildlife. Thanks for asking. Please continue to send such notices by US Mail, rather than e mail. This diabolical contraptions loses things.

(Forest Service Reply: This is a multiple use bridge which has recently been used heavily for both recreation and timber harvesting. Hunters also use the bridge.)

0c. Jeff Herfindahl - letter - 04/14/2003 (PR# 70b)

0c.1 Bridges:

... the Chippewa National Forest is a jewel for our area in Northern Minnesota. It continues to produce abundant natural resources including timber and gravel. It has many opportunities for recreation including Hunting, Fishing, Snowmobiling, ATV'ing and Berry Picking. Not to mention the many benefits to area tourism through its many campgrounds and other amenity sites.

None of this would be possible with out the infrastructure of the Forest Road system. In addition, without maintaining and replacing our current Forest bridges, we would not have access to vast sections of the Chippewa National Forest. Quite simply all our Forest roads and bridges need to be maintained to continue to provide the economic and recreational stimulus to our area.

I am an active snowmobiler, hunter and ATVer and I regularly use many of these bridges myself. An old road builder once told me "When we're done building this road it might not be high enough or wide enough, but it would dam sure be long enough". This statemment could not be made if a bridge was closed.

(Forest Service Reply: We appreciuate the support.)

0d. Bud Stone (Grand Rapids Chamber of Commerce) - email - 05/28/2003 (PR# 70d)

0d.1 :

I am writing on behalf or the Grand Rapids Area Chamber of Commerce and the Chambers Forestry Affairs Committee in response to a letter received from Duane Kick regarding the repair and replacement of bridges and roads in the Chipped National Forest. We take a keen interest in what happens on the Federal Forest in the State of Minnesota and are especially concerned with management issues on the Chipped National Forest. We take pride in our forests and understand fully their connection with the business community. Tourism is one aspect of the Grand Rapids Area that is supported by access in and out of our forests. Having good roads, and bridges, are part of the chambers goal of maintaining travel corridors within those forests for visitors and

residents. Thank you for your commitment to respond to those needs and support both the timber and tourism industries of our region.
(Forest Service Reply: We appreciate the support.)

1. Larry Zea - email - 06/02/2005 (PR# 73)

1.1 FR 2514 (Pimushe Trail):

Here are the important parts of the ruling by District Court judge James F. Murphy from a trial held in Oct. 1962 in the case of Fuller vs. Arndt. The ruling was not issued until 1/11/67.

1. That the Pimushe Trail as it runs in a generally north-south direction along the high ground on the westerly side of Pimushe Lake, including the part thereof reconstructed and improved by the defendants in 1948, over and across the following described real estate property is a public road. (long legal descriptions).

2. That an injunction issue commanding that the defendants and all persons under them perpetually refrain from erecting any obstruction to the said public road known as the Pimushe Trail, or in anyway obstruction or hindering the use of said Pimushe Trail by the plaintiff, her heirs, and assigns.

3. That the Pimushe Trail as it crosses the above-described land owned by the plaintiff is a public road and that plaintiff and all persons acting under her are perpetually refrained from erecting any obstruction to said public road where it crosses said real estate owned by plaintiff, or in any way obstructing or hindering the use of said road by anyone, and the said road as the same crosses plaintiff's property shall be subject to use by the defendants and the plaintiff EQUALLY WITH THE PUBLIC AT LARGE.

I added emphasis.

Mr. Beck, It seems that about every 10 years when some more of you unelected bureaucrats change positions the new people want to do something with this road. You would note at about the place where these rocks are on the right side there is some piled dirt and the remains of a sign posted by your predesessors blocking off the road. After I filed a complaint with your office, YOUR people came back out and removed the obstruction. This was about in '95.

I moved here in 1970 from Washington, DC, to get away from this kind of thing. Several times various individuals have tried to block this road since I have been here so as to keep this trail for themselves, and I have had Beltrami County Deputies come out and inform those involved that they did not have the right to block off this public road.

I was a little upset yesterday when you said that you assumed that your people had put the rocks there, and ordered me to replace the rocks without checking into the facts. These rocks were placed there by a private individual, who does not have the right to do so.

My contention is that the US Forest Service also does not have anymore right to block off this PUBLIC ROAD at the location where it enters Forest Service land than it does to block off the road ¼ mile further south, or ¼ further north.

Mr. Paul Kief, an attorney who is still practising {sic}in Bemidji, was the attorney who made the motion that the judge agreed with in the case in the 60's, and he has told me several times he would be woulding to represent me in this case should anyone try to close the road again. All the testimony in '62 is still on record in the Beltrami County Court.
(Forest Service Reply: (This is the reply in 6/2/2005) - Mr. Zea, Thank you for this information and some of the history concerning road 2514. We would not have been out there yesterday, except for a complaint

that someone local made. They did not want truck traffic on the road. I looked at our records to find out who is responsible for road maintenance, turns out the Forest Service is responsible for the maintenance. The road is not in an appropriate condition for use by trucks or cars. We need to complete more research on the road, work with the locals, and do the right thing in the end.)

2. Mark Van Tassel - email - 01/31/2006 (PR# 85)

2.1 Harvest by Scenic Highway:

... all the plantings of spruce and pine along and in the ROW that could be thinned for safety and visual reasons mostly. These plantings are very dense and create quite a wall, especially the spruce. In many of the areas there we have a new stand developing beyond. Why not thin these out rather heavily and allow travelers to see the new forest developing (and the deer about to cross the road)? Coodinating {sic} this with the reconstruction would be the hard part, some of these stand may be partially cut with the road work anyway.

(Forest Service Reply: This was considered and a minor amount of thinning would be proposed along the Scenic Highway. Most of these stands, strips really, would be dealt with during the reconstruction.)

3. Larry Zea - email - 04/28/2006 (PR# 90)

3.1 FR 2514 (Pimushe Trail):

My name is Larry Zea. I have lived on the Pimushe Trail since 1970, and have used it all 36 years. I STRONGLY believe that this public road should stay exactly has it has been for the past 36 years, and would give you the reasons why. The only people that have been trying to close this road are weekenders and summer residents who have wanted it closed so the access North of their property would be only for their private use. As I assume that you know, there was a long court battle in the 60's between Eulalie M. Fuller and Allen H. Arndt because Mr. Arndt wanted to do the same to the Fullers.

The ruling by the Ninth Judicial District in the County of Beltrami was in favor of the Fullers, and states in the ruling given on the 11th day of January, 1967, that:
"That the Pimush Trail as it runs in a generally north-south direction along the high ground on the westerly side of Pimush Lake, including the part thereof reconstructed and improved by the defendants in 1948(Arndts), over and across the following described real estate property: Government Lots Nine (9) and Ten (10), of Section Eighteen (18) and part of Governments Lot Eight (8), of Section Nineteen (19), all in Township One Hundred Forty-Seven (147) North, of Range Thrity (30) West,

and over

Governments Lots Two (2), Three (3) and Four (4) and Northwest Quarter of Southeast Quarter (NW1/4 of SE1/4), and the Southeast Quarter of Southeast Quarter (SE1/4 of SE 1/4, of Section Seven (7); Government Lots Six (6) and Seven (7) of Section Eight (8), and Government Lot One (1) of Section Seventeen (17), all in Township One Hundred Forty-Seven (147) North, of Range Thirty (30) West is a public road.

From this ruling, which has NEVER been changed, the whole Pimush Trail, from County 20 to Preston Lake, is a public road. I have driven this road as I said for 36 years. This year I have driven my Honda and my 1 Ton Ford F350 over this road, and I drive it many times with my ATV, a Polaaris Ranger that weighs over 1,000 lbs.

No work is needed on this road, and access should not be denied to any vehicle.

The winning attorney in the 1967 case is still practising in Bemidji, I have talked to him and other attorneys. These were government lots then, and are government lots now. Unless the Fed. Gov. wants to go to court to get a change in this 1967 ruling, I would continue to use this road with my vehicles, and would continue to remove the obstructions that are placed on the road by weekenders. In the past I have had warrants served against Mr. Arndt,

who is now deceased, when he tried to block the road in the 70's. There was an injunction issued against him blocking the road, but now that he is deceased weekenders that he and his widow sold land to are trying to have the road blocked again.

THIS IS A PUBLIC ROAD, AND IF THE FOREST SERVICE TRIES TO DENY ME ACCESS, I WOULD HAVE MY ATTORNEY MEET YOUR ENFORCEMENT OFFICER SO THEY CAN ISSUE ME A CITATION AND WE WOULD GO TO BELTRAMI COURT AGAIN

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

4. Robert Clayton - letter - 05/01/2006 (PR# 91)

4.1 FR 2514 (Pimushe Trail):

Yes, this trail should be closed to motor vehicles over 1000 pounds (open to ATV's only).

After living here for 16 years the only thing that I and my wife see when this road is open to any and all traffic is a increase all fall and into winter until snow prohibits is a Large increase in poaching and road hunting. There is also - for us an increased chance of theft of our property - now that this is a two way access.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

5. Edward Fussy - letter - 05/17/2006 (PR# 92)

5.1 FR 2514 (Pimushe Trail):

This trail should be closed to motor vehicles over 1000 pounds (open to ATV's and snowmobiles no wider than 48" to 52" only).

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

6. Edward Fussy - letter - 05/22/2006 (PR# 93)

6.1 FR 2514 (Pimushe Trail):

Yes, this trail should be closed to motor vehicles over 1000 pounds (open to ATV's only). This would help with keeping the stealing down & the poaching.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

7. Mary Ann Grimm - letter - 05/22/2006 (PR# 94)

7.1 FR 2514 (Pimushe Trail):

Yes, this trail should be closed to motor vehicles over 1000 pounds (open to ATV's only).

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

8. Gregg Okerman - letter - 05/22/2006 (PR# 95)

8.1 FR 2514 (Pimushe Trail):

This trail should be closed to motor vehicles over 1000 pounds (open to ATV's only). ATV's only to help keep some of the theft down.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

9. Lorraine M. Arndt - letter - 05/23/2006 (PR# 96)

9.1 FR 2514 (Pimushe Trail):

Thank you for your letter of April 27 requesting input on the Forest road which you refer to as #2514. When my husband, Allen H. Arndt, and I purchased 97 1/4 acres along the SW corner of Pimushe Lake in 1946 the only access to our property was by what was then called "the Portage Road." So called because it had been commonly used by the Indians and others traveling south to north. Bill Newman who lived on Moose Lake told us that he actually traveled this route to get to his property ...prtaging {sic} twice. At any rate this was the access we used the first few years we lived in the area. Since the road ran quite close to the Turcotte log home and the road often flooded as it ran between the Turcotte property and ours, we were determined to built {sic} a better road into the area where we planned to build a resort. Several years earlier a road had been planned to run from Cty Rd #20 north along Turcotte's north property line and north along our NW property line. This project was abandoned because of objections from residents living further north. When Al received his 300 dollar state service bonus ... he decided to build the road from #20 into the resort using part of what had once been cleared of the large trees ... leaving some huge stumps. Of course by 1950 everything had pretty much grown up in brush and small trees. Nevertheless Merrit Duhammel and his father agreed to undertake our road construction if we would first get the easements and necessary papers ...blue prints and vellum prints necessary for the Indian Agency then located in Cass Lake. We did this ...we also cleared all the brush and young trees from the prospective road. It was a tremendous job and I'm sure the Duhammels donated quite a few hours. At that time the old logging trail you are referring to was quite visable {sic} since my husband and friends and relatives had been using it to hunt ducks on what they called "pot holes" (small pond) up on the northern end of the lake. Then a logger by the name of Abbers began a logging operation up in that area. He asked us if he could use this trail and our new road out to #20 and he would then maintain the road during the summer months. The old logging trail had been nearly obliterated when the R.E.A. came through this area as the trail headed SE for Rice Lake where the mill was and also log rafting to make the trip down to Cass Lake. Many of these old logging trails crossed paths and there were a few that were utilized by people who settled in the area. One of these was located on our back line (meandering in and out...According to the local people this was the route used by the "school bus" which was any type of vehicle that could manipulate that rough terrain ...my nephew found such a vehicle several years ago. It had been abandoned back in the woods and was made from an old (probably a model T...motor removed and wheels replaced with skiis. Apparently pulled by a team of horses. There were several families living west of us at that time including the Adams, Prestons, the Dalys, and the Mattingly's as well as the fo1ks who lived at our place on Pimushe. they used the old; logging roads to socialize. Of course once our new resort road was established it seemed that people local and otherwise seem to feel this opened the area for access to all old trails and logging roads in the area ...never mind they were on private property. After we sold three lots on the north end of our property and adjacent to this trail the traffic became heavier. The trail was widened, graveled and no longer resembled the old logging road. It resembled a public thoroughfare. We were happy when the forestry built another road west of our property. We thought the problem was solved with a public road now available for people wanting to utilize the country north of our property for whatever and we would have no further trouble with this old trail which cuts through (approximately) the middle of what was all our property and still remains a good part of it. Of course there are also five other private owners of acreage lots along this trail on what was formerly our property.

Thank you again for allowing me to express my views on this trail/road. I would be happy to give you any other information I can in this regards.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

10. Jason Reiplinger - letter - 05/23/2006 (PR# 97)

10.1 FR 2514 (Pimushe Trail):

In my opinion the trail should be gated and closed to motor vehicles over 1000 LB.

There is no reason to have it open for vehicles, as FR 2508 is open to the puplic {sic}. When the barriers on FR 2514 were moved last year there was a lot more road damage from thru traffic, "mudding" and spinning around on FR 2508.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

11. Philip J. Schreiber - letter - 05/23/2006 (PR# 98)

11.1 FR 2514 (Pimushe Trail):

I urge you to keep this trail closed to vehicles over 1,000 lbs and open to small ATV's only or close it altogether.

Sir, if this trail is opened to larger vehicles, it would invite poaching and other illegal activity to the area.

Lets keep it small or close it, and avoid the problems larger units would bring.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

12. Frank Tammen - letter - 05/25/2006 (PR# 99)

12.1 FR 2514 (Pimushe Trail):

This trail should be closed to motor vehicles over 1000 pounds (open to ATV's only). To help keep to {sic} the poachers and the thieves out.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

13. Larry Zea - email - 05/29/2006 (PR# 102)

13.1 FR 2514 (Pimushe Trail):

... My attorney and I have done some further research on the trail. There has been court testimony that this trail was in existance {sic} before the establishment of the Chippewa National Forest. There are also maps that show the trail prior to 1908.

Only once in 36 years has the forest service tried to block off this road. When I showed the forester at that time the court injuction {sic} against this, the blockage was removed. The only other times that the road has been blocked in that 36 years was by locals, in defiance of the court injunction of this practice. Once I even had the sheriff department serve papers on the person who had blocked the road at that time and put up a private road sign.

The portion of the trail that seems to be in question is the portion from the south boundary of FS property to Wood Duck road. This is a stretch of 1/2 mile. I can't believe that the court would allow you to make one portion of this 1/2 mile have restrictions of size and weight, ie. 1,000 lbs., while allowing vehicles to drive on the north portion of this 1/2 mile, south of Okerman's and beyond. The "unimproved" portion of the road is 1/4 mile, and the "improved" portion is another 1/4 mile.

As I have said before, I have been driving this for 36 years. It is fine the way it is. On this memorial day I did not serve 13 years in the Navy to have an entity of the US Government take away access on a public road without a fight, one that was already fought in the 60's and won by those who thought that this was a public road, not a private road with access controlled by either private citizens or the US Government.

The FS build Wood Duck road, do what you want with that, but don't regulate the Pimushe Trail that has been in existance {sic} for over 100 years.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

14. Randy Sachau - telephone notes - 05/31/2006 (PR# 103)

14.1 FR 2514 (Pimushe Trail):

Randy grew up out there on the south end. Trails have been {sic} always been there. Trails are fine as in {sic}. Randy wants it open to vehicles. Leave as is. Court case decided it was an open road.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

15. Joseph Leibel - letter - 06/21/2006 (PR# 109)

15.1 FR 2514 (Pimushe Trail):

For the good & safety of all the landowners along Pimushe Trail it should only be open to ATV's & snowmobiles.

We want no trouble-makers or partiers back there.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

16. Robert R. Main - email - 10/16/2006 (PR# 115)

16.1 FR 2514 (Pimushe Trail):

... There are boulders that were moved off the roadway by someone? I GPSed the NE of sec 24 and the NE of sec 20 and figured the approximate line of the reservation boundary. From this I determined that these boulders are +- 170 feet on Forest Service land. In my opinion any blockage around the areas of the boulders should not be mistaken as being on anyone's land other than FS.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

17a. Bena LIC - notes - 01/09/2007 (PR# 123)

17a.1 Money from Harvesting Timber:

What do you do with the money that you get from cutting down trees?

(Forest Service Reply: Site preparation, scarification, brushing, prescribed burning, reforestation, conifer planting, seeding, timber stand improvement, release, pruning, animal damage control, wildlife opening maintenance or reforestation, timber sale administration, and planning future timber projects.)

17a.2 Use Local Workers:

Why don't you hire locals instead of migrant Mexican farm workers to plant pine trees, spray pig's blood, weed whack, and prune trees?

(Forest Service Reply: Presently we have a long-term contract with this Mexican crew. They have done good work, been very effective, and been totally available when we needed them; so we continue to use them..)

17a.3 :

What would be clearcut in Continental Divide?

(Forest Service Reply: Mostly aspen. Some short dead end roads would also be bermed.)

18. Regional Office Attorney - document - 01/31/2007 (PR# 125)

18.1 FR 2514 (Pimushe Trail):

In reply to our request for a legal opinion on the status of FR 2514, our attorney in the Regional Office in Milwaukee sent us a reply. It is in draft form and is considered Attorney/Client Communication so is not subject to publication or release under FOIA.

(Forest Service Reply: Suffice it to say that we would be pursuing the proposal in the Proposed Action. Any proposed legal action would be dealt with at that level.)

18a. Mission LIC - Notes - 3/19/2007 (PR# 127)

18a.1 General:

Summaries of the Lydick and Continental Divide resource management projects were handed out but no comments were received.

(Forest Service Reply: None.)

19. Leech Lake DRM - meeting notes - 11/07/2007 (PR# 159)

19.1 Riparian:

Riparian planting of white pine in aspen stands is a good idea.

(Forest Service Reply: We would proceed with such projects.)

19.2 Lowland Conifers and Hardwoods:

Need to enhance the riparian areas with increased lowland conifers. LLBO opposes most harvesting in lowland conifers because it is not enhancing these stands.

Regeneration of lowland conifers is still being questioned. Check nearby stands to see if the stands regenerated adequately and if it persisted into sapling and larger sizes. There are a lot of sensitive species living in lowland conifer stands, so shouldn't disturb them without good reason and if you harvest, you must get back a fully functioning ecosystem, not just a stand of trees. Stan added later that even winter harvesting can hurt orchids and similar plants due to compaction of snow and deeper freezing. May need more intensive surveys to find the plants and protect them.

Before cutting in black ash stands consider the potential impacts from the Emerald Ash Borer. Should we save all the trees in case a few of them are resistant?

(Forest Service Reply: We would take these comments into consideration during the project design and analysis.)

19.3 Earthworms:

Need to consider the impacts of earthworms and climate change in our management. What would it do to species we manage? How to manage in anticipation of it. Prescriptions should be designed as insurance against it by having a lot of diversity. Earthworms have been discussed by Cindy Hale and Jim Barott. Deer exacerbate the problems with worms. Apparently MCEA has focused on this and may bring it up.

(Forest Service Reply: We would take these comments into consideration during the project design and analysis.)

19.4 Wildlife Openings:

Wildlife openings should not be managed in northern hardwood stands. They are okay in pine stands but there are probably natural ones there.

Planting white pine in unwanted wildlife openings is good, but with the number of deer present, it may be futile. May be better to plant a mixture of conifers and fruiting shrubs.

(Forest Service Reply: We would take these comments into consideration during the project design and analysis.)

19.5 Lack of Trust/Past Commitments:

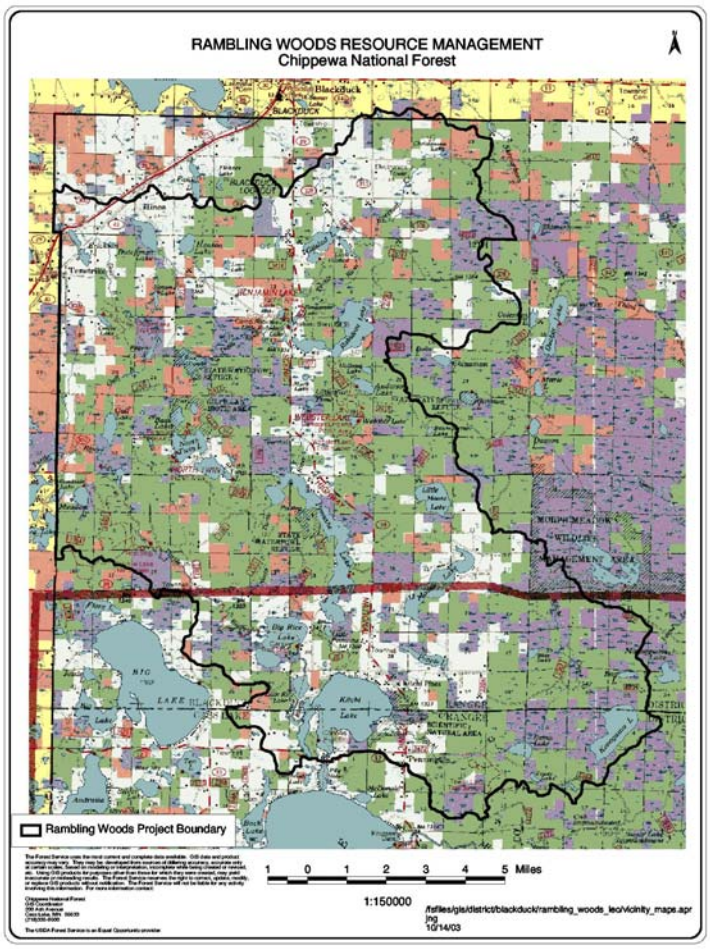
They have a problem with our shifting of analysis boundaries. To them it looks like we cut all we could in an area, then shifted boundaries so we could re-compute percentages and cut more. (In reality what happened is that we shifted from watershed boundaries to LE boundaries.) They think that a 5-year re-entry is too soon (and we agree). Need to check all of the past projects to be sure we don't "negate" anything we decided before. The projects that Steve listed for us to check were:

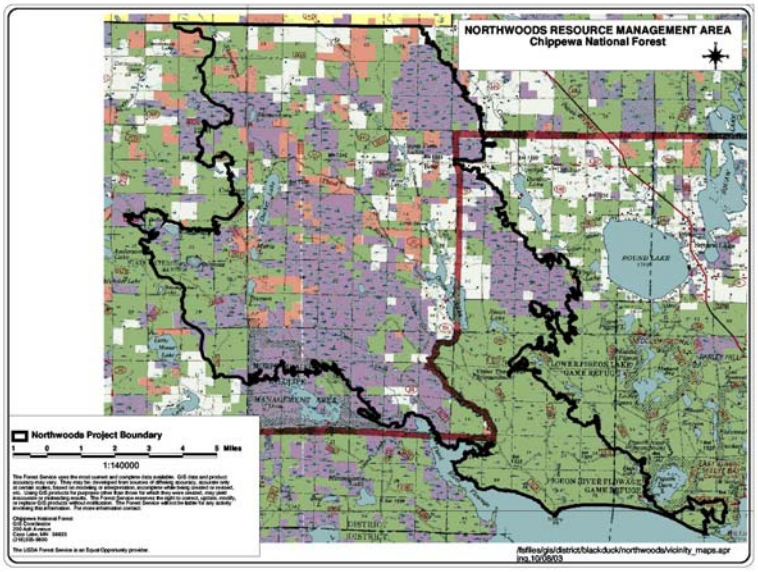
Bluestem EA
County Road 328 Salvage Project (*We cannot figure out what this one is*)
Meadow Lake Timber Sale (*part of Rambling Woods EA*).
2000 Conifer Thin (Red Pine/White spruce Conifer Thinning)
Pennington Jack Pine Forest Health (Forest Health Thinning EA).
Between Two Rivers (Two Rivers EA)
Winnie North EA

(Forest Service Reply: We would take these comments into consideration during the project design and analysis. Each of these timber sales documents would be inspected to see if there were commitments made that supersede changes in Forest Plans or that have not been accomplished. This analysis is found in Project Record 276 (1/14/2009). There were a few commitments or ideas that we are carrying forward:

Not clearcutting several stands that were part of large mature forested patches.
A few projects were not completed and have been re-proposed.
We are striving for "diversity" in many treatments as has been mentioned in many past projects.
We are retaining filter strips and legacy patches that were left by past decisions.
In two cases we re-analyzed past proposals that had not been completed and determined that they were not useful project so dropped them from future consideration (ecosystem burning and dropping trees in a lake for fish habitat).

The CDRM EA area contains portions of two EAs that were competed within the last six years. The following two maps show the locations of these two EAs.


RAMBLING WOODS RESOURCE MANAGEMENT
Chippewa National Forest
Rambling Woods Project Boundary
1 0 1 2 3 4 5 Miles
1:150000
/fsfiles/gis/district/blackduck/rambling_woods_leo/vicinity_maps.apr
ing
10/14/03


NORTHWOODS RESOURCE MANAGEMENT AREA
Chippewa National Forest
Northwoods Project Boundary
1:140000
/fsfiles/gis/district/blackduck/northwoods/vicinity_maps.apr
ing 10/06/03

)

19.6 Sugarbushes:

Sugarbush was mentioned but not discussed at length.

(Forest Service Reply: We would take these comments into consideration during the project design and analysis.)

19.7 Large Mature Forest Patches:

Large and mature forest patches were mentioned but not discussed at length.

(Forest Service Reply: We would take these comments into consideration during the project design and analysis.)

19.8 Nelson Lake:

Looks like there is a private dock on NFS land on Nelson Lake with ATV trails leading to it from private land to the east. Possibly in Compartment 73 Stand 26.

(Forest Service Reply: We can see this private dock from our boat landing, but need to check again to find the access route to it and to GPS the exact location to be sure it is on NFS land not County land. We would deal with it appropriately in the project design and analysis.)

19.9 Hunter Walking Trails:

Carter Lake Hunter Walking Trails (HWT) are no problem.

(Forest Service Reply: We would proceed with this project.)

20. Larry Zea - telephone - 11/20/2007 (PR# 162)

20.1 FR 2514 (Pimushe Trail):

... Larry maintains the 1967 Beltrami Co. Court ruling prevents the Forest Service from being able to make a decision on this road. ... Larry said that he would pursue this in court and make us issue him a ticket. ...

(Forest Service Reply: I {Tracy Beck} talked with Larry Zea this morning on the phone. I told him that I intended to sign a Decision Memo for Pimushe Trail, and close it to vehicles over 1,500 lbs GVW. ... I told Larry the Beltrami Co. Sheriff had requested we close the road, because he had received so many complaints. I also told Larry we had consulted with an OGC attorney who determined the Forest Service has jurisdiction on this road. ... I would offer to meet with his attorney prior to making the decision.)

20a. Cass River LIC - Notes - 02/05/2008 (PR# 175)

20a.1 General:

Summary of the Continental Divide resource management project was handed out but no comments were received.

(Forest Service Reply: None.)

20b. Bena LIC - Notes - 02/12/2008 (PR# 177)

20b.1 General:

Summary of the Continental Divide resource management project was handed out but no comments were received.

(Forest Service Reply: None.)

22. Sugarbush LIC - meeting notes - 08/11/2008 (PR# 210 and 213)

22.1 Medicinal Uses of Non-Native Invasive Species:

Are there medicinal uses for some of these plants that we are trying to control? There was a concern that we might be eradicating useful plants.

(Forest Service Reply: I told them that I have never heard of useful properties in these plants, but that I would research this and tell them if there are any known uses. Otherwise we would bring research materials to the next meeting. On 8/20/2008 I sent them a letter with all of the information that the Forest Botanist (Ray Newman) was able to find about beneficial uses of NNIS plants. There are a few minor beneficial uses (PR# 212 and 213))

22.2 Fruiting Species and Non-Native Invasive Species Control:

They want us to protect berries and fruiting plants during our treatment, especially blueberries and raspberries in powerlines. They were less concerned when they knew that almost all of the treatment would be in ditches of roads/log landings where it would not affect berry plants. Planting native plants in place of the treated plants was acceptable to them. They questioned how the NNIS plants got here.

(Forest Service Reply: I told them that the prescriptions would specify protection of such plants if possible. Treated areas are small so we should be able to modify the boundaries or treatments around berry plants. To the best of my knowledge they were brought accidentally, although some (pea shrub) were planted for landscaping.)

22.3 Stumpage Money from Harvesting:

I was asked several times why the stumpage money does not go to the Leech Lake members!

(Forest Service Reply: I explained the treaties and court rulings as best I could but did not convince them. I said that I would send them more information. Subsequent research showed that this question has been asked many times and that we have been told to answer this formally. The question needs to come in as a written request and we need to get OGC involved in the answer so it is correct, legal, and defensible. However the short answer is that the question of stumpage money (and many other things) date back to the 1889 Nelson Act, the 1902 Morris Act, the Act of May 23, 1908, and a Presidential authorization of April 9, 1923.)

22.4 Why us?:

They asked why we came to them about our timber sale project.

(Forest Service Reply: I told them that we have guidelines (Forest Plan) to follow but that we are trying to do this while still being as beneficial to the gathering rights of the tribe as possible. When our treatments are completed we want to have a healthier, more productive forest.)

22.5 Clearcutting and Visual Conditions:

Two members were quite concerned about the visual condition of clearcuts and didn't really like them. There are too many high stumps and too much tall scattered slash and dead trees/snags/logs. It just looks messy. They were concerned with the smaller roads also because that is where they go gathering or driving OHVs.

(Forest Service Reply: I told them that we have guidelines for minimizing the detrimental effects of the slash and left-over material that are mostly used on higher quality roads.)

22.6 Harvesting and Mud/Slash on Roads:

In a similar vein, they were concerned about the amount of mud and slash that gets onto public roads near some logging sites, e.g. along the West Winnie Road.

(Forest Service Reply: I told them that we have guidelines on this and that our Sale Administrators enforce it. Timber Sale Clause R9-CT5-103 specifies surfacing on temporary roads as needed to prevent this. If the road is a system road, the protections are less defined. Loggers are required to do "pre-haul" maintenance to get the roads in usable condition. They can only haul when they would not be doing "increased damage to a resource (the road)", which would limit hauling on muddy roads that would

result in deeper ruts and mud dragged onto other roads. However, if such a problem is seen, please call us immediately, so we can correct it while it is happening.)

22.7 OHVs:

There was a distinct difference of opinion on OHVs. One person said they are noisy and disruptive. Another person uses them and says they try to be quiet near people and homes but likes to drive fast in the woods. OHVs allow her to see a lot of things in the forest, that would not be easy without them.
(Forest Service Reply: These opinions would be taken into account during the analysis.)

22.8 Hunting:

Question about how close to houses/towns/developments hunting is allowed. There was a safety concern. They are planning on asking a game warden to one of their meetings.
(Forest Service Reply: I told them that I did not know.)

22.9 Local Employment:

They wanted more of our TSI work to be done by local people. They mentioned that they now have a Day Labor Group in Cass Lake and that we could get workers there.
(Forest Service Reply: I told them that we have a 5-year contract with one group at the present time. I told them that I would mention this to our Forest Technician that is in charge of TSI to see if this is a possibility for the future. Based on a talk with him I found that there are many reasons why we have gotten away from the old method of working with individuals and multiple small contracts. Our budgeting process has become so complex that we need to have most or all the work under contract very early in the year, leaving not money for small treatments later. For economic reasons, the treated areas need to be few and large, not many and small. Anyone who does work for the government needs to be in CCR which involves using computers and direct deposit in a bank account, leaving out people without these capabilities. The prescriptions have become much more complex, so we need workers who do the job over and over and understand all of the features.)

24. Larry Zea - letter - 11/01/2008 (PR# 237)

24.1 FR 2514 (Pimushe Trail):

It was with great interest that I read your notice of 10/31/08 concerning what you are calling FR 2514, which in the future I would refer to as the Pimushe Trail NE, its proper name as given by Beltrami County in its 911 naming, and by the court order of the 11th day of January, 1967, signed by C. Buiford Qualle.

I have been driving on the Pimushe Trail since 1970, with my cars, trucks, and 4-wheelers. Just today I drove over the trail with my Honda CRV and Ford F-350 pickup. I use this road to hunt, visit neighbors, and pick mushrooms.

If you would check the court testimony in the case that took place between 1962 and 1967, you would find that there was testimony that this road was used as a school bus route as early as the 40's and 50's. The attorney for the plaintiffs in this case, Mr. Paul Kief, is still a practicing attorney in Bemidji.

The judgement that was issued in this case states that: "1. That the Pimush Trail as it runs in a generally north-south direction along the high ground on the westerly side of Pimush Lake, including the part thereof reconstructed and improved by the defendants in 1948, over and across the following described real estate property: (long desriptions), is a public road."

The final part of the ruling states: " 3. That the Pimush Trail as it crosses the above-described land owned by the plaintiff is a public road and that plaintiff and all persons acting under her are perpetually refrained from erecting any obstruction to said public road where it crosses said real estate owned by plaintiff, or in any way obstructing or

hindering the use of said road by anyone, and the said road as the same crosses plaintiff's property shall be subject to use by the defendants and the plaintiff equally with the public at large."

If you check on the legal descriptions of the property on this lawsuit, you would see that it includes the Pimush Trail all the way to Preston Lake. Rest be assured that if you attempt to block this public road, I would notify you when I would be driving on this public road, my attorney would be present, and I would ask for you to issue me a summons so we can appear in court and charge the US Forest Service with violating the court order of 1967.

(Forest Service Reply: Thank you for this information. All of these facts would be considered in the analysis and subsequent decision.)

26. Robert Kiewatt, Jr. - personal contact - 11/05/2008 (PR# 247)

26.1 FR 2514 (Pimushe Trail):

He agrees that FR 2514 in the CDRM EA project should be gated for OHVs only on the south end and closed to all vehicles on the north end. The north end is quite scenic and needs to be protected.

(Forest Service Reply: We would take these comments into consideration as we design and analyze the projects.)

28. Eric Johnson - Personal contact - 11/13/2008 (PR# 260)

28.1 Road "atv_g":

He met with Lisa to say he opposed keeping road "atv_g" open since it leads to his land. He is pursuing the vacating of part of FR 2419 (south of NWNW Section 20) to limit traffic to his property. He would see that we retained access to our land.

(Forest Service Reply: Road "atv_g" is being added to the system because it is the access to a wildlife opening that we are proposing to maintain. FR 2419 that is proposed for vacating provides access to NFS land, county land, and other private lands, so there are many considerations for this private proposal.)

29. Robert Clayton - letter - 11/24/2008 (PR# 263 and 264)

29.1 FR 2514 (Pimushe Trail):

First of all by closing FF RD 2514 from Co Hwy 20 in approx 1 mile past private homes - Resorts would do 1 very positive thing for RS Clayton, Kurt Gross, Joy Reiplinger familys - all tax "paying" familys. It would greatly increase our security as there is now only 1 way in, one way out instead of a loop. Also if you spend any time back here in hunting Season, with a loop for vehicles there is a lot of shining - Poaching going on if and when the road has been closed it is greatly reduced - some reason as above only a dead end. Please look hard at only OHV - Sno mobile, not vehicles on that road.

(Forest Service Reply: Thank you for your reply and information. This would be considered during the analysis.)

29.2 Other Pimushe Roads:

Concerning other FF Rds along Pimushe if you only had a gate at the top of our driveway NO. Hunters - mudders, Bough Pickers or courious types would be back there - we have repeatedly called the FF Office and told about the sign - No Vehicles over 1000# has been gone for years so people would drive in. Also the gate on FF2508 North was wrecked the first week of deer season so anybody can tear arround all trails.

(Forest Service Reply: Thank you for your reply and information. This would be considered during the analysis. Due to the need for periodic access to some areas, gates are often the desired closure device.)

31. MN SHPO Dennis Gimmestad - letter - 11/26/2008 (PR# 265a)

31.1 General:

We look forward to reviewing this project pursuant to Section 106 requirements when your Cultural Resources staff has completed the assessment.

(Forest Service Reply: None.)

32. Matt Leibel - telephone - 12/01/2008 (PR# 266 and 268)

32.1 FR 2514 south ½ mile (Pimushe Trail south ½ mile):

It was good speaking with you yesterday regarding the Continental Divide Resource Management Project around the western portion of Pimushe Lake. As noted during the conversation, Joseph Leibel and family are in agreement that the Federal Forestry Trail 2514 (road highlighted in yellow on attached file) should be closed to any vehicles over 1,500 pounds. This trail in the past ten years has been destroyed numerous times by large vehicles (i.e., 4x4 pickups, jeeps, and other small SUVs). Only Class I and II ATVs should be permitted on this road section to preserve what remains.

(Forest Service Reply: We would call him back.)

32.2 FR 2514 in Candidate RNA (Pimushe Trail in Candidate RNA):

In regards to closing the Federal Forestry Trail 2514 (north of 2514G) and 2514D (road sections highlighted in red on attached file), Joseph Leibel and family are NOT in agreement to closing these roads along the western bank of Pimushe Lake. Our family has hunted these woods for over five generations and the roads have provided safe and needed access. Our father, Joseph Leibel, relies heavily on the use of these roads to get out to the woods on his ATV during the deer hunting season. He would not beable to walk the distance if these roads were closed due to a heart condition. We believe that having these roads remain open continue to allow a means to see and enjoy the woods and provide an exit in a case of an emergency. As noted in your letter, 2514 (north of 2514G) is very rutted and torn up. But you would also notice that the damage has been done by vehicles much larger then ATVs based on the tire rut widths.

We recognize these roads along the western bank of Pimushe Lake presently are in horrible shape. But this has been caused by large vehicles as previously noted. We propose that 2514 and 2514D (road sections highlighted in red) be closed and gated to all vehicles over 1,500 pounds. Again, only Class I and II ATVs should be permitted to preserve the existing trails.

The gated Federal Forestry Trail 2508A has proven to work on not allowing vehicles over 1,000 pounds access when the gate was new. However, at this time, the gate poles have become rotten and now allow the gate rail to be lifted up and out of the existing poles.

We are in strong support of preserving the woods along the western region of Pimushe Lake, but believe that we should not be restricted from using the roads that wind through the designated area. With proper control measures put in place, we believe that ATVs (Class I & II) can continued to be used and not destroy this forest. This area is remote enough that ATV use should never become a problem.

(Forest Service Reply: We would call him back.)

32.3 New Addresses for Mailing:

We would like to stay very closely involved in this project as we value the resources that have been described in your letter and being long term land owners adjacent to these woods. Please keep the following people posted on meetings and developments of this project going forth. At any time that questions may arise, we would be more then happy to provide feedback. Kind regards, Joseph D. Leibel and Family

Joseph D. Leibel
Joan Leibel

Michael Leibel
2668 N. 1st St.

North St Paul, MN 55109

Matt Leibel
Scott Leibel
1919 Montana Ave E.
St Paul, MN 55119

Joseph T. Leibel
1997 Hawthorne Ave
St Paul, MN 55119
(Forest Service Reply: We would call him back.)

Kate Tosca
Apple Valley, MN 55124

, Joseph T. Leibel, Scott Leibel, Kate Tosca, Michael Leibel, and Matt

Leibel Chippewa Natl Forest Trail Map Pimushe Lake 120108.pdf

33. MN DNR Michael Carrroll - letter - 12/02/2008 (PR# 267)

33.1 General Management:

The Division of Forestry is pleased to see the USFS addressing many of the same issues DNR Forestry has, and is managing in similar fashion. Harvesting actions particularly in older aged stands to move up the acreage of younger aspen, recognition and enhancement of recreational opportunities both motorized and non-motorized, invasive species control and proactive management of openings to prevent occurrence of same, road development, management, and closure upon completion of resource management needs, are all issues being treated in a similar manner, which provides consistency in practice for the public to understand. DNR Forestry has identified current productivity actions that are being prescribed, and recognizes the leadership role in silviculture that the USFS provides to the private sector. This looks like good forest management to meet a varied audience of users needs and interests.
(Forest Service Reply: These comments would be considered.)

33.2 Fisheries:

The Division of Fisheries finds no potential impacts to fisheries resources due to project activities. The only potential fisheries impacts would be from increased angling pressure due to improved public access; however, this is viewed as positive for anglers.
(Forest Service Reply: These comments would be considered.)

33.3 Nelson Lake and Little Moose Lake Projects:

There are two proposed project actions that involve improving access to two lakes - Nelson Lake and Little Moose Lake. Both sets of actions primarily involve improvements to access roads. In the case of Nelson Lake, the road needs some improvements for draining water off of the road bed. The parking lot would be increased in size to facilitate turn-arounds. DNR concurs with these proposals.

In the case of Little Moose, the road needs some base material added (ie gravel). The carry-in access would be hardened to curtail shoreline erosion. DNR also concurs with these proposals.
(Forest Service Reply: These comments would be considered.)

33.4 Goblin Fern and others:

Matricary Grapefern (Botrychium matricarifolium) - A species being considered for Special Concern status. It is typically found in aspen - hardwood forests with a mixed shrub layer, and fairly open ground layer. This species is found in or near Management site #4 in the SW section of the management area.

Lapland Buttercup (Ranunculus lapponicus) - A state listed Special Concern Species. This species is found on mossy hummocks in the lowland conifer swamps. It prefers deeper woods with little canopy or ground disturbance. This species appears to be found in or near Management site #9 in the SW section of the management area, near Drury Lake.

Goblin Fern (Botrychium mormo) - A state listed Special Concern Species. This species is typically found in sugar maple forest systems with closed canopies, a sparse shrub layer, and an open ground layer. This species appears to be found in or near Management sites # 4 and #15, just west of Rabideau Lake.

Note: These three plant species may benefit from sale design to limit forest floor disturbance during the growing season and tree selection to promote quick canopy reclosure.

(Forest Service Reply: The goblin fern is on our RFSS list and we have management guidelines for it which we would follow. The other two are not on our list and we do not do surveys for them.)

33.5 Ram's-head Lady's Slipper:

Ram's-head Lady's Slipper (Cypripedium arientinum) - A state listed Threatened Species. This species is typically found in jack pine, and sometimes red pine stands. It is also sometimes found in wetter swamp/bog type systems with fairly complete forest canopies, most commonly cedar and balsam. Because of its variable habitat use, it is difficult to recommend management strategies around this species other than to leave the areas where it is found as protected sites within a management complex. It appears to need a fairly closed canopy and cannot handle herbicides or any intensive ground manipulation at all well It is located in or adjacent to Management sites # 41 and #22, just west of Little Moose Lake.

(Forest Service Reply: This plant is on our RFSS list and we have surveyed for it in the treated stands. Several instances of its occurrence are present and would receive 250 foot buffers, winter logging, and feathering of harvesting along conifer swamp edges.)

33.6 Eagle and Goshawk:

There are also some animals of concern in the work area, although as far as we could tell, none of the nesting sites are directly in the project work areas. However, we feel it would be appropriate to take these species and their needs into consideration when implementing the proposed work.

The two species of concern are: the **Bald Eagle** (Haliaeetus leucocephalus) and the **Northern Goshawk** (*Accipiter gentilis*}. Both of these species breed and nest inside the project area. At least 15 inventoried bald eagle nests occur within, and immediately adjacent to, the CDRM project area, along with at least four northern goshawk breeding and nesting territories (2005 and 2004 data, respectively). These species nest early in the year and are active in their nesting areas through mid spring (ie, January to May). These nesting areas should not be disturbed during this time period if at all possible.

(Forest Service Reply: The Forest Plan has specific guidance for both of these species which would be followed. This guidance would be written into the prescriptions for each affected stand.)

33.7 Broadcast Burning:

Wildlife noted that burning was identified in the scoping letter attachment as the preferred method for reducing activity fuels. Wildlife would encourage the use of broadcast burning for fuels treatment in areas containing fire-dependant forested communities. Where mechanical and hand fuel treatments are used, please retain appropriate amounts of CWD, snags, and structural diversity.

(Forest Service Reply: There is not much proposed burning in this area. A lot of it would be pile burning in pine and spruce thinnings.)

33.8 Conversions and Diversity:

While converting forest types in the project area, strive to maintain or enhance stand-level diversity. Wildlife suggests promoting natural regeneration wherever possible and using less intensive site preparation. This approach would also help reduce the potential for deer depredation.

(Forest Service Reply: In all of our prescriptions for harvesting and reforestation, we are striving for species diversity. We do only the amount of site preparation and planting that is necessary to achieve the desired results.)

33.9 Increase White Spruce and Tamarack:

The DNR's Subsection Forest Resource Management Plan (SFRMP) that includes the Continental Divide Resource Management (CDRM) project area is nearing completion. This draft plan for the Chippewa Plains and Pine Moraines and Outwash Plains (CP-PMOP) subsections is posted on the DNR's website (http://www.dnr.state.mn.us/forestry/subsection/cp pmop/plan.html),

Additional information about the CDRM project area can be found in Appendix N of the DNR's draft plan mentioned above. This appendix contains LTA Assessment and Analysis documents for three LTAs that include this project area: Blackduck Moraine (212Na18), Blackduck Till Plain (212Na16), and Rosey Lake Plain (212NaOg). Based on the information in these documents, the CP-PMOf SFRMP has identified all three of these LTAs as priority LTAs for white spruce and tamarack cover type increase, two of them for white pine cover type increase (212Na18 and 212NaO9), and two for white cedar increase (212Na16 and 212NaO9).

(Forest Service Reply: We would manage the amounts of white spruce and tamarack, as well as other species, based on the LE needs shown in the Forest Plan.)

33.10 State Patch Management:

Through the SFRMP process three managed forest patches were identified on state lands within the CDRM project area. They include the Rabideau upland hardwoods patch (T.148N R.30W sections16 and 17) that would be managed unevenly, the Little Moose Lake upland hardwoods patch (T.147N R.30W section 2) that would be managed initially towards an intermediate age at normal rotations, and the Moose Lake Hardwoods upland hardwoods patch (T. 147N R.30W sectians15 and 16) that would be managed on longer rotations initially towards a young age. It appears clearcut type harvests are planned on National Forest System lands next to the Rabideau and Moose Lake Hardwoods patches. These are opportunities for coordination that could enhance the characteristics of these two managed patches.

(Forest Service Reply: We talked to the DNR or viewed the sites on our maps. They are not managing the Rabideau for old growth so our adjacent clearcutting in aspen should be compatible (1-54-64). The Little Moose Lake patch is almost a mile east of our treatments. The Moose Lake Hardwoods patch is adjacent to some strip clearcutting in lowland conifers where there is no other logical compatible treatment.)

33.11 Port Hope Ruffed Grouse Management Unit:

Another opportunity for coordination exists where the Port Hope Ruffed Grouse Management Unit overlaps with the CDRM project area (T.148N R.31W sections 30 and 31). If interested, feel free to request GIS data on managed patches, planned stand management activities, Special Management Areas, etc. This data is available through the CP-PMOP SFRMP.

(Forest Service Reply: We are doing a group selection harvest in 1-81-23, a northern hardwood stand. This is compatible with their unit.)

33.12 State Waterfowl Refuges:

There are three State Waterfowl Refuges within the CDRM project area (Rice Pond, Gimmer, and Preston lakes). The refuges provide waterfowl--most notably ring-necked ducks, as well as other wetland associated species of wildlife-with important breeding, nesting and migratory staging areas. Ring-necked ducks, which were recently identified as a forest health indicator species because of their unique habitat associations. (Minnesota Department of Natural Resources. 2006. A vision for wildlife and its use - goals and outcomes 2006-2012. Minnesota Department of Natural Resources, St. Paul.), use the entire project area and region for migrating and nesting. As well, these basins and others within the project area, including numerous drainages, also produce abundant annual wild rice crops that, along with the aforementioned, serve to meet important project objectives for maintaining suitable wildlife habitats, maintaining conditions suitable for social uses, and protecting soil and water resources. (Bemidji Wildlife and Wetland Wildlife group comment)

(Forest Service Reply: We are not doing any harvesting near these 3 State Wildlife Refuges.)

33.13 Deeryards:

Wildlife managers of Minnesota Department of Natural Resources Section of Wildlife work closely with the department's Division of Forestry area foresters to ensure that sufficient protection and/or enhancement of white-tailed deer *(Odocoileus virginianus)* winter deeryards are considered when planning for future timber harvests and treatments on state administered lands. The CDRM project area includes at least 111 delineated deer yards that occur on state, county and private forestlands, as well as Chippewa National Forest System lands, within and adjacent to the project area.

(Forest Service Reply: We have not done special management for deeryards in the past. There appears to be sufficient habitat for deer. We do not have a map of these deeryards. 111 seems quite a few, are they individual stands? Our biologist has looked at thermal cover in his analysis for deer.)

33.14 Grouse Habitat:

Where compatible with management objectives, look for additional opportunities to create quality grouse and woodcock habitat. This can be accomplished through appropriate management of aspen stands and by regenerating mature aspen inclusions in conifer stands during thinning operations. Also consider some small-scale even-aged management in less sensitive riparian areas.

(Forest Service Reply: We are doing management along the hunter walking trails, particularly Carter HWT and we are managing openings that they can use, not to mention the aspen regeneration harvesting.)

33.15 Wild Rice Lake:

There are several very important waterfowl and wild rice lakes in this area. We believe that it is extremely important that every possible safeguard is taken to protect water quality in this area. Lakes like Dutchman, Gilstad, Rice Pond, Gull, Rabideau, Little Moose, Pimushe, Gimmer, Decker, Chinaman, Morph Meadows, Third River Flowage, Preston Lakes, Damon, and Dixon are all extremely important waterfowl (particularly ring-necked ducks and goldeneyes) lakes for both breeding and fall staging. Some of these lakes are outside the actual project area, but every lake attached to a watershed within this project area needs to be considered. Streams that connect these lakes must also be protected.

(Forest Service Reply: Mitigation measures and design features in prescriptions are there to protect water quality.)

33.16 Snags and Cavities:

During any silvicultural treatment, please provide ample numbers of snags and leave tress that contain cavities or have the potential to develop them especially in and around riparian areas. These trees are important for cavity-nesting waterfowl and provide den sites for some furbearer and small game species.

(Forest Service Reply: These wildlife habitat components would be provided by our normal mitigating measures and design features in prescriptions.)

33.17 Oak

Whenever possible, manage stands to enhance oak as a stand component, in inclusions, or as a stand. Consider using silvicultural treatments that promote natural oak regeneration or increase mast production.

(Forest Service Reply: Oak is often a reserve tree in our prescriptions. We keep it as a part of stand diversity.)

34. MFI (Tim O'Hara) - letter - 12/02/2008 (PR# 269)

34.1 Proposed Action:

MFI supports the proposed management actions of the scoping document. Specifically, MFI supports proposed management actions that improve overall forest health and productivity.

(Forest Service Reply: No comment.)

34.2 White Spruce and Red Pine:

MFI supports the proposal to actively thin white spruce and red pine stands. We recommend that the district consider an alternative that proposes that recommends a final harvest on a portion of these stands. We recommends that all red pine and white spruce stands greater than 80 years of age that are be recommended as commercial thinning be evaluated as a clearcut with reserves possibility.
(Forest Service Reply:)

34.3 Merchantable Prescriptions:
MFI recommends that the Forest Service design timber sales that are marketable based existing economic conditions. Stands identified for uneven-aged management, thinning, salvage and group selection should be evaluated carefully with respect to current market conditions. MFI encourages the Forest Service to consider harvest prescriptions that would provide a minimum of 10-12 cords per acre on harvested sites.
(Forest Service Reply:)

34.4 Mechanical vs. Prescribed Burning:
MFI supports the use of mechanical treatment over fire for the treatment non-merchantable forestland acreage. The Forest Service should explore opportunities to market the biomass from these sites to biomass using energy facilities in the area.
(Forest Service Reply:)

34.5 Decommission Roads:
The proposal recommends that decommissioning of roads in the project area. MFI recommends that prior to decommissioning the roads that the Forest Service fully evaluate the costs of obliteration, evaluate the potential use to access private or other publicly owned property, need for resource protection or management and current recreational use. Further, we recommend that the Forest Service work closely with other resource managers to determine future access and road needs within the project area.
(Forest Service Reply:)

35. MTPA - letter - 12/02/2008 (PR# 270)
(See the replies to the comments in Comment 34.)

35a. LLBO DRM (Becky Knowles) - telephone - 12/08/2008 (PR# 270a)
35a.1 General:
She did not get a copy of the scoping letter but saw one at the office. Replying to this letter was not on the list of things assigned to her in Steve's absence and she didn't know if anyone else was going to reply.
(Forest Service Reply: We have gotten an extensive reply from them earlier, so we know what their feelings are towared this project. We would not pursue it much more at this time because so little of the project is inside the LLBO reservation boundary and they have not expressed a strong interest in this project.)

36. Beltrami County - Ron Otterstad - e-mail - 12/16/2008 (PR# 271)
36.1 Alternative B Supported:
The Beltrami County Board of Commissioners would like to express its support for the implementation of Alternative B in the Continental Divide Resource Management Environmental Assessment (CDRM) on the Chippewa National Forest.
(Forest Service Reply: No comment.)

36.2 Meeting Forest Plan LE Objectives:

The Board supports the efforts of the USDA Forest Service to meet Landscape Ecosystem Objectives in the Forest Plan for Decade 2 which would provide wood fiber to the local community and provide other forest products for traditional gathering.

On behalf of the Beltrami County Board, I would like to thank you for your continued efforts to implement the Forest Plan on the Chippewa National Forest.

(Forest Service Reply: No comment.)

37. Bud Stone - Grand Rapids Chamber of Commerce - letter - 01/02/2009 (PR# 272)

37.1 Forest Management Practices:

The Grand Rapids Area Chamber of Commerce would like to go on record as an interested party regarding this project. The Chamber supports forest management practices that promote the health of the forests, increasing raw material supply for our forest related businesses and industries and reducing the potential of wildfires for the safety of our communities.

(Forest Service Reply:)

37.2 Hiking and OHV Trails:

we would also like to encourage the Forest Service to continually improve opportunities for public access to our public lands including walking trails and OHV trails.

(Forest Service Reply:)

38. Sugarbush LIC - meeting - 02/09/2009 (PR# 307 and 309)

38.1 General:

The meeting was postponed twice by them due to ice and snow storms.

(Forest Service Reply: We have not heard about the meeting being rescheduled. A packet of the information that was to be presented at the meeting was sent to them on 2/11/2009, with no reply as of 2/23/2009.)

39. Mission LIC - meeting - 02/16/2009 (PR# 312)

39.1 General:

The meeting was not held.

(Forest Service Reply: We went to the meeting on 2/16/2009 but no members showed up for it. A packet of the information that was to be presented at the meeting was sent to them on 2/24/2009.)

40. Mission LIC - mailing - 02/24/2009 (PR# 317, 317a, 317b, 317c)

40.1 General:

None.

(Forest Service Reply: Since the meeting was not held and we need to get this information to them soon, a large packet of data sheets and maps was sent to 5 lIC members on 2/24/2009.)

APPENDIX D: ALTERNATIVE MAPS AND SPREADSHEETS

Table App. D.1 - Alternative C Prescriptions

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year orign	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00003	002	4.3	16	16		2004				rap					
00003	003	39.6	71	71		1932	4220					1220_40			
00003	006	57.4	82	82		1932	4151								
00003	013	6.6	92	92		1941	4132		4490	r					
00003	026	4.4	3	3		2004				rap					
00003	033	13.6	3	3		2002				rp					
00003	058	1.1	94	94		1941	4102								
00003	058	1.1	94	94		1941	4102								
00004	003	25.7	2	2		1938	4220					1220_4			
00004	008	0.9	99	99							WL_mow				
00004	022	0.9	99	99							WL_mow				
00004	023	1.0	99	99							WL_mow				
00004	046	8.7	16	16		2001				rp					
00004	047	13.7	3	3		2001				rp					
00004	059	0.8	16	16	component natural WS PB	1937	4220		4490			1220_1			
00005	006	15.2	91	91		1948	4102								
00005	016	2.5	99	99							WL_mow				
00005	025	135.1	89	89	component WP	1908	4151	4431		ra					
00006	022	33.1	16	16		1978	4220								
00006	023	19.7	89	89		1895	4152		4490						
00006	027	1.7	98	89	convert_wl_89						Natural_Hdwd				
00006	029	1.3	98	98							WL_mow				
00006	031	1.7	98	89	convert_wl_89						Natural_Hdwd				
00008	002	0.3	99	3	convert_wl_WPWSFruit					r	seed_WP				
00008	012	0.0	99	3	convert_wl_WPWSFruit					r	seed_WP				
00009	005	1.4	99	99							WL_mow				
00009	008	0.6	99	16	convert_wl_WSWPFruit					r	seed_WS				
00009	009	6.3	16	16	component natural WS PB	1939	4220		4490			1220_6			
00009	026	5.8	95	95		1920	4102								
00009	027	2.1	99	99							WL_mow				
00009	028	0.7	99	99							WL_mow				
00009	029	24.8	16	16		2001				rp					
00009	047	7.3	11	16	convert WS	1920	4117	4421	4480	r					
00009	052	1.8	11	11	component natural WS PB	1920	4220		4490						

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00009	066	0.8	16	16	component natural WS PB	1939	4220		4490			1220_1			
00009	068	6.6	94	94		1920	4102								
00009	069	0.2	3	3		2001				rp					
00010	011	1.7	99	99							WL_mow				
00010	018	0.6	99	99							WL_mow				
00013	010	13.0	16	16	component natural WS PB	1943	4220		4490			1220_3			
00013	011	7.4	91	91		1943	4102								
00013	014	5.2	99	99							WL_mow				
00013	016	27.8	16	16	component natural WS PB	1978	4220		4490						
00013	024	1.3	98	98							WL_mow				
00013	044	1.3	98	98							WL_mow				
00015	009	23.1	82	82		2001*	4151								
00016	001	4.9	91	91		1930	4102								
00016	020	0.8	98	98							WL_mow				
00016	021	1.5	99	99							WL_mow				
00016	027	5.8	91	91		1928	4102								
00017	001	31.7	94	94		1937	4102								
00017	002	29.5	91	91		1937	4102								
00017	005	1.0	99	99							WL_mow				
00017	007	23.8	92	92		1928	4132		4490	r					
00017	022	23.6	91	91		1926	4102								
00017	024	23.7	16	16		1940	4117	4421	4480	r					
00017	025	0.8	99	99							WL_mow				
00017	028	5.4	16	16		1937	4117	4421	4480	r					
00017	030	20.2	16	16		1937	4117	4421	4480	r					
00017	032	2.0	99	99							WL_mow				
00017	042	1.1	99	3	convert_wl_WPWSFruit					r	seed_WP				
00018	007	0.2	99	99							WL_mow				
00019	004	0.5	99	16	convert_wl_WSWPFruit					r	seed_WS				
00021	016	7.4	2	2		1936	4220					1220_7			
00021	028	1.4	99	99							WL_mow				
00021	030	1.4	99	99							WL_mow				
00022	001	8.5	94	94		1942	4102								
00022	003	13.2	11	11	component WS	1918	4117	4421	4480	r					
00022	004	15.1	16	16		1975	4220					1220_15			
00022	006	6.1	95	91	convert_aspen	1945	4102								
00022	009	21.5	91	91		1945	4102								
00022	022	1.4	99	99							WL_mow				
00022	025	1.6	99	99							WL_mow				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00022	026	0.7	98	98							WL_mow				
00022	028	23.2	91	11	convert_11	1922	4117	4421	4480	r					
00022	033	1.2	99	99							WL_mow				
00022	034	1.3	99	99							WL_mow				
00022	035	2.1	99	89	convert_wl_89						Natural_Hdwd				
00022	036	1.7	99	89	convert_wl_89						Natural_Hdwd				
00022	051	3.7	91	91		1927	4102								
00022	062	4.8	82	82		1927	4151								
00022	063	2.0	11	11	component WS	1918	4117	4421	4480	r					
00022	064	4.4	16	16		1975	4220					1220_4			
00022	065	21.0	89	89		1945	4152		4490						
00023	008	12.7	91	91		2001				rp					
00023	038	5.1	91	91		2001				rp					
00023	039	3.8	91	91		2001				rp					
00025	005	17.5	89	89		1930	4152		4490						
00025	007	19.6	92	92		1930	4132		4490	r					
00025	011	11.1	91	91		1935	4102								
00025	016	22.0	82	82		1900	4151								
00025	021	14.2	91	91		1935	4102								
00025	025	3.9	99	3	convert_wl_WPWSFruit					r	seed_WP				
00025	027	2.1	99	89	convert_wl_89						Natural_Hdwd				
00025	029	5.7	99	3	convert_wl_WPWSFruit					r	seed_WP				
00025	045	30.0	82	82		1900	4151								
00026	008	1.2	99	99							WL_mow				
00026	020	19.5	82	82		1900	4151								
00026	029	9.9	71	71	component TamBSCedHdwd	1924	4193	4421	4480	r					
00026	031	4.1	99	99							WL_mow				
00026	032	1.1	99	99							WL_mow				
00026	033	1.2	99	99							WL_mow				
00027	008	0.9	98	3	convert_wl_WPWSFruit					r	seed_WP				
00027	009	35.1	11	16	convert WS	1940	4117	4421	4480	r					
00027	010	4.6	11	16	convert WS	1940	4117	4421	4480	r					
00027	011	15.9	82	82		1920	4151								
00027	019	1.1	99	99							WL_mow				
00027	020	1.8	99	98							WL_mow				
00027	035	14.0	82	82		1920	4151								
00027	044	4.9	11	16	convert WS	1940	4117	4421	4480	r					
00027	045	1.1	99	99							WL_mow				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00029	012	19.2	16	16		1977	4220					1220_5			
00029	017	16.7	95	95		2003				rap					
00029	023	2.2	98	89	convert_wl_89						Natural_Hdwd				
00029	024	1.8	98	98							WL_mow				
00029	025	1.4	99	99							WL_mow				
00029	027	0.7	99	89	convert_wl_89						Natural_Hdwd				
00029	029	10.2	91	91		1937	4102								
00044	007	19.4	82	82		1903	4151								
00044	009	17.9	91	91		1926	4102								
00044	013	0.9	98	89	convert_wl_89						Natural_Hdwd				
00045	020	1.0	98	16	convert_wl_WSWPFruit					r	seed_WS				
00045	022	0.5	98	16	convert_wl_WSWPFruit					r	seed_WS				
00045	029	0.5	98	16	convert_wl_WSWPFruit					r	seed_WS				
00046	029	1.4	99	99							WL_mow				
00046	041	1.7	99	99							WL_mow				
00047	007	6.0	15	15		1885	4115								
00047	009	19.4	2	2	component WSWP	1923	4152	4421	4480	r					
00047	011	0.7	99	99							WL_mow				
00047	027	2.1	99	99							WL_mow				
00047	056	7.9	2	2	component WSWP	1923	4152	4421	4480	r					
00048	001	1.0	2	2		1958	4220					1220_1			
00048	006	16.0	91	92	convert PB	1920	4132		4490	r					
00048	007	22.6	11	3	convert WP	1938	4131	4421	4480	r					
00048	023	6.5	2	2		1920	4220					1220_3			
00048	029	15.6	91	91		1932	4102								
00048	032	32.0	1	1		1920	4117	4421	4480	r					
00048	047	2.6	2	2		1958	4220					1220_3			
00048	056	2.4	2	2		1923	4220					1220_2			
00049	014	21.8	2	2		1938	4220					1220_5			
00049	017	18.5	91	91		1916	4102								
00049	022	17.8	2	2		1936	4220					1220_6			
00049	025	1.1	99	99							WL_mow				
00049	026	4.1	99	99							WL_mow				
00049	032	0.5	98	16	convert_wl_WSWPFruit					r	seed_WS				
00050	001	6.7	2	2		1964	4220					1220_7			
00050	008	1.0	92	92	component WP	1925				rap				Plt_WP_1	
00050	014	1.0	91	91	component WP	1988				rap				Plt_WP_1	

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00050	023	0.7	99	99							WL_mow				
00050	055	1.0	92	92	component WP	1925				rap				Plt_WP_1	
00050	087	1.0	91	91	component WP	1988				rap				Plt_WP_1	
00051	012	1.3	99	89	convert_wl_89						Natural_Hdwd				
00051	029	31.8	16	16		1936	4220								
00051	050	3.0	92	92	component WP	1920				rap				Plt_WP_3	
00051	051	10.8	2	2		1960	4220					1220_11			
00051	052	5.1	99	89	convert_wl_89						Natural_Hdwd				
00052	004	10.7	11	11	component WS	1921	4117	4421	4480	r					
00052	015	14.1	11	11	component WS	1921	4117	4421	4480	r					
00054	001	6.0	12	12		1880	4115								
00054	007	3.0	15	15		1895	4115								
00054	018	0.5	99	99							WL_mow				
00054	023	12.0	15	15		1895	4115	4411							
00054	054	6.4	91	91		1935	4102								
00054	064	43.2	91	91		1965	4102								
00054	076	0.8	98	98							WL_mow				
00054	077	1.6	99	99							WL_mow				
00054	078	1.7	99	99							WL_mow				
00054	079	0.7	99	98							WL_mow				
00054	080	1.4	99	99							WL_mow				
00054	081	2.9	99	99							WL_mow				
00054	123	8.4	91	91		1965	4102								
00054	136	3.0	15	15		1895	4117	4411							
00054	142	0.6	99	99							WL_mow				
00055	007	24.2	15	15		1917	4231	4421	4480	r			Beaver pond		
00055	011	1.4	99	99							WL_mow				
00055	048	0.9	99	99							WL_mow				
00055	049	0.9	99	99							WL_mow				
00055	054	2.1	99	99							WL_mow				
00055	117	0.5	99	99							WL_mow				
00055	119	0.0	99	99							WL_mow				
00056	001	13.5	2	2		1961	4220					1220_5			
00056	002	4.3	2	2		1965	4220								
00056	015	1.1	99	99							WL_mow				
00056	028	0.6	99	99							WL_mow				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year orign	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00056	034	3.0	99	99							WL_mow				
00056	035	0.8	99	99							WL_mow				
00057	001	21.4	2	2		1963	4220					1220_5			
00057	011	2.2	99	3	convert_wl_WPWSFruit					r	seed_WP				
00057	014	0.6	99	3	convert_wl_WPWSFruit					r	seed_WP				
00057	029	3.4	99	99							WL_mow				
00057	044	0.6	99	99							WL_mow				
00057	045	1.8	99	99							WL_mow				
00057	105	1.2	99	99							WL_mow				
00058	005	0.3	99	99							WL_mow				
00058	017	1.6	98	98							WL_mow				
00059	012	58.8	89	89		1928	4152		4490						
00059	017	25.3	82	82		1926	4151								
00059	025	21.8	82	82		1925	4151								
00059	029	32.0	91	91	component WSWP_32 component_WP_6	1928	4193	4421	4480	r				Plt_WP_6	
00059	044	1.7	99	3	convert_wl_WPWSFruit					r	seed_WP				
00059	054	1.8	99	3	convert_wl_WPWSFruit					r	seed_WP				
00059	055	1.9	99	99							WL_mow				
00059	056	2.8	99	99							WL_mow				
00059	057	1.6	99	99							WL_mow				
00059	058	18.4	91	91		1935	4102								
00060	005	31.8	92	92		1930	4132		4490	r					
00060	012	12.5	92	91	convert_aspen	1900	4102								
00060	026	2.5	92	92		1930	4132		4490	r					
00060	045	6.9	92	91	convert_aspen	1900	4102								
00060	050	2.0	91			1963							OHV_trailhead		
00061	004	8.7	97	97									Bog walk		
00062	005	36.3	2	2	component WPWS	1905	4152	4421	4480	r		1220_36			
00062	007	18.1	91	3	convert WP	1943	4131	4421	4480	r					
00062	010	6.0	12	12		1880	4115	4411							
00062	012	0.7	99	3	convert_wl_WPWSFruit					r	seed_WP				
00062	014	24.5	91	91		1920	4102								
00062	020	20.1	91	91		1939	4102								
00062	023	19.9	91	91		1920	4102								
00062	024	31.1	2	2	component WSWP	1905	4193	4421	4480	r					
00062	028	1.8	99	99							WL_mow				
00062	029	2.6	99	99							WL_mow				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00062	036	5.0	91	91		1940	4102								
00062	039	6.8	11	11	component WS	1946	4117	4421	4480	r					
00062	071	23.0	2	2	component WPWS	1905	4152	4421	4480	r		1220_23			
00063	017	11.2	92	92		2003				rap					
00063	030	23.6	91	91		1924	4102								
00063	038	3.1	98	98							WL_mow				
00063	041	42.9	16	16		1976	4220								
00063	042	5.4	16	16		1977	4220								
00063	046	1.5	99	99							WL_mow				
00063	047	1.9	99	3	convert_wl_WPWSFruit					r	seed_WP				
00063	048	1.0	99	99							WL_mow				
00063	049	1.4	99	99							WL_mow				
00063	050	1.3	99	99							WL_mow				
00063	051	2.1	99	99							WL_mow				
00063	074	2.6	95	95		1937	4102								
00063	103	5.7	92	92		2003				rap					
00064	005	1.9	99	99							WL_mow				
00064	008	25.0	15	15		1921	4115								
00064	041	2.2	99	99							WL_mow				
00064	046	1.2	99	16	convert_wl_WSWPFruit					r	seed_WS				
00064	047	1.6	99	16	convert_wl_WSWPFruit					r	seed_WS				
00064	048	1.7	99	16	convert_wl_WSWPFruit					r	seed_WS				
00064	088	20.0	15	15		1905	4115								
00065	020	1.0	99	99							WL_mow				
00065	037	2.7	99	99							WL_mow				
00065	039	2.6	99	89	convert_wl_89						Natural_Hdwd				
00065	040	1.0	99	89	convert_wl_89						Natural_Hdwd				
00066	034	3.6	99	3	convert_wl_WPWSFruit					r	seed_WP				
00066	035	4.0	99	3	convert_wl_WPWSFruit					r	seed_WP				
00066	036	1.5	99	3	convert_wl_WPWSFruit					r	seed_WP				
00066	073	2.0	99										Bridge		
00067	022	0.9	99	99							WL_mow				
00067	023	0.5	99	99							WL_mow				
00069	004	2.0	99	89	convert_wl_89						Natural_Hdwd				
00069	023	0.4	99	89	convert_wl_89						Natural_Hdwd				
00069	024	2.9	99	99							WL_mow				
00069	026	0.6	99	98							WL_mow				
00070	017	1.4	99	99							WL_mow				
00070	021	5.9	99	89	convert_wl_89						Natural_Hdwd				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00070	025	2.4	99	89	convert_wl_89						Natural_Hdwd				
00070	035	1.3	99	89	convert_wl_89						Natural_Hdwd				
00070	038	0.9	99	89	convert_wl_89						Natural_Hdwd				
00070	039	1.2	99	99							WL_mow				
00071	004	0.9	99	16	convert_wl_WSWPFruit					r	seed_WS				
00071	005	1.7	99	16	convert_wl_WSWPFruit					r	seed_WS				
00071	010	2.9	99	99							WL_mow				
00071	012	3.0	91	91		1972	4162								
00071	013	4.9	99	99							WL_mow				
00071	014	2.0	95	95		1989					HWT_patch				
00071	015	6.0	91	91		1972	4162								
00071	019	0.3	99	99							WL_mow				
00071	022	0.5	99	16	convert_wl_WSWPFruit					r	seed_WS				
00071	024	0.8	99	99							WL_mow				
00071	027	3.0	91	91		1985					HWT_patch				
00071	040	1.0	91	91		1985					HWT_patch				
00071	047	2.0	91	91		1972	4162								
00071	052	1.0	91	91		1972	4162								
00071	058	3.0	91	91		1972	4162								
00073	007	5.0	15	15		1890	4115								
00073	012	38.1	91	89	convert MNH	1904	4152		4490						
00073	013	0.6	99	99							WL_mow				
00073	016	30.1	91	91		1938	4102								
00073	018	4.0	82	82		1931							Nelson road		
00073	019	3.4	16	16		1959	4220								
00073	023	7.6	2	2		1960	4220					1220_8			
00073	030	0.8	99	99							WL_mow				
00073	031	1.3	99	89	convert_wl_89						Natural_Hdwd				
00073	032	0.5	99	99							WL_mow				
00073	044	0.8	16	16		1959	4220								
00073	048	1.0	99												NNIS_1
00073	049	0.4	99	99							WL_mow				
00073	051	0.7	99	99							WL_mow				
00074	026	3.0	99	99							WL_mow				
00074	027	2.0	99	99							WL_mow				
00074	028	3.6	99	3	convert_wl_WPWSFruit					r	seed_WP				
00074	029	2.4	99	99							WL_mow				
00074	030	2.7	99	3	convert_wl_WPWSFruit					r	seed_WP				

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00074	031	3.1	99	99							WL_mow				
00075	003	16.3	3	3		1873	4131	4421	4480	r					
00076	035	0.9	98	98							WL_mow				
00076	036	1.4	99	99							WL_mow				
00076	037	0.3	99	99							WL_mow				
00076	047	0.5	99	99							WL_mow				
00076	048	1.1	99	99							WL_mow				
00076	049	0.6	99	99							WL_mow				
00078	015	1.1	99	99							WL_mow				
00078	035	1.4	98	3	convert_wl_WPWSFruit					r	seed_WP				
00079	003	10.0	91	91		1974	4162								
00079	009	0.6	99	99							WL_mow				
00079	010	4.0	99	99							WL_mow				
00079	011	8.0	91	91		1975	4162								
00079	014	1.0	91	91		1985					HWT_patch				
00079	016	2.0	91	91		1986					HWT_patch				
00079	026	1.3	99	16	convert_wl_WSWPFruit					r	seed_WS				
00079	035	0.9	99	99							WL_mow				
00079	036	1.3	99	99							WL_mow				
00079	037	1.3	99	99							WL_mow				
00079	038	0.9	99	99							WL_mow				
00079	040	2.1	99	99							WL_mow				
00079	055	3.0	91	91		1974	4162								
00079	060	1.0	91	91		1974	4162								
00079	068	1.0	95	95		1975	4162								
00079	069	0.6	99	99							WL_mow				
00079	079	2.0	91	91		1974	4162								
00079	081	1.0	91	91		1974	4162								
00079	083	0.5	99	99							WL_mow				
00079	084	0.3	99	99							WL_mow				
00080	015	21.0	91	16	convert WSWP	1963	4117	4431	4470	ra					
00081	004	5.6	82	82		1908	4151								
00081	023	33.2	89	89		1920	4152		4490						
00081	030	0.8	99	99							WL_mow				
00081	036	0.3	99	99							WL_mow				
00082	007	0.5	99	89	convert_wl_89						Natural_Hdwd				
00082	023	0.8	99	16	convert_wl_WSWPFruit					r	seed_WS				
00082	031	20.2	91	91	component WP	1927				rap				Plt_WP_2	

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00082	045	1.0	14	14		1870								Road prism	
00082	046	1.0	99	99										Road prism	
00082	080	0.7	99	16	convert_wl_WSWPFruit					r	seed_WS				
00082	083	3.0	82	82	component WP	1940				rap				Plt_WP_3	
00083	112	1.0	91	91	component WP	1927				rap				Plt_WP_1	
00084	006	6.8	91	91		1960	4102								
00084	009	17.3	91	91		1959	4102								
00084	021	11.0	12	12		1920	4115								
00084	023	1.0	98	89	convert_wl_89						Natural_Hdwd				
00084	027	22.0	91	91		1934	4102								
00084	045	23.0	15	15		1940	4115								
00084	052	9.0	12	12		1922	4115								
00085	001	1.1	99	89	convert_wl_89						Natural_Hdwd				
00085	002	1.1	99	89	convert_wl_89						Natural_Hdwd				
00085	005	8.0	12	12		1902	4115								
00085	031	3.0	12	12		1902	4117	4411							
00085	046	2.0	99	89	convert_wl_89						Natural_Hdwd				
00087	032	2.5	16	16		1980	4220								
00088	034	0.9	99	3	convert_wl_WPWSFruit					r	seed_WP				
00089	001	0.0	91	91		1929	4102								
00092	004	0.5	99	99							WL_mow				
00092	005	0.3	99	98							WL_mow				
00092	017	1.3	99	99							WL_mow				
00092	020	1.1	99	99							WL_mow				
00092	023	1.0	99	99							WL_mow				
00092	024	1.6	99	89	convert_wl_89						Natural_Hdwd				
00092	025	1.6	99	99							WL_mow				
00092	036	0.8	99	89	convert_wl_89						Natural_Hdwd				
00099	002	0.7	99	16	convert_wl_WSWPFruit					r	seed_WS				
00099	003	0.2	99	16	convert_wl_WSWPFruit					r	seed_WS				
00100	052	2.7	99	99							WL_mow				
00107	024	2.5	99	3	convert_wl_WPWSFruit					r	seed_WP				
00107	025	2.3	99	99							WL_mow				
00107	026	1.9	99	99							WL_mow				
00107	032	15.0	99	99							WL_mow				

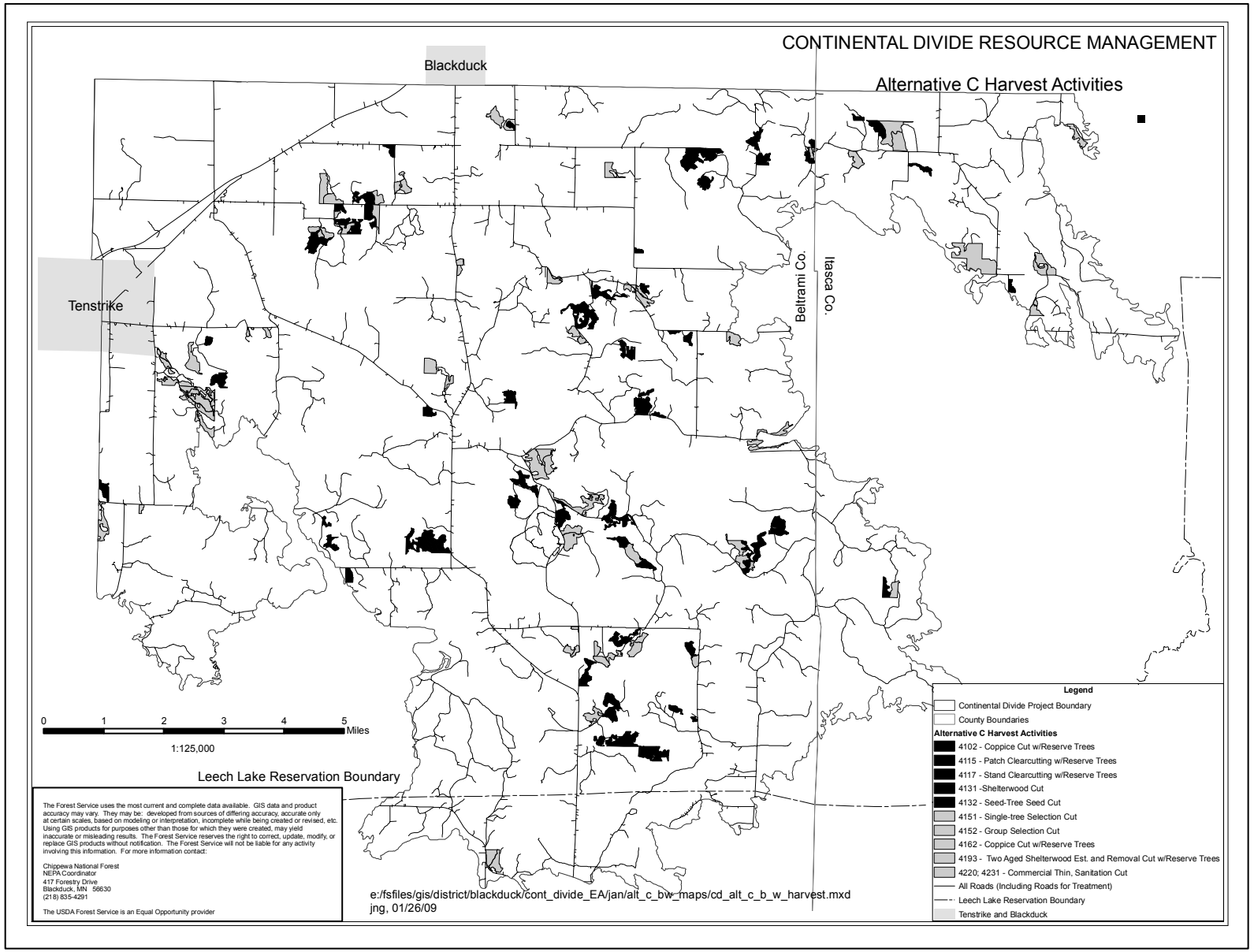
Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00108	007	16.9	2	2	component WSWP	1902	4193	4421	4480	r		1220_17			
00108	018	23.5	82	82		1921	4151								
00108	020	14.4	2	2	component WSWP	1887	4193	4421	4480	r		1220_14			
00108	021	7.6	1	1		1998				rp					
00108	022	15.5	91	91		1945	4102								
00108	025	17.4	92	92		1930	4132		4490	r					
00108	026	12.2	82	82		1910	4151						Carry-in access		
00108	028	2.5	99	99							WL_mow				
00108	032	16.0	15	15		1900	4115								
00108	033	2.8	99	99							WL_mow				
00108	041	15.8	91	91		1910	4102								
00108	046	1.2	99	98							WL_mow				
00108	047	1.0	99	99							WL_mow				
00108	058	1.4	99	99							WL_mow				
00108	069	4.6	91	2	convert RP	1945	4220								
00108	088	12.1	2	2	component WP	1945	4193	4421	4480	r					
00108	100	8.1	2	2	component WP	1902	4193	4421	4480	r		1220_8			
00109	002	3.5	2	2		1963	4220					1220_4			
00109	012	7.5	2	2	component WSWP	1899	4193	4421	4480	r					
00109	018	11.0	2	2	component WSWP	1879	4193	4421	4480	r					
00109	027	1.6	99	99							WL_mow				
00109	037	0.5	99	99							WL_mow				
00109	039	0.4	99	99							WL_mow				
00109	040	1.3	99	99							WL_mow				
00109	041	1.8	99	3	convert_wl_WPWSFruit					r	seed_WP				
00110	003	0.6	99	99							WL_mow				
00110	011	0.3	99	89	convert_wl_89						Natural_Hdwd				
00111	028	1.0	98	3	convert_wl_WPWSFruit					r	seed_WP				
00111	034	1.7	98	3	convert_wl_WPWSFruit					r	seed_WP				
00111	038	0.4	99	89	convert_wl_89						Natural_Hdwd				
00111	039	0.9	99	89	convert_wl_89						Natural_Hdwd				
00111	040	0.9	99	99							WL_mow				
00111	041	1.7	99	3	convert_wl_WPWSFruit					r	seed_WP				
00112	001	3.9	91	91		1939	4102								
00112	004	6.0	15	15		1900	4117	4411							
00112	015	23.2	91	91		1945	4102								
00112	024	28.0	15	15		1885	4115								
00112	030	26.9	14	14		1920	4193	4421	4480	r					

Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00112	036	27.1	91	91		1920	4102								
00112	093	6.0	15	15		1885	4115								
00114	002	18.9	91	91		1935	4102								
00114	004	4.4	99	99							WL_mow				
00114	005	16.2	91	91		1908	4102								
00114	008	8.0	15	15		1888	4115								
00114	009	3.0	15	15		1883	4117	4411							
00115	012	2.8	99	3	convert_wl_WPWSFruit					r	seed_WP				
00115	019	2.9	99	89	convert_wl_89						Natural_Hdwd				
00115	045	1.7	99	89	convert_wl_89						Natural_Hdwd				
00116	043	2.4	99	3	convert_wl_WPWSFruit					r	seed_WP				
00116	044	0.7	99	3	convert_wl_WPWSFruit					r	seed_WP				
00116	045	1.1	99	99							WL_mow				
00116	046	1.0	99	3	convert_wl_WPWSFruit					r	seed_WP				
00117	022	0.3	99	99							WL_mow				
00117	029	2.4	99	99							WL_mow				
00118	004	1.0	91	91	component WP	1928				rap				Plt_WP_1	
00118	018	22.9	82	82		1928	4151								
00118	019	24.2	89	89		1957	4152		4490						
00118	024	1.0	95	95	component WP	1963				rap				Plt_WP_1	
00118	025	1.0	95	95	component WP	1937				rap				Plt_WP_1	
00118	026	1.0	95	95	component WP	1971				rap				Plt_WP_1	
00118	043	1.0	95	95	component WP	1982				rap				Plt_WP_1	
00120	008	2.0	95	95	component WP	1944				rap				Plt_WP_2	
00120	039	1.6	98	98							WL_mow				
00126	011	1.1	99	98							WL_mow				
00126	012	0.6	99	89	convert_wl_89						Natural_Hdwd				
00126	015	0.0	99	99							WL_mow				
00126	023	3.5	99	99							WL_mow				
00126	032	3.0	99	89	convert_wl_89						Natural_Hdwd				
00126	037	0.4	99	89	convert_wl_89						Natural_Hdwd				
00126	043	0.9	99	99							WL_mow				
00126	044	1.1	99	89	convert_wl_89						Natural_Hdwd				

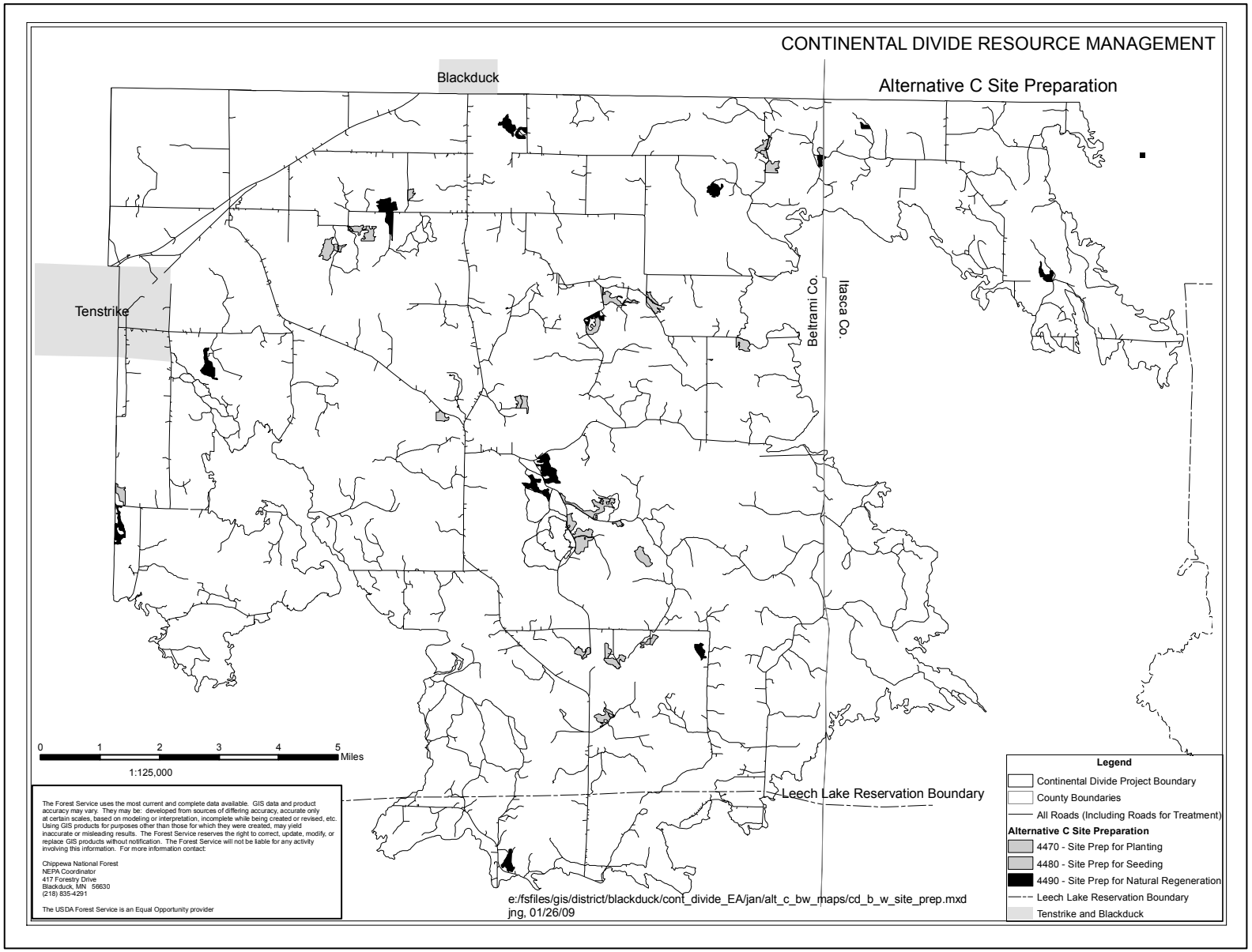
Comp	Std	Treat Acres	For. Type	Future type	Convert?	Year origin	Harvest	Regen.	Site Prep	TSI	Wildlife	Fire	Odd Projects	Riparian	NNIS
00126	045	1.6	99	89	convert_wl_89						Natural_Hdwd				
00126	046	1.3	99	89	convert_wl_89						Natural_Hdwd				
00126	047	2.7	99	99							WL_mow				
00134	006	0.0	99	99							WL_mow				
00212	024	21.7	82	82		1930	4151								
00213	008	0.8	98	98							WL_mow				
00213	009	1.9	98	89	convert_wl_89						Natural_Hdwd				
00213	010	0.3	98	98							WL_mow				
00213	011	1.3	98	98							WL_mow				
00245	016	1.1	98	89	convert_wl_89						Natural_Hdwd				

* This 2001 age is an error in CDS/Stand. The stand is actually a sawtimber stand.

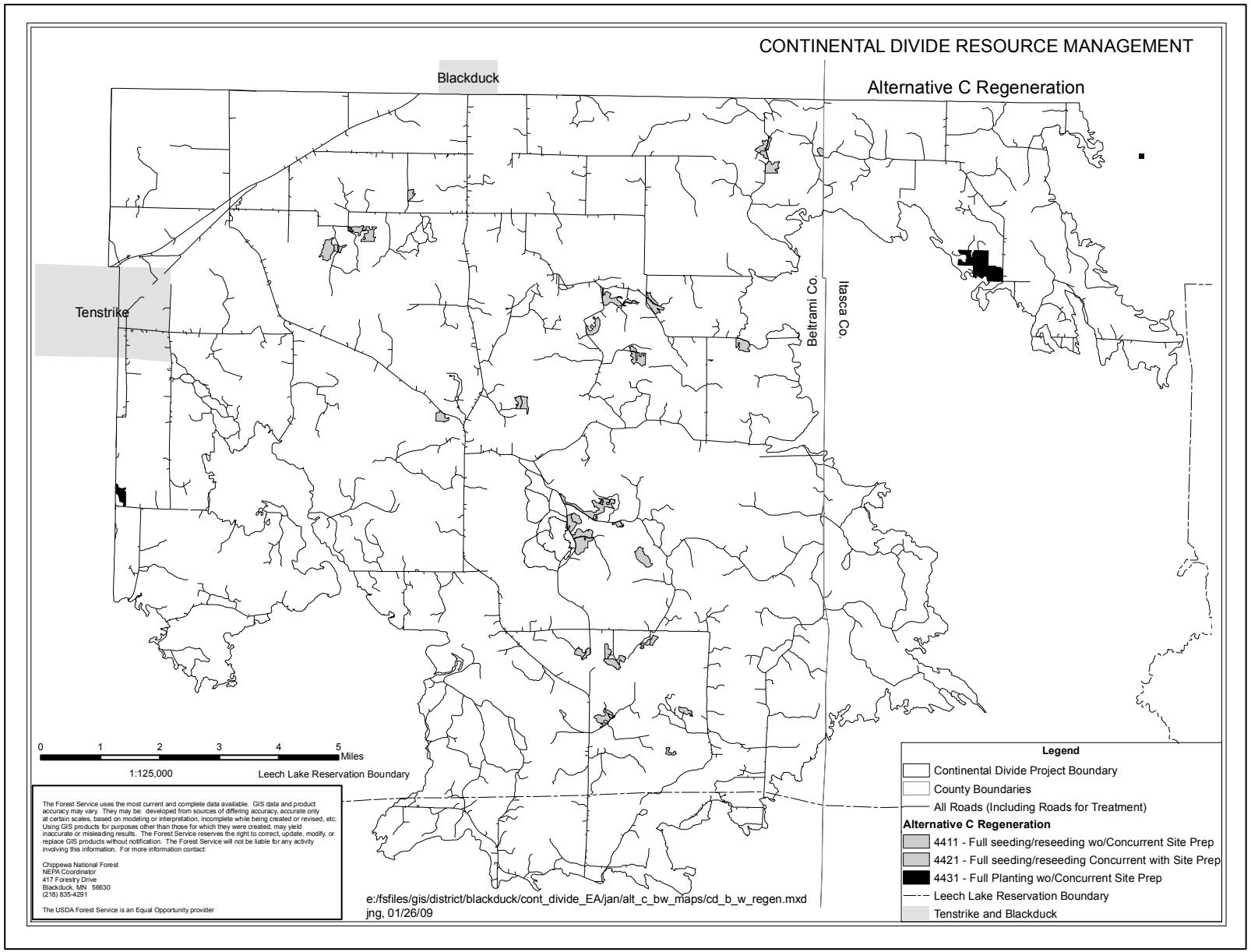
Map App. D-1 - Alternative C Harvest



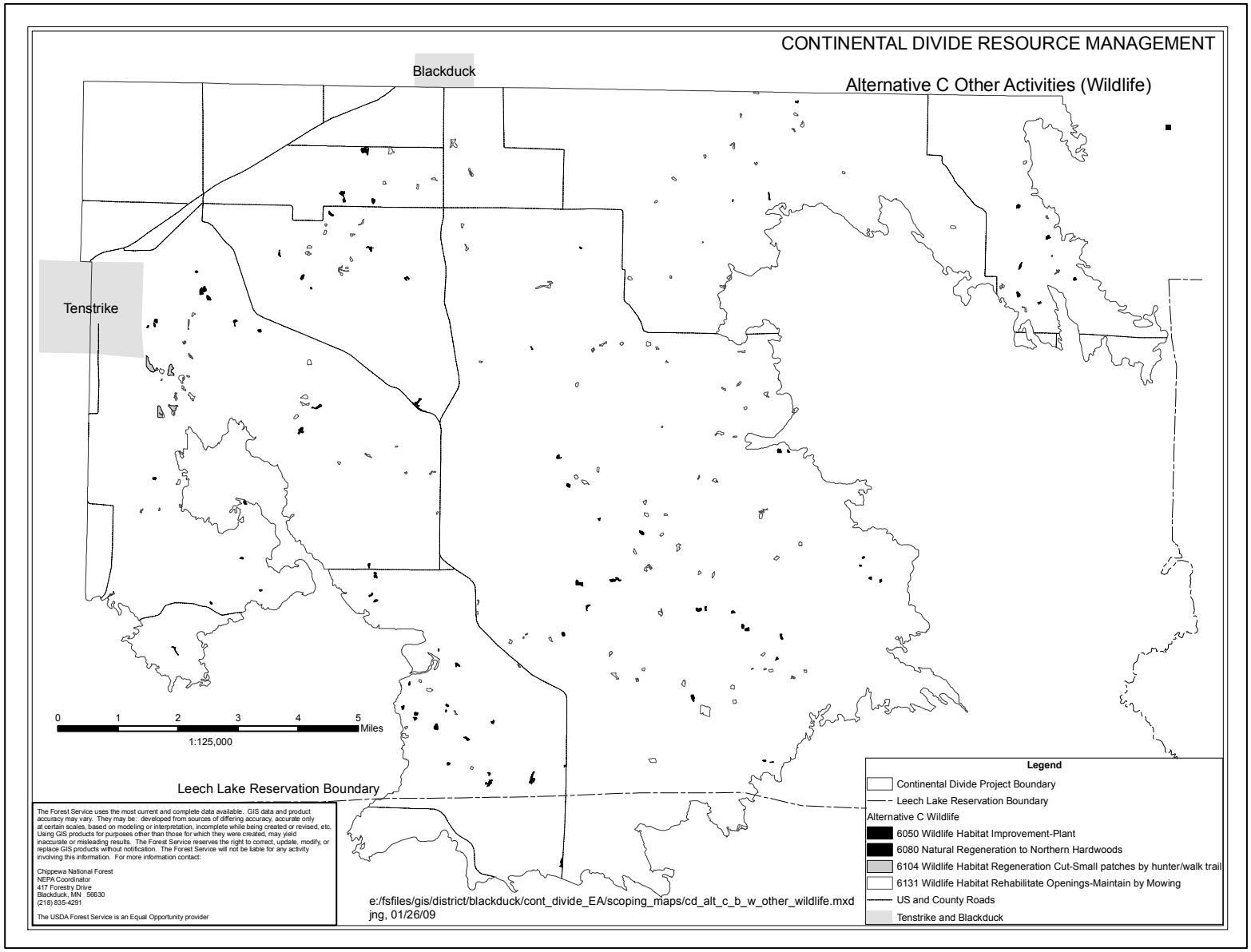
Map App. D-2 - Alternative C Site Preparation



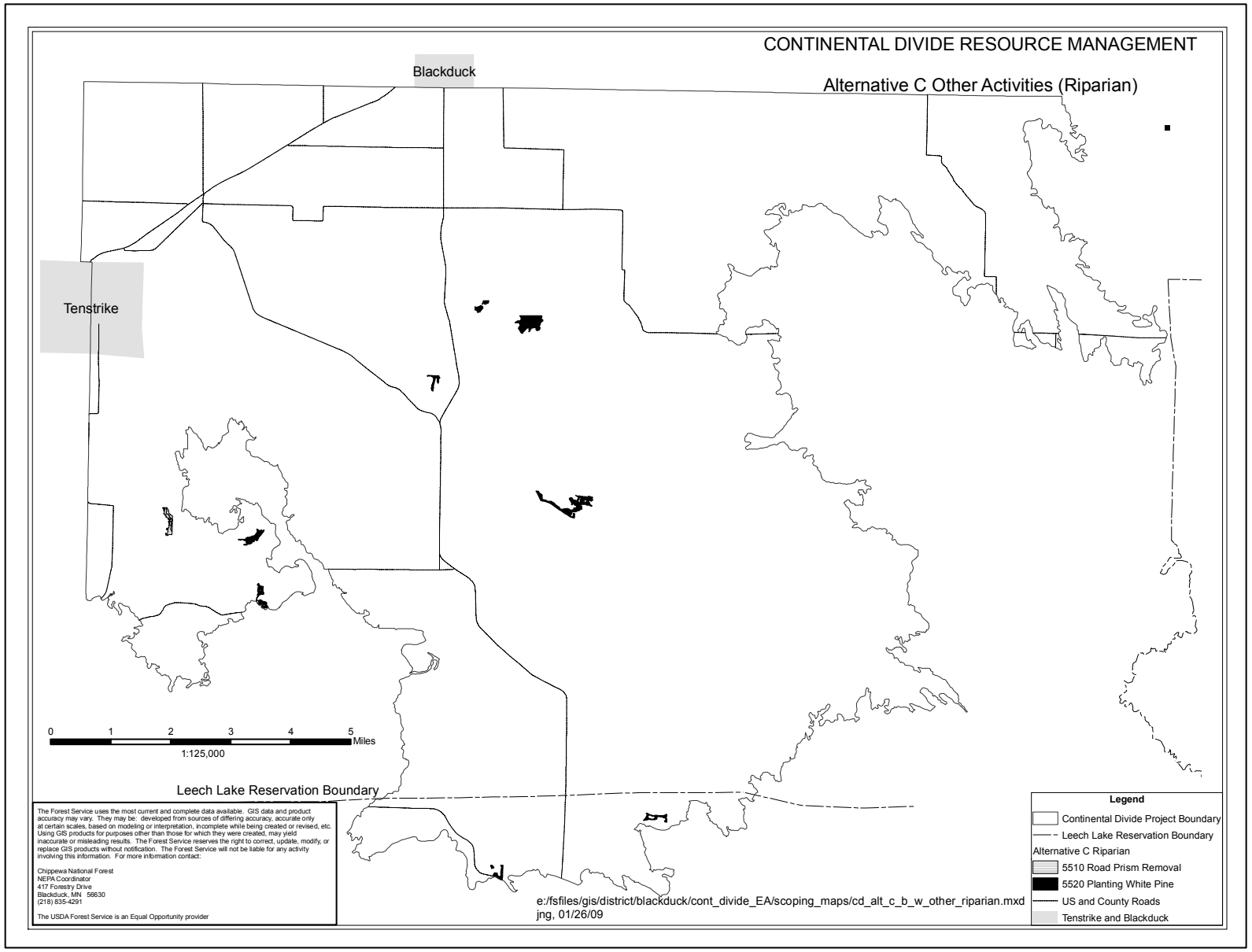
Map App. D-3 - Alternative C Regeneration



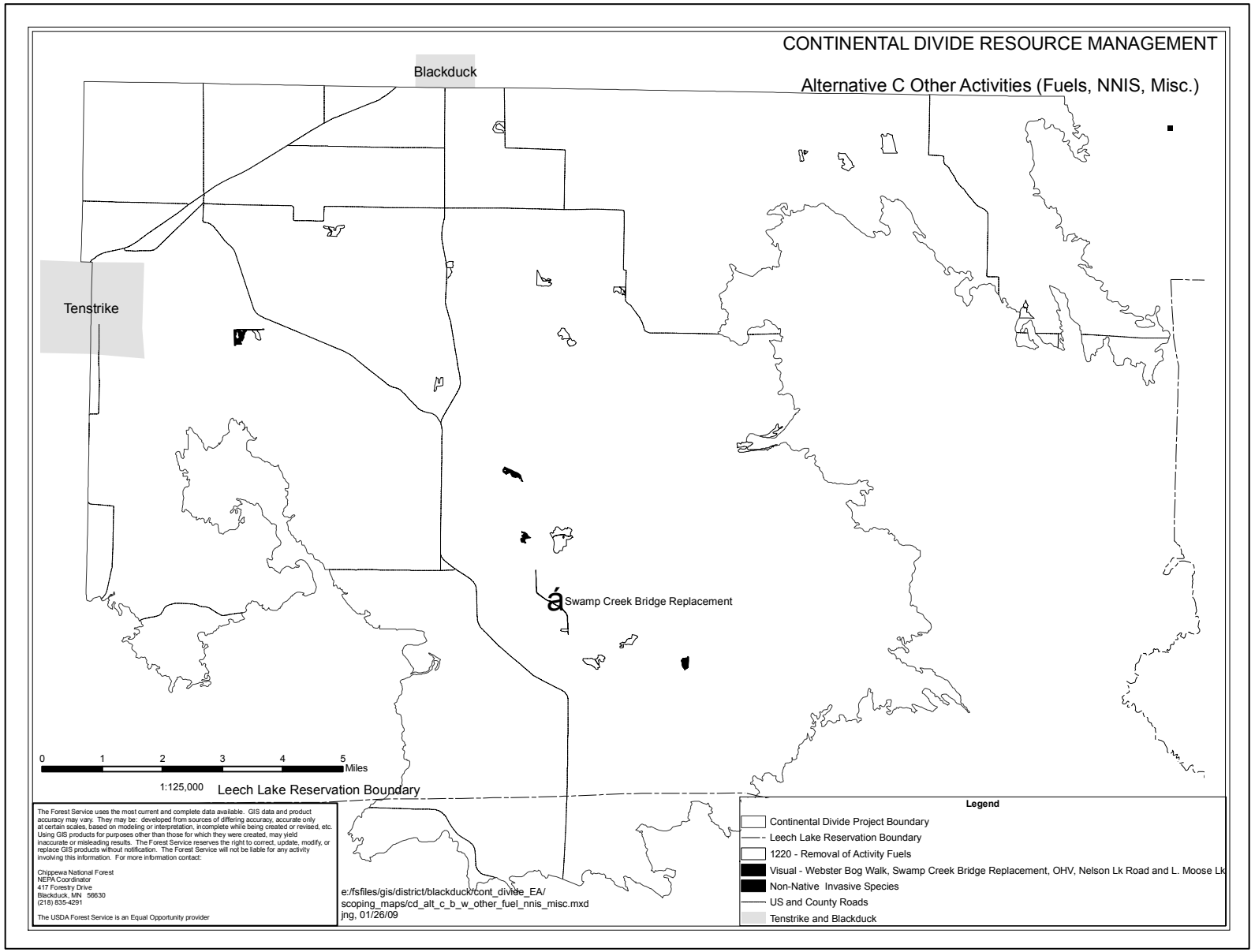
Map App. D-4 - Alternative C Other (Wildlife)



Map App. D-5 - Alternative C Other (Riparian)



Map App. D-6 - Alternative C Other (Fuels, NNIS, Misc.)



APPENDIX E - PROJECT RECORD INDEX

Continental Divide Resource Management EA

Due to length, the project record is not included in the EA. It is part of the Specialist Report EA (PR# 330) that contains the total text of all of the specialist reports and lengthier versions of all other sections and the appendices.

APPENDIX F: GLOSSARY

Due to long length, most of this glossary is only found in the Specialist Report (PR# 330). However the definitions of the FACTS codes and Forest Type definitions are needed to interpret the spreadsheets in Appendix D.

FACTS Codes as listed on Forest's Webpage Used in CDRM EA (PR# 299)

ACTIVITY_CODE	ACTIVITY
1220	Removal of Activity Fuels
3315	Visual Resources Protection & Improvement
4102	Coppice cut (w/res) (EA/RN/FH)
4115	Patch clearcutting (w/res) (EA/RH/FH)
4116	Strip clearcutting (w/res) (EA/RH/FH)
4117	Stand clearcutting (w/res) (EA/RH/FH)
4131	Shelterwood cut (EA/RN/NFH)
4132	Seed-tree cut (w/res) (EA/RN/NFH)
4151	Single-tree selection cut (UA/RN/NFH)
4152	Group selection cut (UA/RN/FH)
4162	Coppice cut (w/res) (2A/RN/FH)
4193	Shelterwood seed cut (w/res) (2A/RN/NFH)
4220	Commercial Thinning
4230	Sanitation (salvage)
4250	Natural Changes (no timber harvest involved)
4341	Stocking surveys
4342	Plantation survival surveys
4381	Certification of Nat. Regen. With Site Prep
4382	Certification of Natural regeneration without site prep
4383	Planted areas certification
4384	Seeded areas certification
4411	Full seeding/reseeding without concurrent site preparation
4421	Full seeding/reseeding concurrent with site prep
4431	Full planting without concurrent site preparation
4441	Full planting concurrent with site prep
4460	Animal Damage Control for Reforestation
4470	Site preparation for planting
4480	Site preparation for seeding
4490	Site preparation for natural regeneration
4512	Area release and weeding
4521	Precommercial thinning - individual or selected trees
4530	Pruning
4560	Animal Control For TSI
5510	Watershed Resource Non-Structural Improvements Erosion Cont
5520	Watershed Resource Non-Structural Improvements Riparian
6050	Wildlife Habitat Improvement
6080	Wildlife Habitat Seeding and planting
6104	Wildlife Habitat Regeneration cut
6131	Wildlife Habitat Rehabilitate openings
9000	Transporation Related Activities
9001	Road Construction
9002	Road ReConstruction

ACTIVITY_CODE	ACTIVITY
9003	Road Obiliteration
9004	Road Decommisioning

Treatment Codes for Appendix D

Treatment Code	definition
1220_8	Activity fuel removal on 8 acres.
Beaver pond	Treat the flooded beaver pond to get it reforested to lowland conifers.
Bog walk	Extend the Webster Lake Bog Walk all the way to the lake.
Bridge	Replace the Swamp Creek Bridge with a new bridge.
Carry-in access	Improve the access road and carry-in access on Little Moose Lake to prevent erosion, rutting, and compaction.
component natural WS PB	Make openings in the canopy to allow a natural component of white spruce and paper birch to regenerate in the understory.
component TamBSCedHdwd	Underplant tamarack, black spruce, cedar, and other hardwoods to be a diverse component in the stand
component WSWP	Underplant primarily white spruce with some white pine to be a diverse component in the stand.
"component WSWP_32 component_WP_6" and "Plt_WP_6"	Underplant primarily white spruce with some white pine to be a diverse component in the whole stand, plus plant 6 acres more heavily with white pine in the riparian zone.
component WP	Underplant white pine to be a diverse component in the stand.
"component WP" and "Plt_WP_1"	Underplant white pine to be a diverse component in the stand in one acre of the stand.
component WPWS	Underplant primarily white pine with some white spruce to be a diverse component in the stand.
convert_11	Convert the stand's forest type to fir/spruce.
convert_aspen	Convert the stand's forest type to quaking aspen.
convert MNH	Convert the stand's forest type to mixed northern hardwoods.
convert PB	Convert the stand's forest type to paper birch.
convert RP	Convert the stand's forest type to red pine.
"convert_wl_89" and "Natural_Hdwd"	Convert a wildlife opening to a mixture of northern hardwoods by letting them seed in naturally over time.
"convert_wl_WPWSFruit" and "see_WP"	Convert a wildlife opening to a mixture of white pine, white spruce, and fruiting shrubs by scarification and seeding.
"convert_wl_WSWPFruit" and "see_WS"	Convert a wildlife opening to a mixture of white spruce, white pine, and fruiting shrubs by scarification and seeding.
convert WP	Convert the stand's forest type to white pine.
convert WS	Convert the stand's forest type to white spruce.
convert WSWP	Convert the stand's forest type to primarily white spruce with some white pine.
HWT_patch	Noncommercially regenerate a strip of aspen perpendicular to the Carter Lake hunter walking trail.
Nelson road	Install side drains to the ditch on the hill leading down to the lake and make a larger parking lot on the flat area above the hill.
NNIS_1	Treat 1 acre of non-native invasive species.
OHV trailhead	Make an OHV trailhead in the opening, with appropriate signage.
r	Do release in the stand.
ra	Do release and animal damage control in the stand.

Treatment Code	definition
rap	Do release, animal damage control, and pruning in the stand.
Road prism	Remove the roadbed from FR 3400 from the Gull River wetland.
rp	Do release and pruning in the stand.
WL_mow	Maintain a wildlife opening by periodic mowing.

Forest Type Codes for Appendix D

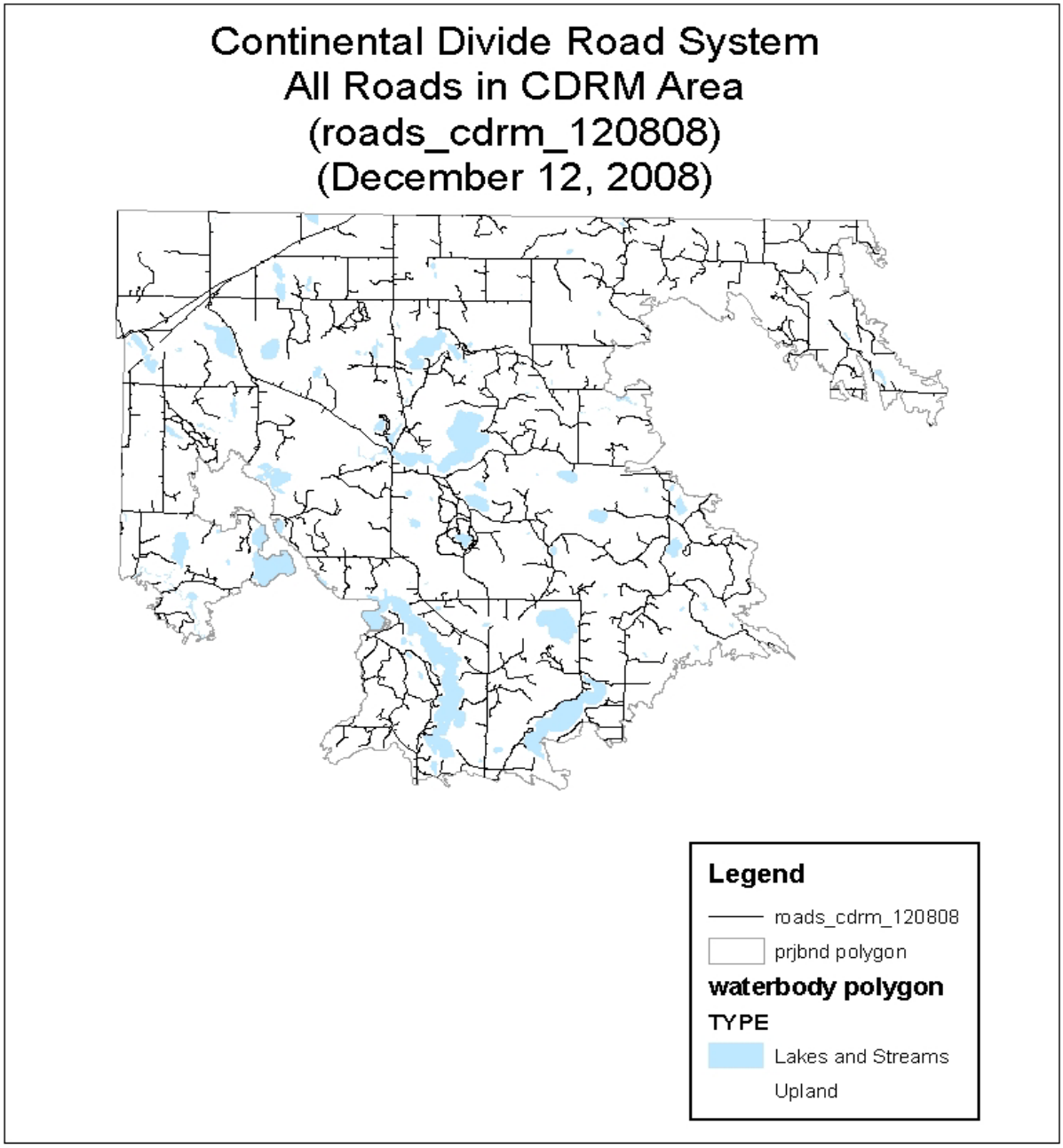
Forest Type Code	Species
1	jack pine
2	red pine
3	white pine
11	fir/spruce
12	black spruce - lowland
14	northern white cedar
15	tamarack
16	white spruce
71	black ash
82	sugar maple/basswood
89	mixed northern hardwoods
91	quaking aspen
92	paper birch
94	balsam poplar
95	aspen/spruce
97	lowland opening
98	upland opening
99	opening - undifferentiated

APPENDIX G: ROADS RECOMMENDATIONS

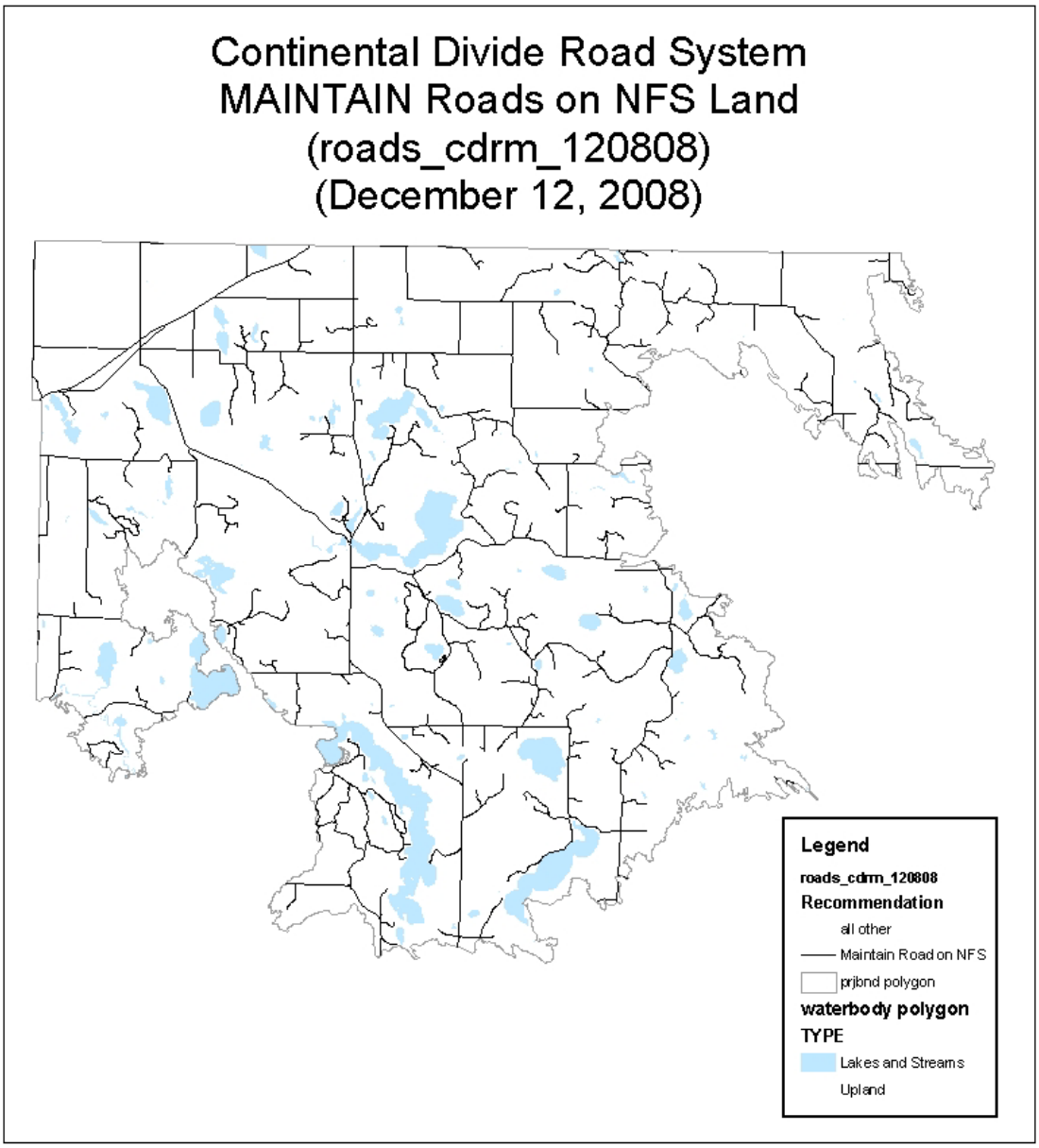
(Since road lists are not very useful without maps showing the road numbers are and the maps are far too large to be included with the EA (3 feet by 3 feet), most of the lists are only found in the Specialist Report (PR# 330). This would make the EA smaller and more readable. Appendix G would include only the small-scale maps of each road recommendation.)

Rambling Woods and Northwoods EAs from the recent past in the CDRM area had recommendations for changes to the transportation system, not all of which have been carried out yet. If the recommendations were still valid they have been included in the CDRM Roads Analysis recommendations and are found below in the various tables.

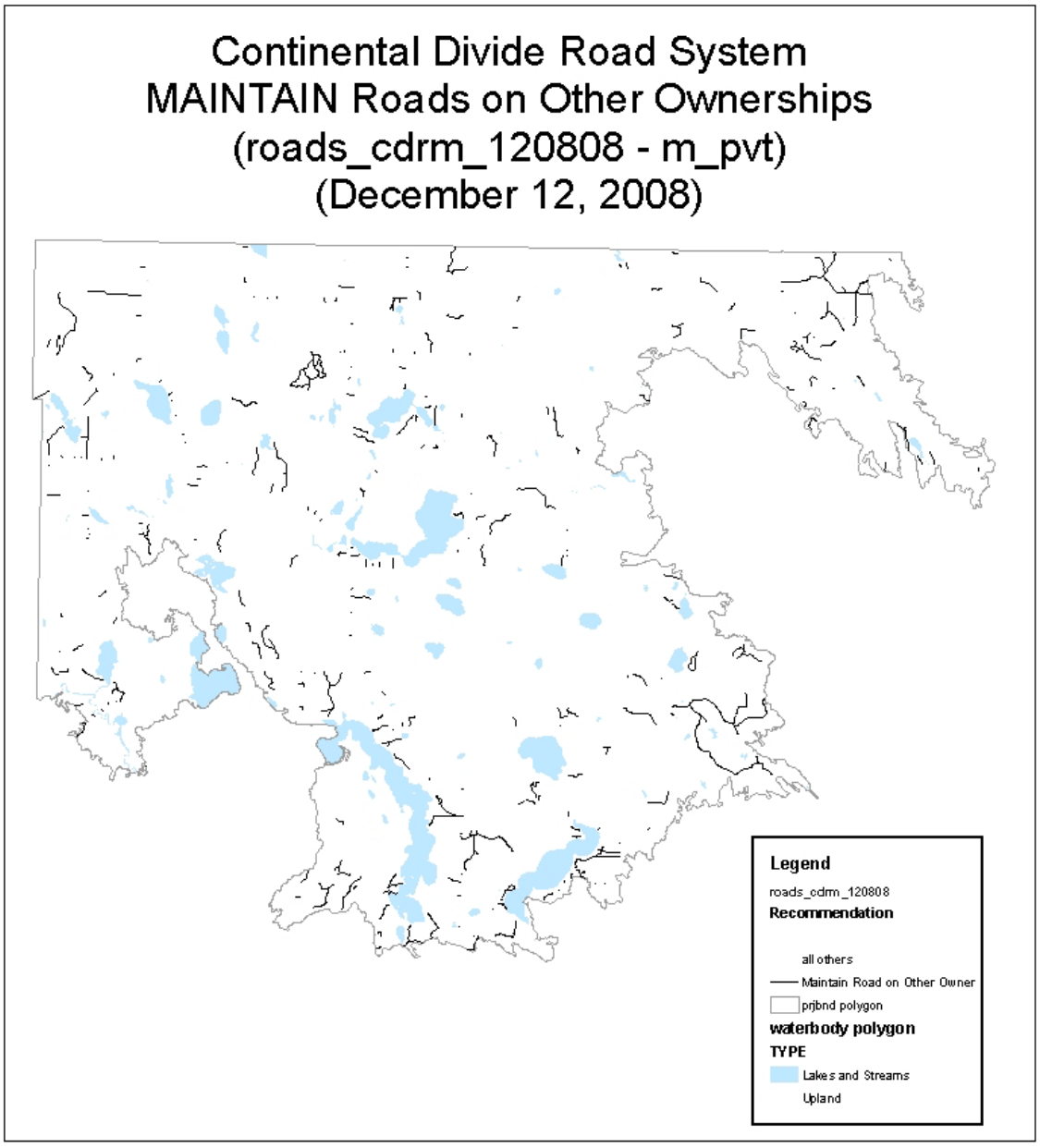
Map G.1 - All Roads in the Roads Analysis



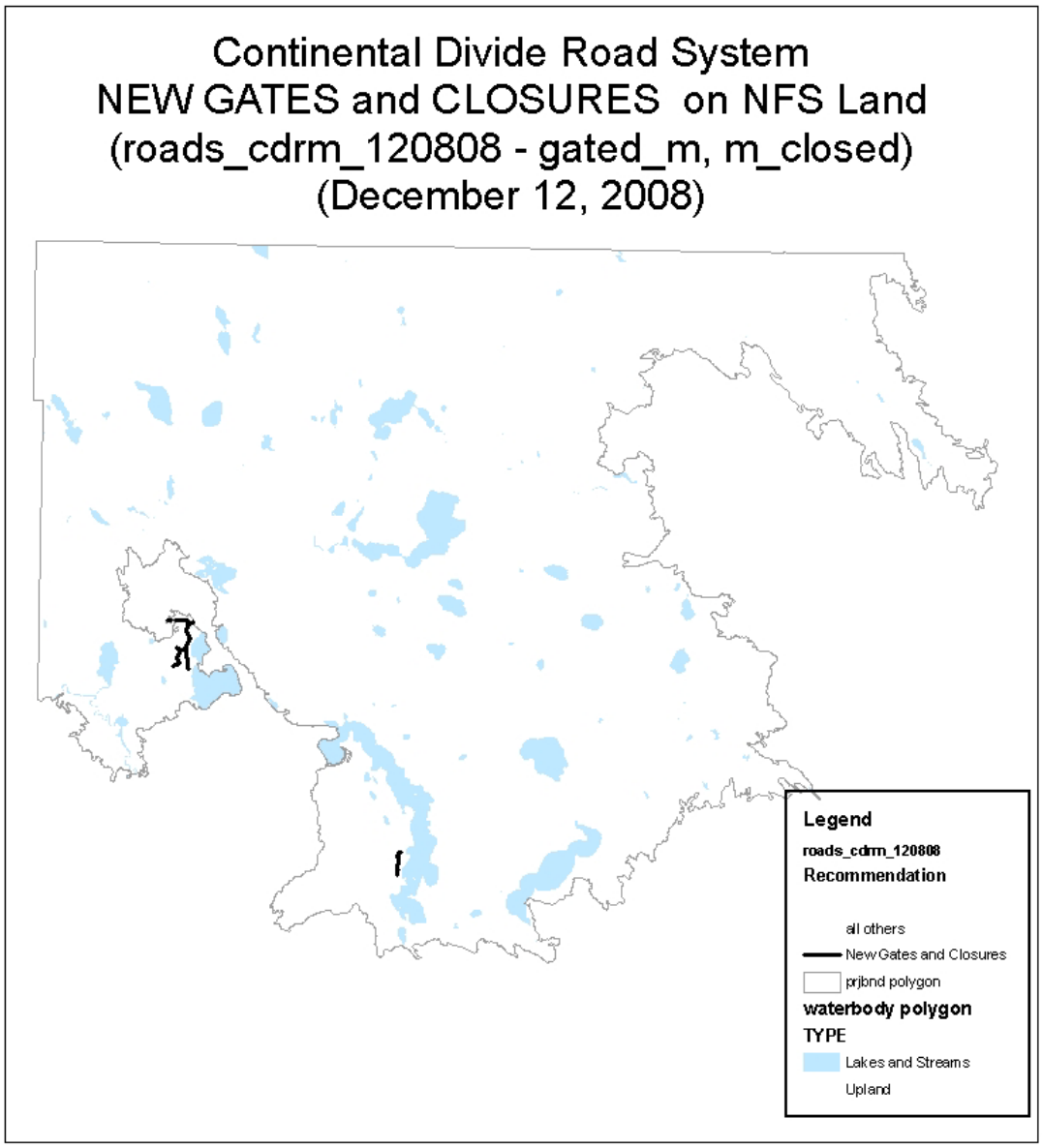
Map G.2 - CDRM Roads to be Maintained on NFS for NFS Use



Map G.3 - Roads to be Maintained on NFS for Other Ownerships Use



Map G.4 - CDRM Roads to be Maintained on NFS for NFS Use but With New Closure



Maintain - Open and Closed:
Most roads administered by the Forest Service are recommended for maintaining on the "system", open or closed for public use, and in the current maintenance level and condition (256.4 miles) (coded "m"). There are 81.5 miles of roads administered by the Forest Service or other agencies that are coded as "m_pvt" since they are recorded in the GIS system; but are not primarily used by us. These are major public roads or roads that serve primarily as access to other ownerships and minor roads such as the last roads leading to small parcels of land. There are 2.5 miles of roads on NFS lands that should be gated or bermed to limit access by vehicles, minimizing resource damage (coded "gated_m" and "m_closed"). These roads are FR 2514 and 2215. The following tables are in the Specialist Report (PR# 330).

Table G.2 - Roads to be Maintained as Forest Service Roads

Table G.3 - Roads to be Maintained in GIS, but not primarily as FS roads

Table G.4 - Roads to be Maintained in GIS, but with new closures

Table G.4 - Roads to be Maintained in GIS, but with new closures

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
2514	0.46	gated_m	NAT	rocks	LOW	RUTTING	FS	L	2	AFSR				
2215	0.92	m_closed	NAT	soft	LOW	NONE	FS	L	2	AFSR				
2215	0.05	m_closed	NAT	mud	LOW	NONE	FS	L	2	AFSR				
2215	0.29	m_closed	NAT	water	LOW	NONE	FS	L	2					
2215A	0.55	m_closed	NAT	soft	LOW	NONE	FS	L	2	AFSR				
2215AA	0.10	m_closed	NAT	soft	LOW	NONE	FS	L	2	AFSR				
S1254	0.10	m_closed	NAT	none	low	rutting	DNR		2					
Total	2.47													

Decommission:
About 11.8 miles of existing roads are recommended for elimination from the system or the ground because they are seldom used or that particular location is served better by other roads. These are split into four types of elimination. (Roads named with letters were located during field inventory.)

About 8.7 miles) (coded "decom") need to be decommissioned (Table G.5). Also shown in Table G.5 is one road to be used as a temporary road before being decommissioned. (about 0.2 miles).)
About 2.3 miles (coded "drop") have naturally closed or were decommissioned after the field inventory (so were missed) and are not used at the present time (Table G.6). All that is needed with these roads is to remove them from the system.
About 0.4 miles of "roads" should be changed to "entries" (coded entry, non-road) and not recognized on the transportation system, but also not closed - left as parking spots (Table G.7).
About 0.4 miles (coded "add_trail") should be added to the OHV Trail System, not the road system.

Table G.5 - Roads to be Decommissioned

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
2202G	0.15	decom	nat	berm	low	rutting	FS	L	2					
2208D_ext	0.16	decom	nat	none	atv	none	fs		0					
2236A	0.06	decom	NAT	berm	none	none	FS	L	2					
2281B	0.17	decom	nat	none	none	none	FS	L	2					
2419	0.50	decom	NAT	water	none	RUTTING	FS	L	2	AFSR				
2508B	0.21	decom	nat	trees	none	none	FS	L	2					
2633	0.75	decom	NAT	brush	LOW	RUTTING	FS	L	2	AFSR				
3416GA	0.17	decom	nat	gate	low	rutting	FS	L	2					
3525	0.45	decom	NAT	berm	LOW	RUTTING	FS	L	2	AFSR				
a	0.07	decom	nat	slash	low	none	fs		0					
atv_g	0.07	decom	nat	none	atv	none	fs		0					
cc	0.06	decom	nat	none	atv	none	fs		0					
CC	0.03	decom	nat	slash	low	none	fs		0					
closed log	0.12	decom	nat	slash	none	none	fs		0					
dd	0.10	decom	nat	berm	low	none	fs		0					
DD	0.03	decom	nat	brush	low	none	fs		0					
EE	0.03	decom	nat	none	low	none	fs		0					
GG	0.10	decom	nat	none	low	none	pvt		0					
ll	0.17	decom	nat	none	atv	rutting	fs		0					
mm	0.16	decom	nat	none	low	none	fs		0					
o	0.04	decom	nat	brush	ATV	none	fs		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
p	0.04	decom	nat	none	low	none	fs		0					
q_bigdip	0.04	decom	nat	slash	none	none	fs		0					
to woods	0.11	decom	nat	rocks	low	none	fs		0					
to woods	0.04	decom	nat	berm	low	none	fs		0					
to woods	0.03	decom	nat	none	low	none	fs		0					
to woods	0.02	decom	nat	none	low	none	fs		0					
to woods	0.17	decom	nat	none	atv	none	fs		0					
to woods	0.04	decom	nat	none	low	none	fs		0					
U1015	0.50	decom	NAT	gate	LOW	NONE	FS		1	AFSR				
U1027	0.43	decom	NAT	logs	low	rutting	FS		1	AFSR				
U1027A	0.11	decom	NAT	logs	low	rutting	FS		1	AFSR				
U1128	0.11	decom	NAT	none	low	rutting	FS		1					
U1129	0.15	decom	NAT	none	low	?	FS	1	1					
U1130	0.05	decom	NAT	brush	ATV	none	FS		1					
U1132	0.33	decom	NAT	none	low	rutting	FS		1					
U1137	0.05	decom	NAT	gate	low	rutting	FS		1					
U1139	0.26	decom	NAT	none	low	rutting	FS		1					
U1141	0.19	decom	NAT	none	low	rutting	FS		1					
U1143	0.18	decom	NAT	berm	low	rutting	FS		1					
U1149	0.10	decom	NAT	none	low	rutting	FS		1					
U1150	0.13	decom	NAT	none	low	rutting	FS		1					
U1151	0.33	decom	NAT	none	low	none	FS		1					
U1174	0.04	decom	NAT	soft	low	none	FS		1					
U1176	0.03	decom	NAT	gate	low	none	FS	1	1					
U1177	0.08	decom	NAT	none	low	rutting	FS		1					
U1228	0.05	decom	NAT	sign	low	none	FS		1					
U1228A	0.03	decom	NAT	sign	low	none	FS		1					
U1229	0.12	decom	NAT	gate	low	rutting	FS		1					
U1230	0.13	decom	NAT	gate	low	rutting	FS		1					
U1231	0.17	decom	NAT	gate	low	rutting	FS		1					
U1232	0.07	decom	NAT	gate	low	rutting	FS		1					
U1236	0.08	decom	NAT	brush	none	none	FS		1					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
U1260	0.14	decom	NAT	GATE	LOW	RUTTING	FS		1	AFSR				
2281A	0.27	decom_on_nfs	nat	berm	ATV	none	FS	L	2					
pp	0.04	decom_on_nfs	nat	none	low	none	fspt		0					
to woods	0.12	decom_on_nfs	nat	brush	low	none	fs		0					
U1103	0.24	decom_temp_10	NAT	NONE	LOW	EROSION	FS		1	AFSR				
2208C	0.11	decom_transfer	nat	NONE	low	NONE	TN	L	2	AFSR				
Total	8.73													

Table G.6 - Roads to be Deleted or Already Decommissioned after Inventory

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
U1077	0.28	decommed	NAT	NONE	LOW	RUTTING	FS		1	AFSR				
U1080	0.28	decommed	NAT	logs	LOW	RUTTING	FS		1	AFSR				
U1081	0.13	decommed	NAT	brush	none	rutting	FS		1					
U1087	0.14	decommed	nat	none	low	none	FS		1					
2420D	0.28	delete	NAT	brush	none	none	FS	L	2					
2578BA	0.22	delete	NAT	berm	none	none	FS	L	2					
3416C	0.65	delete	NAT	berm	none	none	FS	L	2					
U1072	0.05	delete	NAT	brush	none	none	FS		1	AFSR				
U1084	0.08	delete	NAT	berm	none	none	FS		1					
U1142	0.22	delete	NAT	logs	low	rutting	FS		1					
Total	2.33													

Table G.7 - Roads to be Removed from the Road System (Change to Entries on NFS Land)

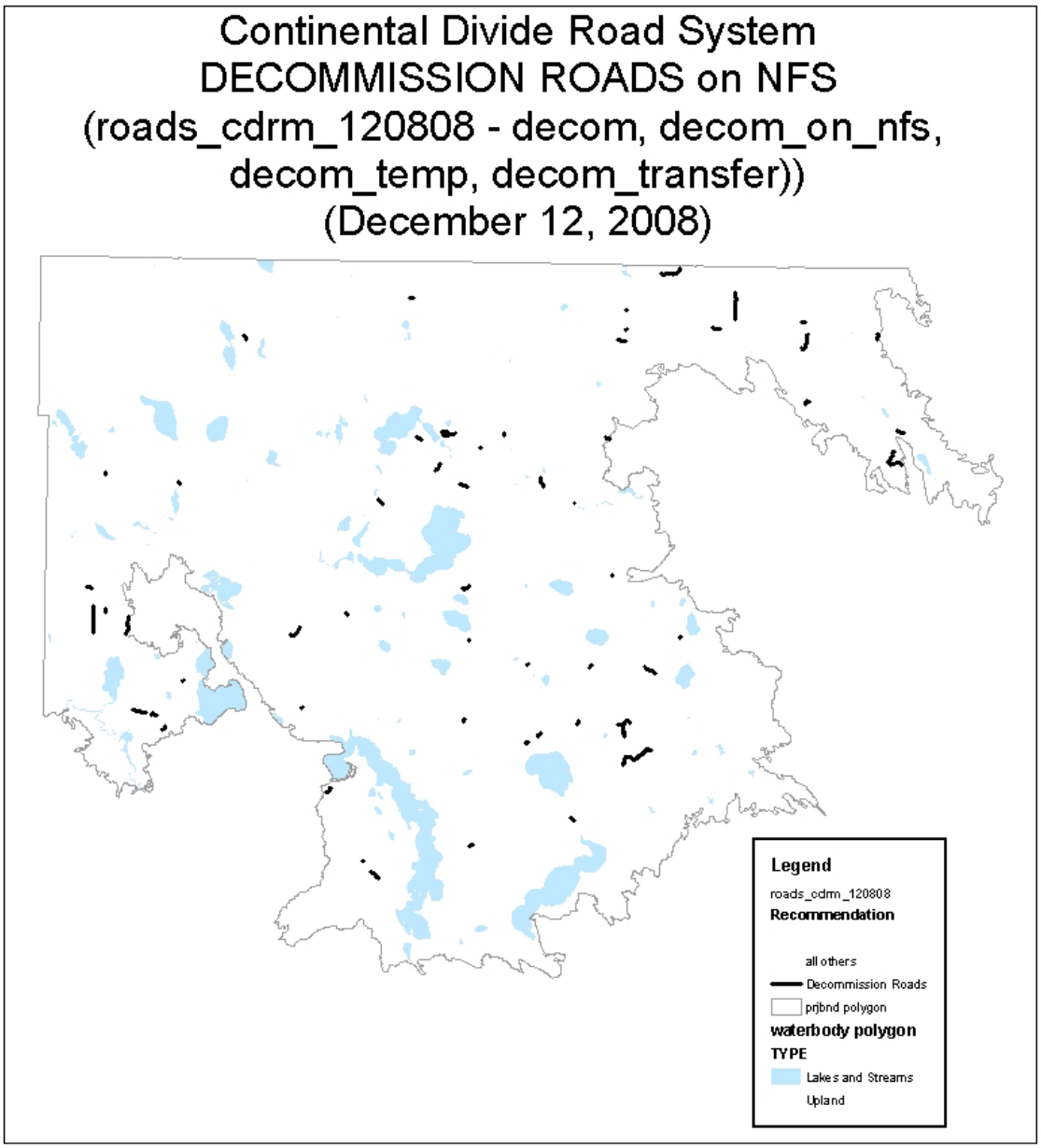
Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
2207E	0.24	entry	NAT	brush	LOW	NONE	FS	L	1	AFSR				

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
U1078	0.14	entry	NAT	brush	LOW	RUTTING	FS		1	AFSR				
Total	0.38													

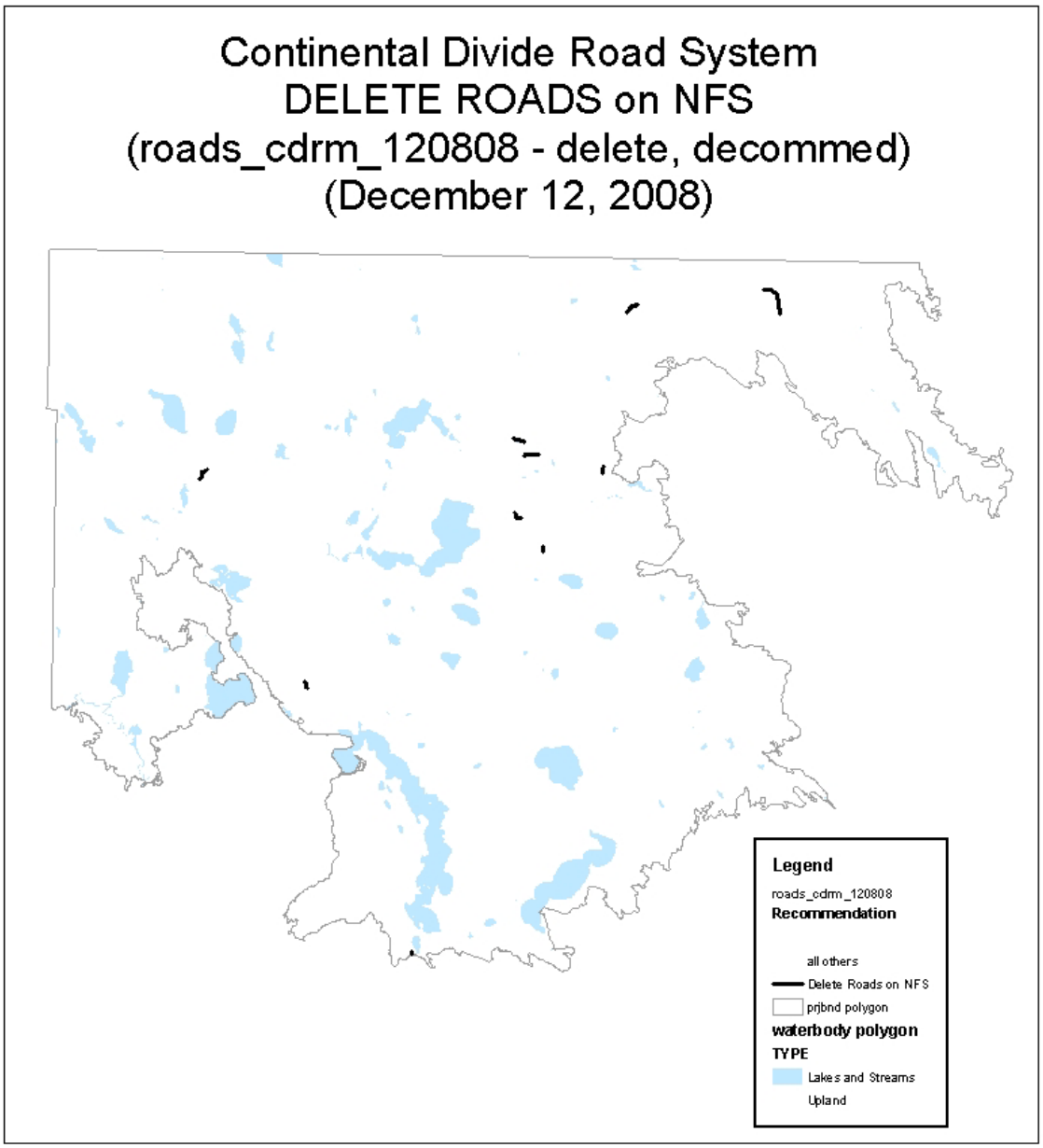
Table G.8 - Roads to be Added as OHV Trails

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
3401_to_lake	0.32	add_trail	nat	gate	low	none	fs		0					
atv_benj	0.13	add_trail	nat	none	atv	none	fs		0					
Total	0.45													

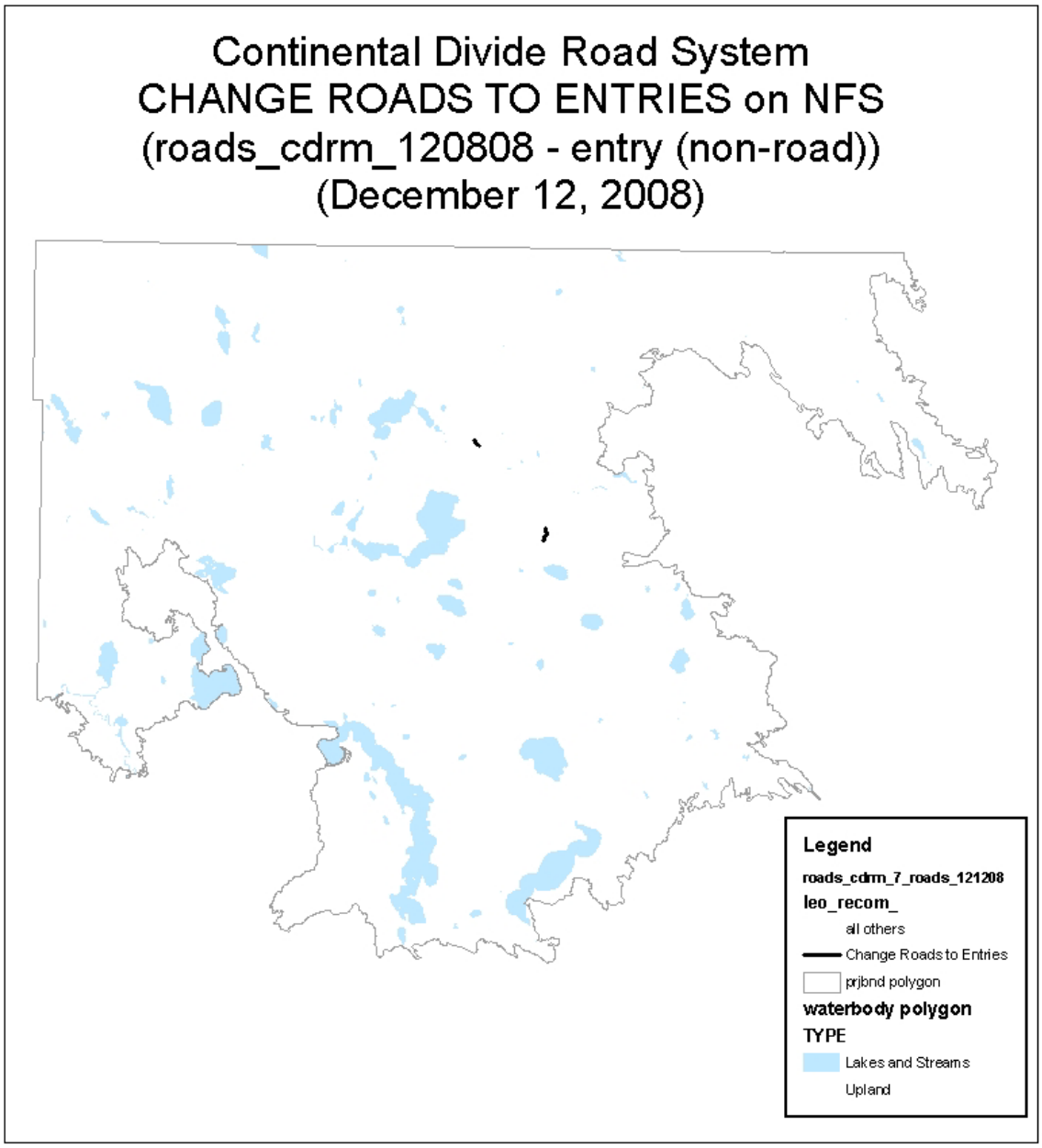
Map G.5 - Roads to be Decommissioned



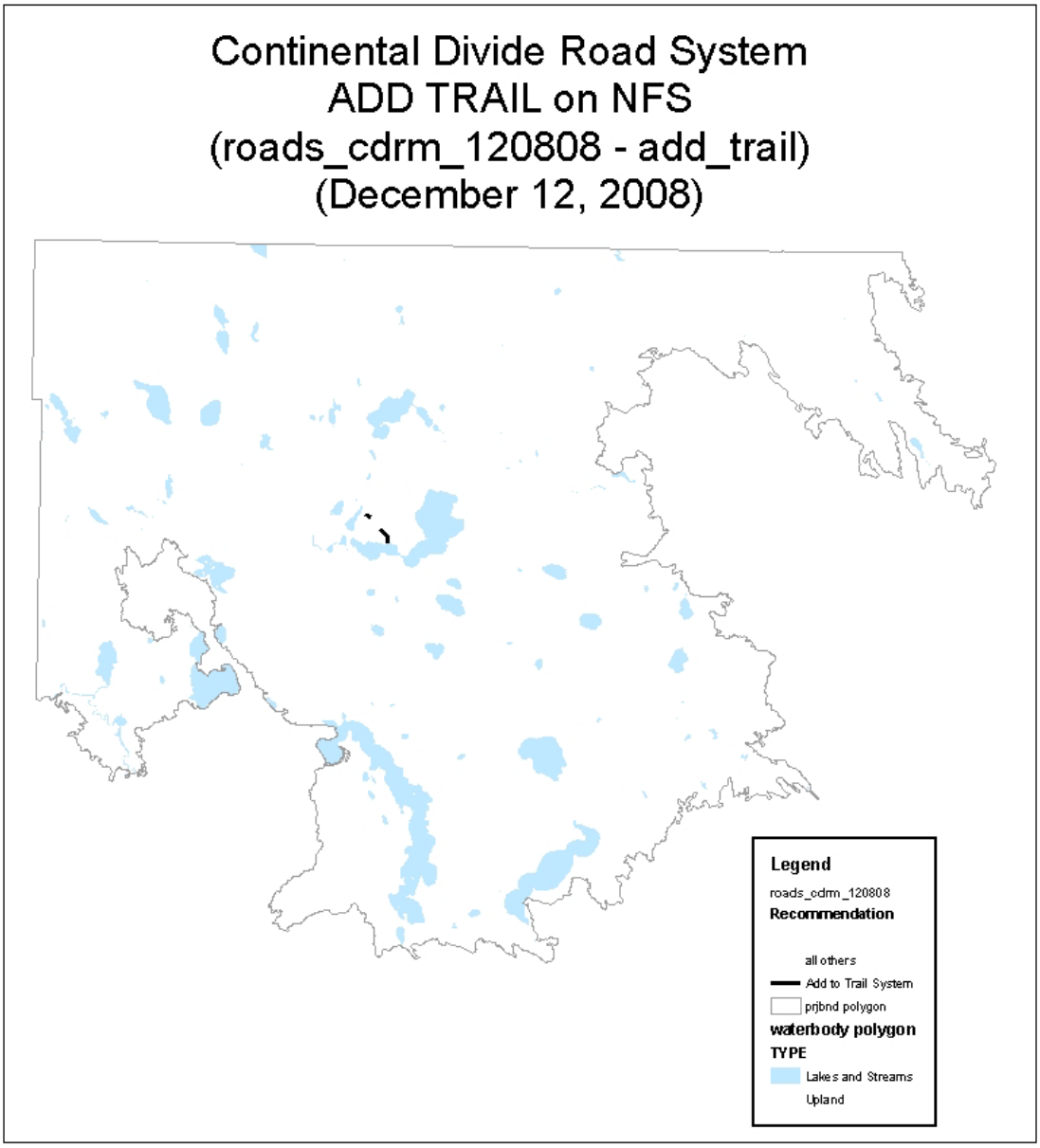
Map G.6 - Roads to Delete or Already Decommissioned



Map G.7 - Roads to Change to Entries



Map G.8 - Roads to Add to the OHV Trail System

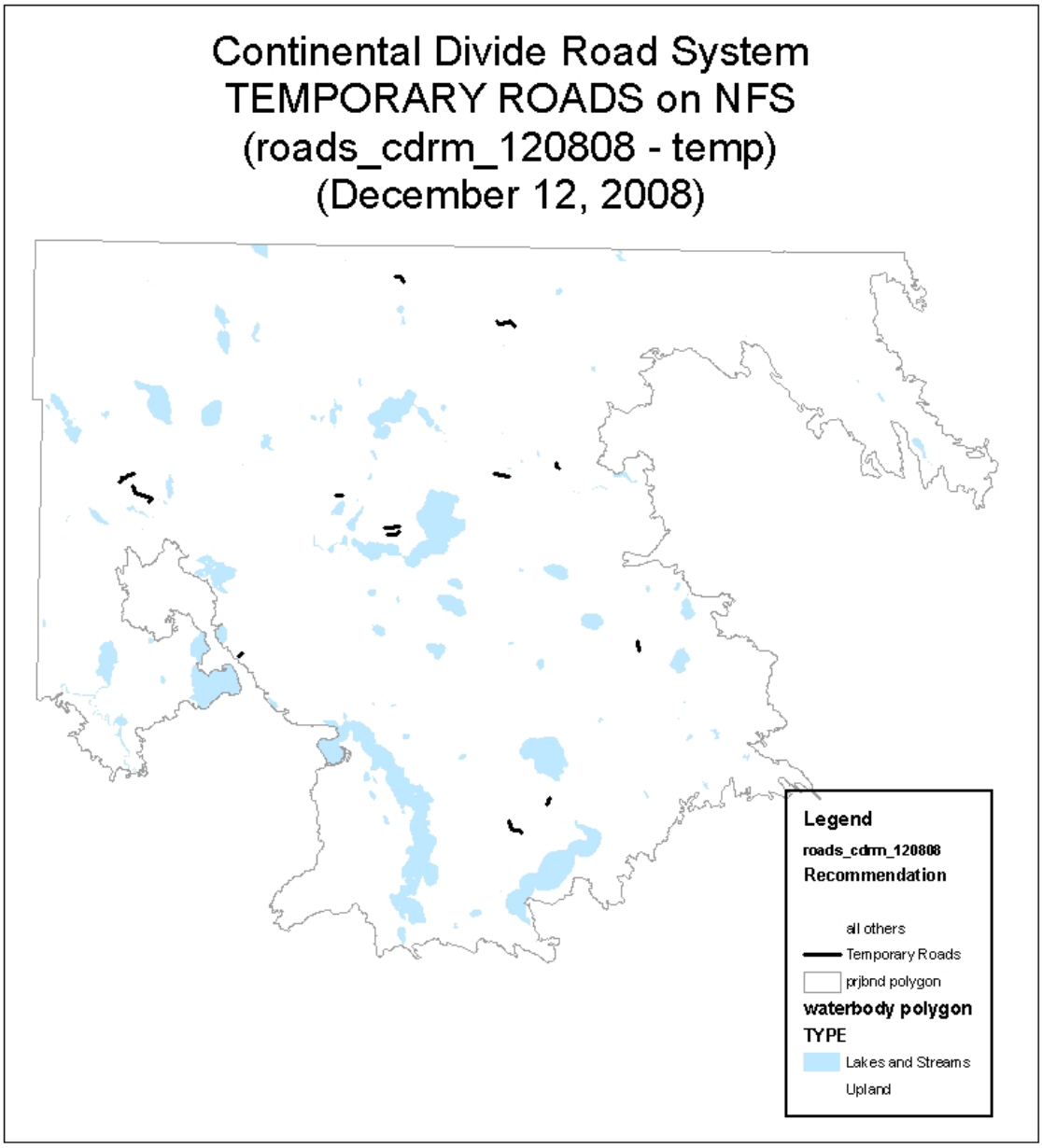


Temporary Roads to Build, Use, and Obliterate:
Due to a lack of roads there are 13 locations where access to proposed harvest units requires that temporary roads be built (Table G.9). These roads would be obliterated when use is completed.

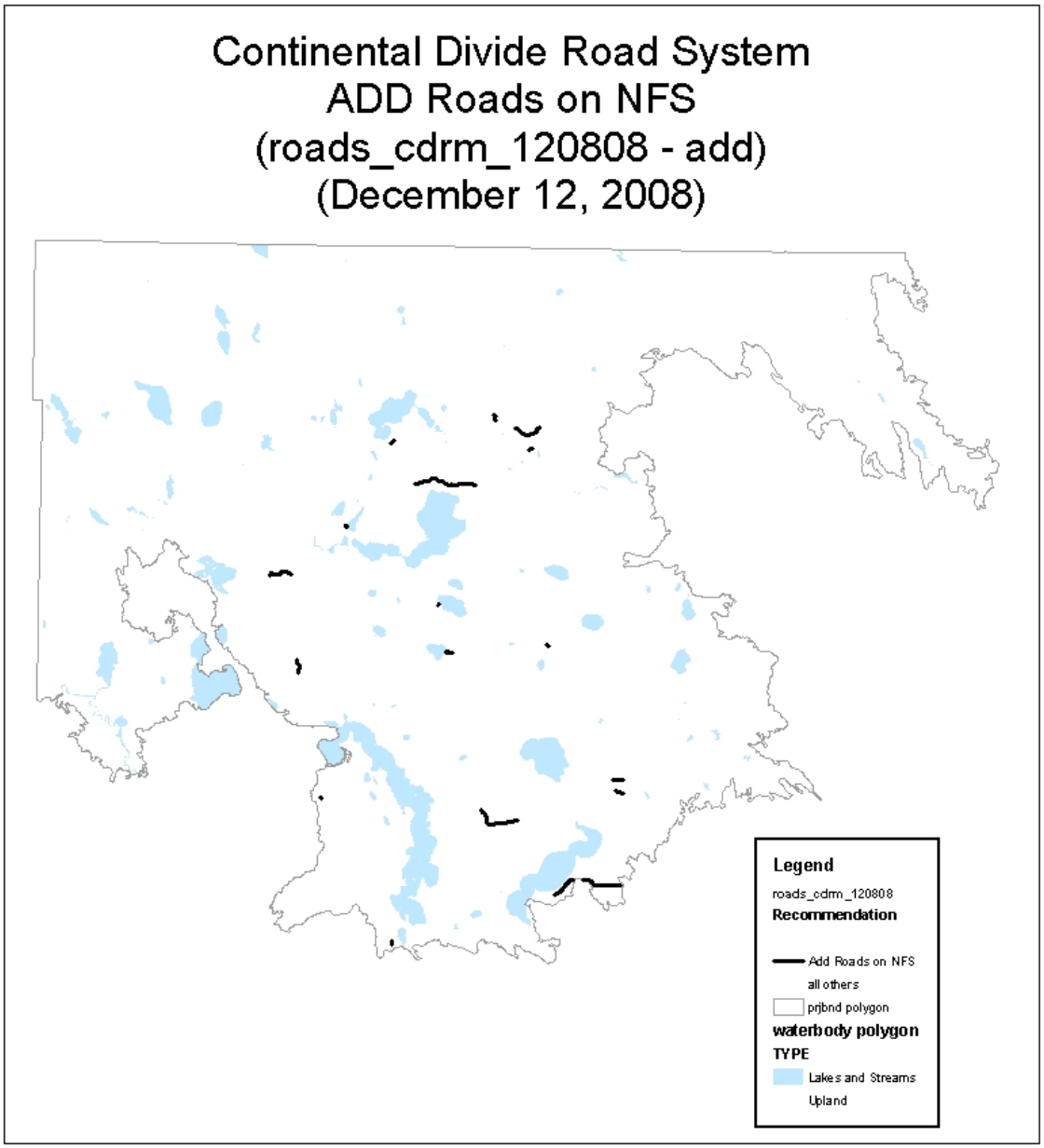
Table G.9 - Temporary Roads to be Built and Obliterated

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
temp_1	0.20	temp							0					
temp_10	0.19	temp							0					
temp_11	0.10	temp							0					
temp_13	0.14	temp							0					
temp_14	0.36	temp							0					
temp_2	0.42	temp							0					
temp_3	0.18	temp							0					
temp_4	0.16	temp							0					
temp_5	0.54	temp							0					
temp_6	0.14	temp							0					
temp_7	0.27	temp							0					
temp_8_moved	0.12	temp							0					
temp_9_moved	0.26	temp							0					
temp_county	0.23	temp							0					
Total	3.31													

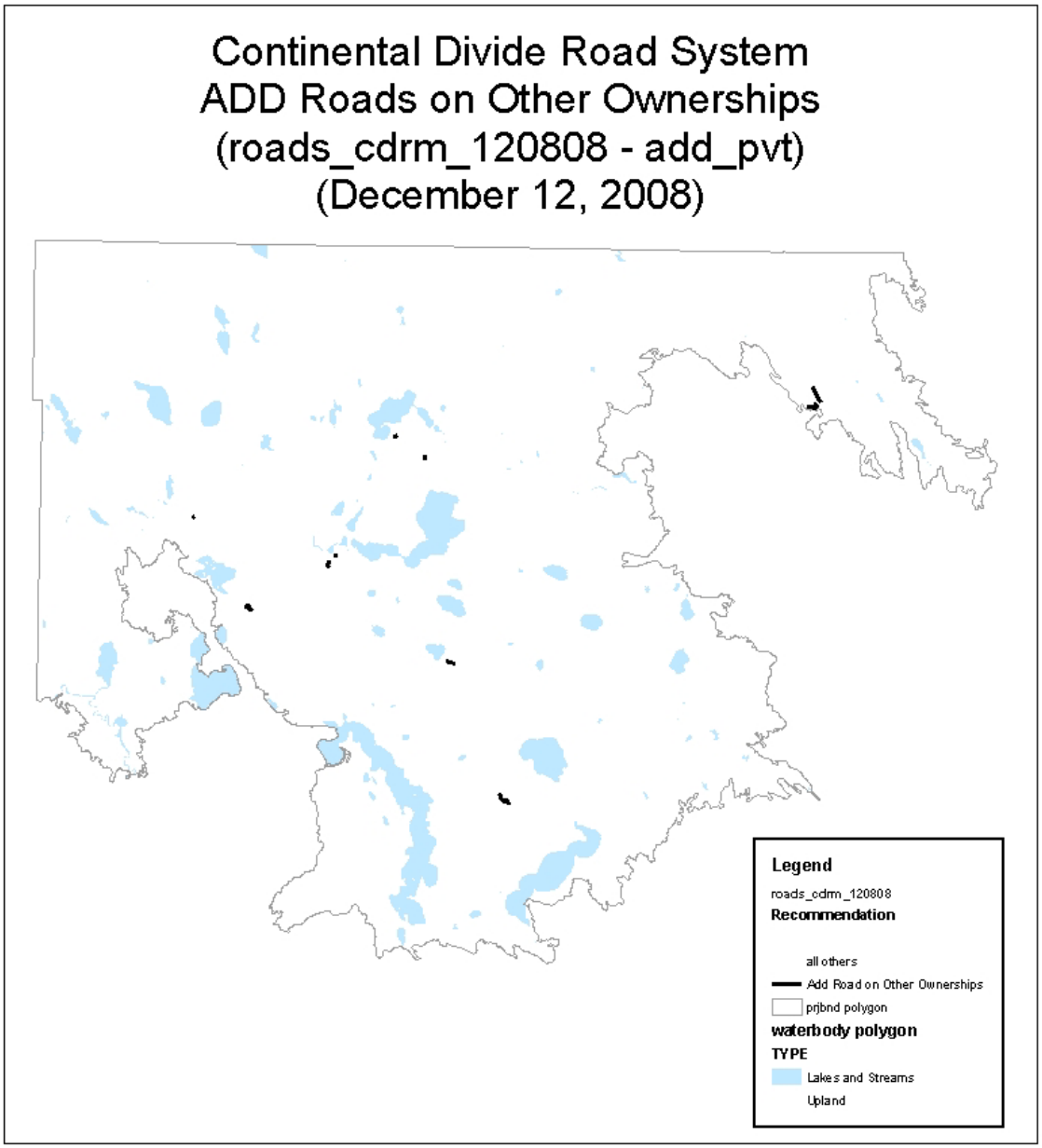
Map G.9 - Temporary Roads to be Built and Obliterated



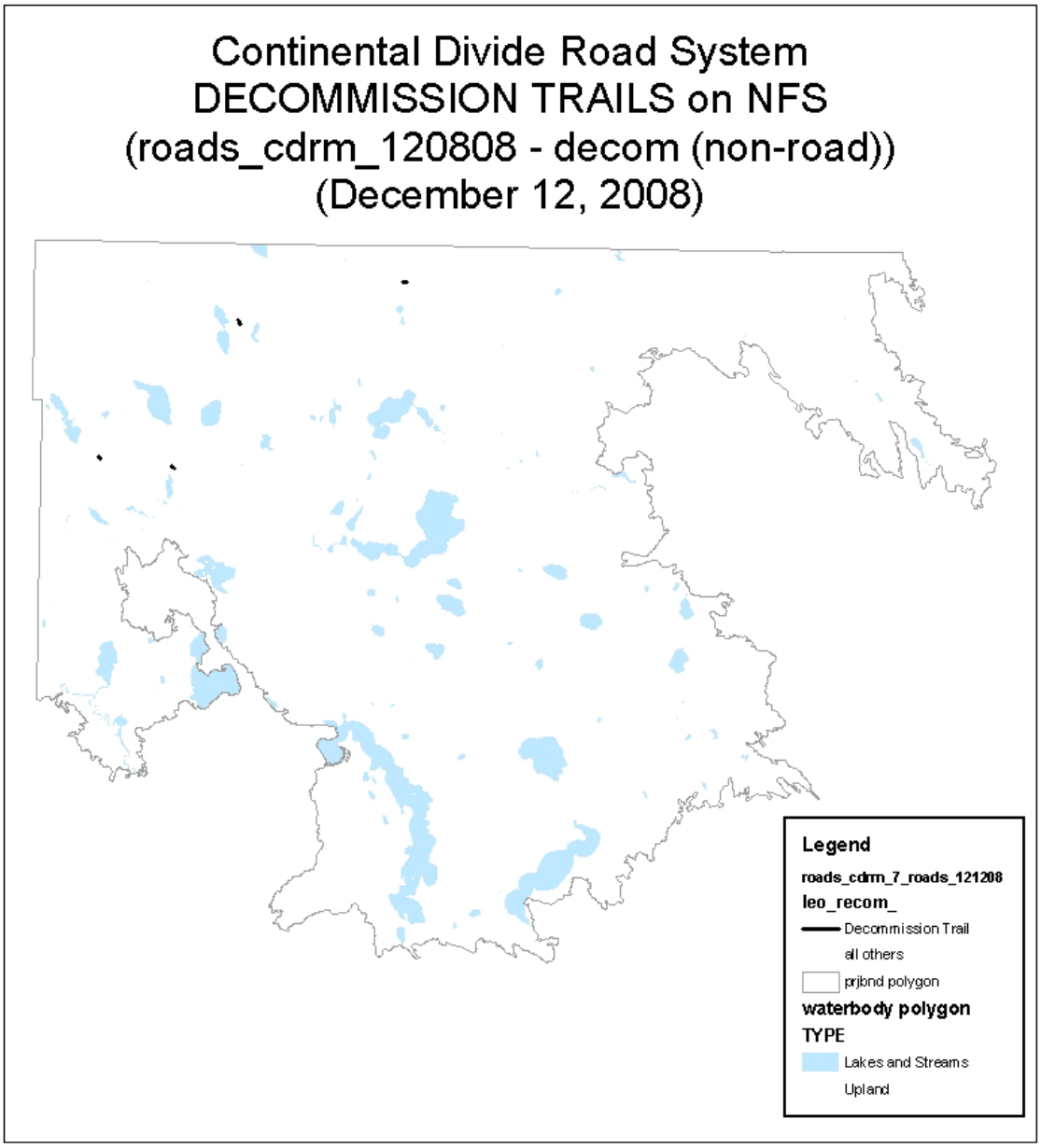
Map G.10 - Roads to be Added Primarily for NFS Use



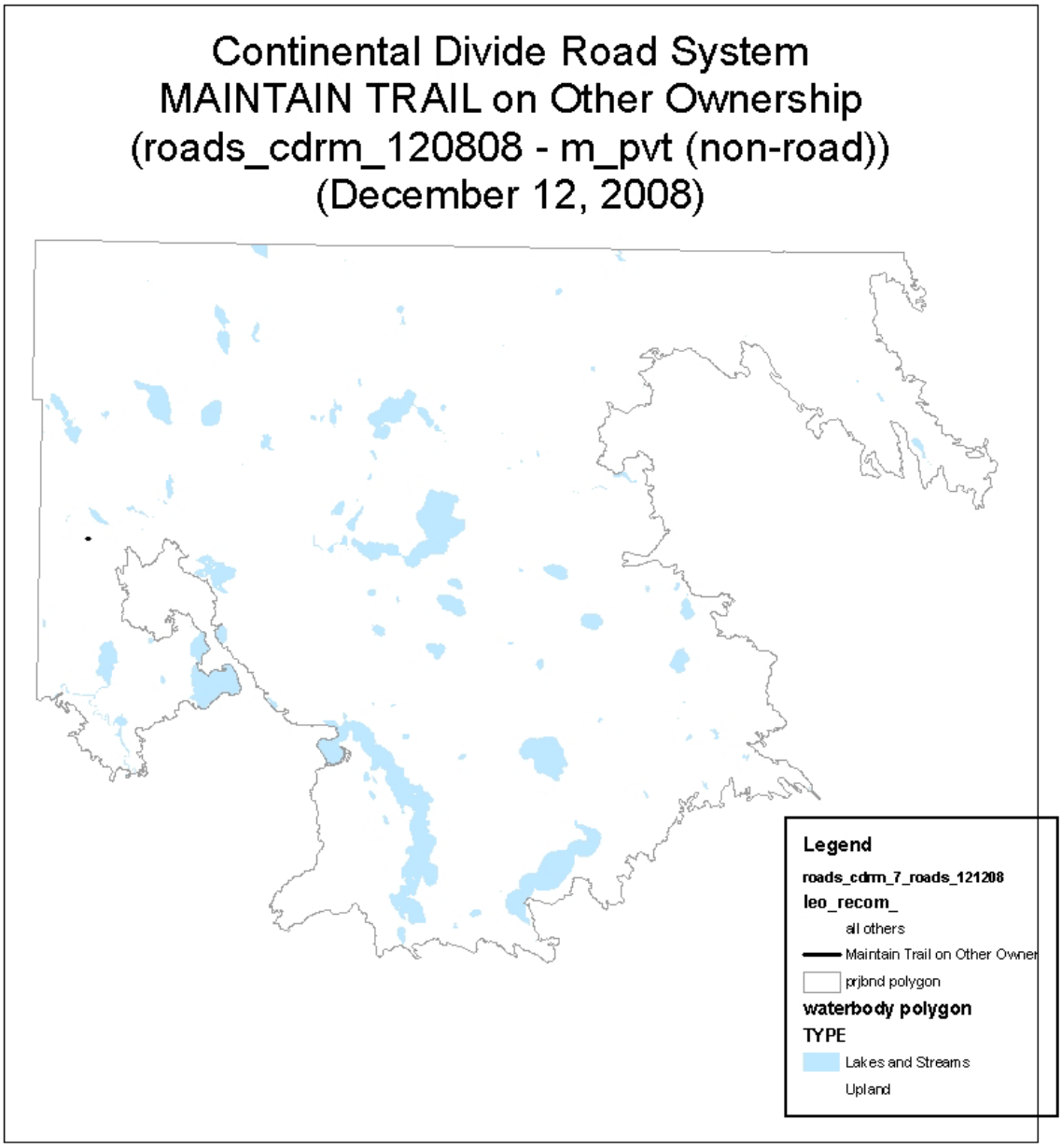
Map G.11 - Roads to be Added Primarily for Other Ownership Use



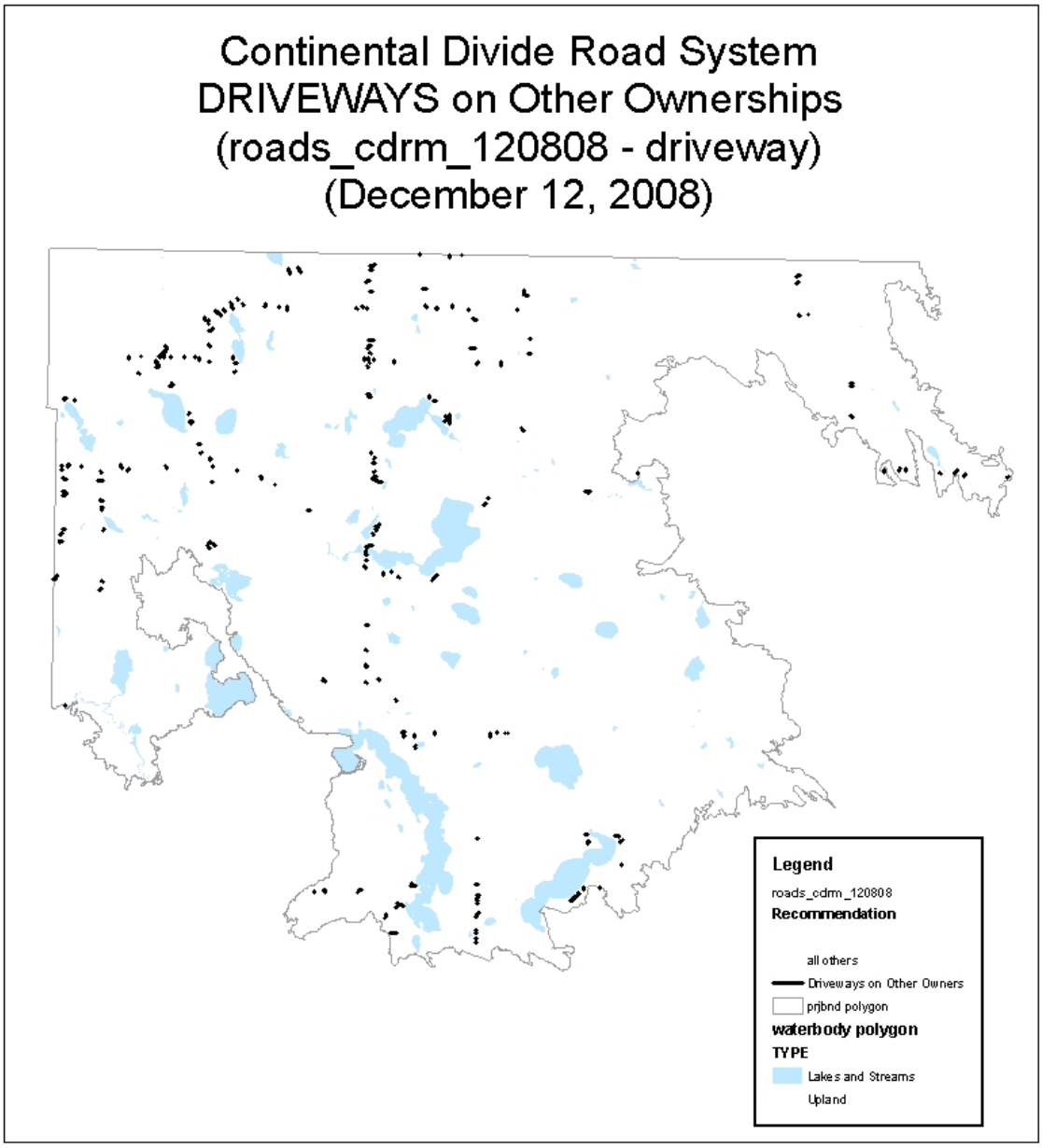
Map G.12 - Decommission OHV Trails on NFS Land



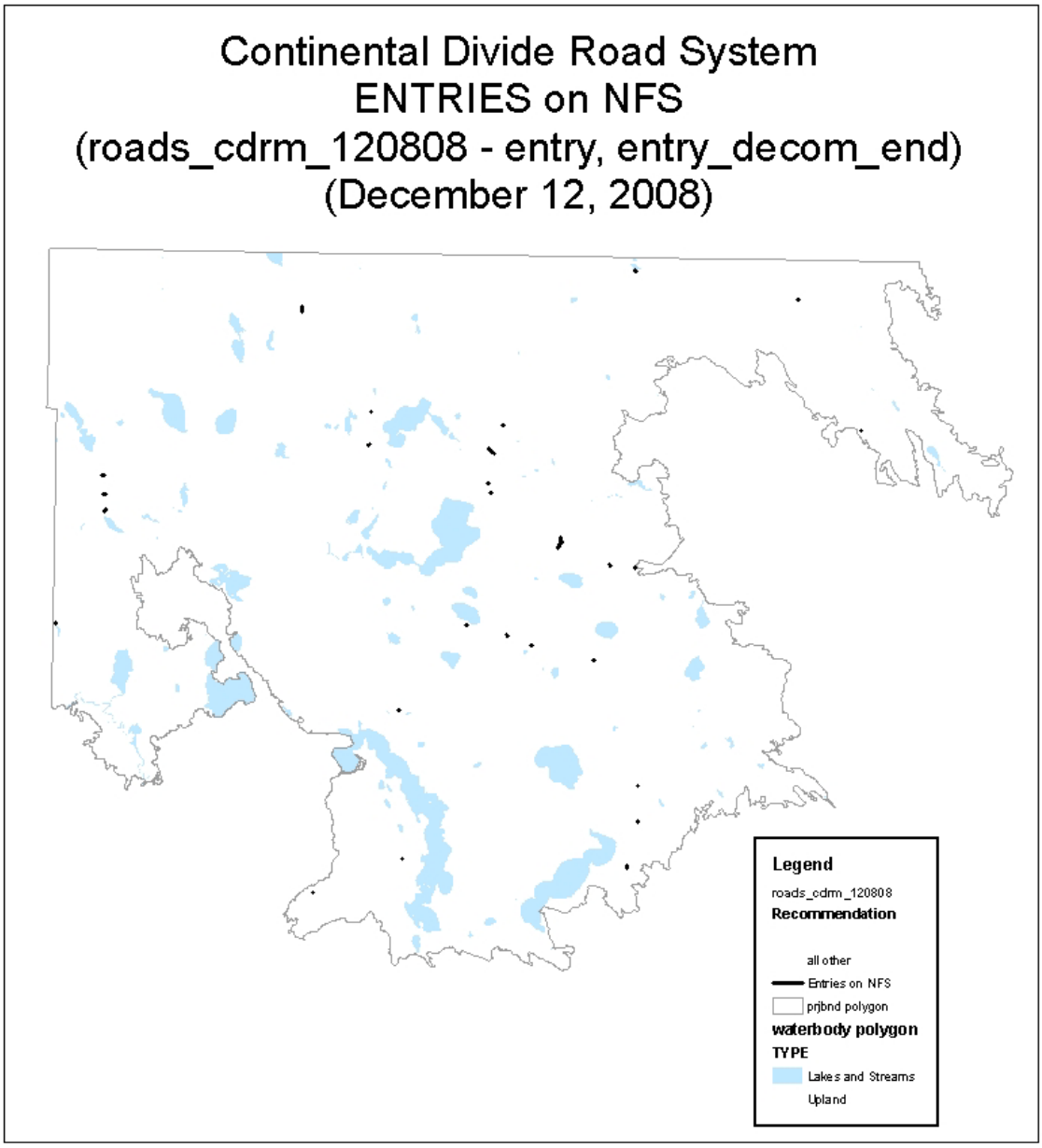
Map G.13 - Maintain OHV Trails on Other Ownerships



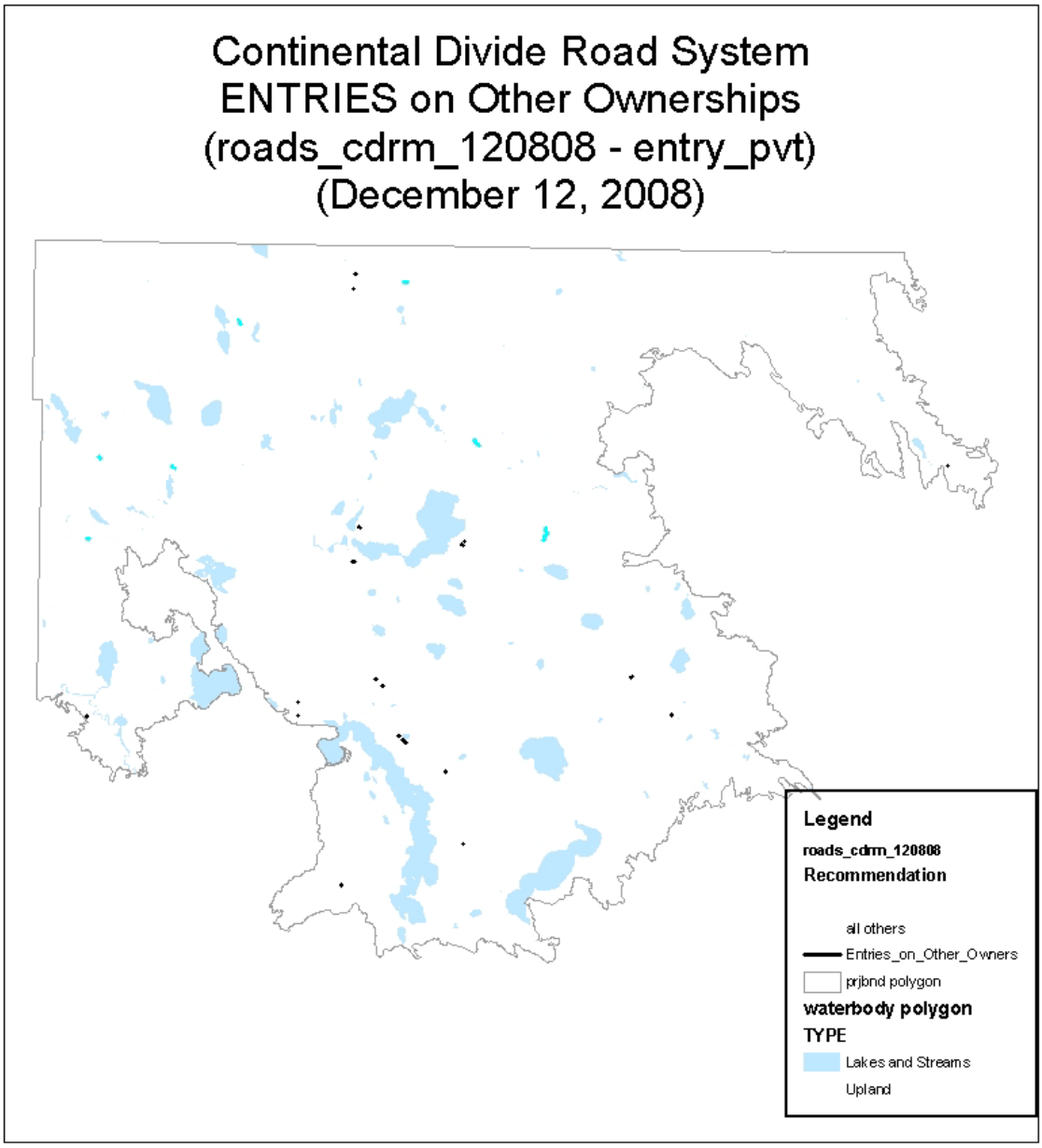
Map G.14 - Driveways on Other Ownerships (for reference)



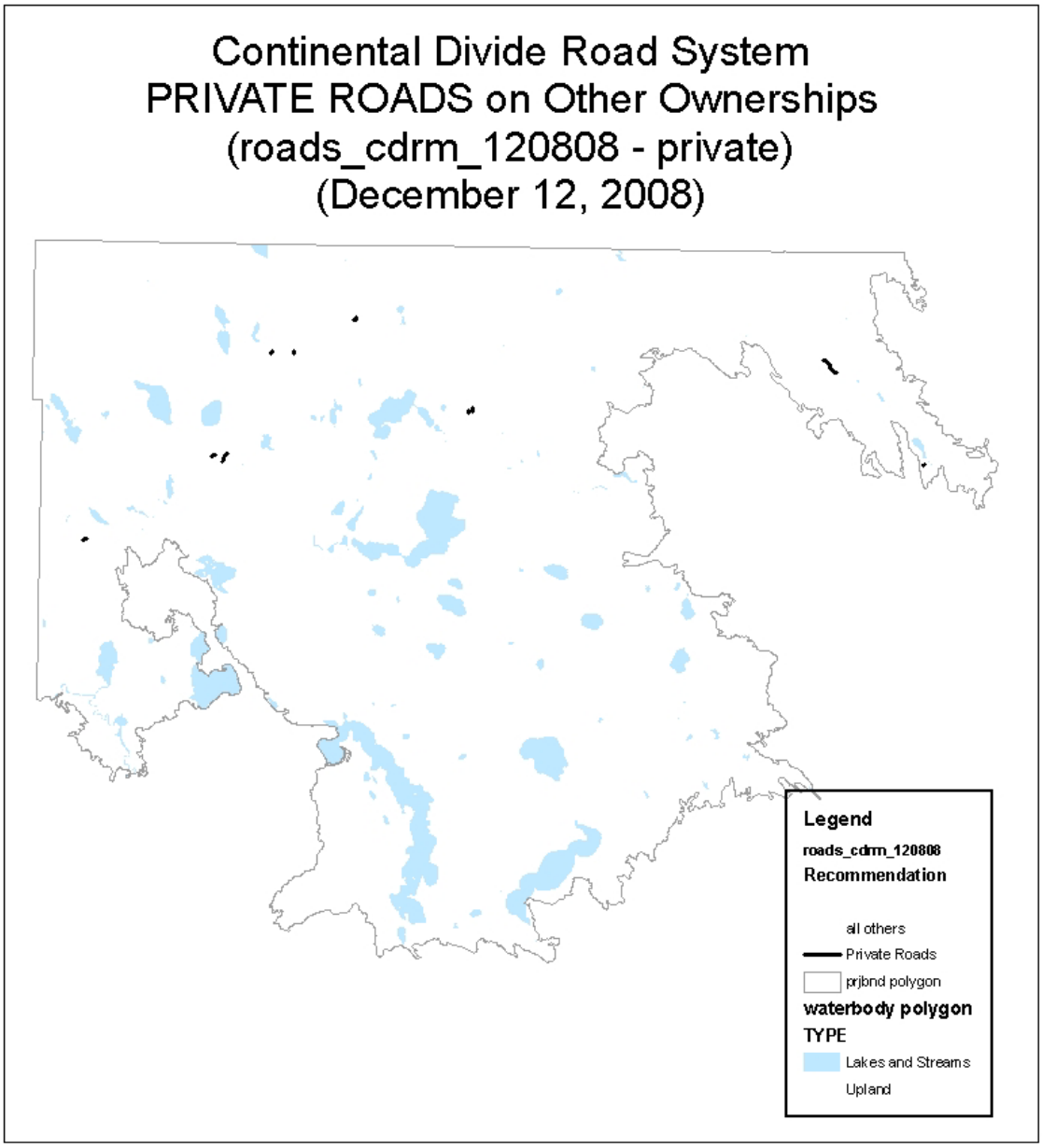
Map G.15 - Roads to be recognized off system (Entries on NFS Land)



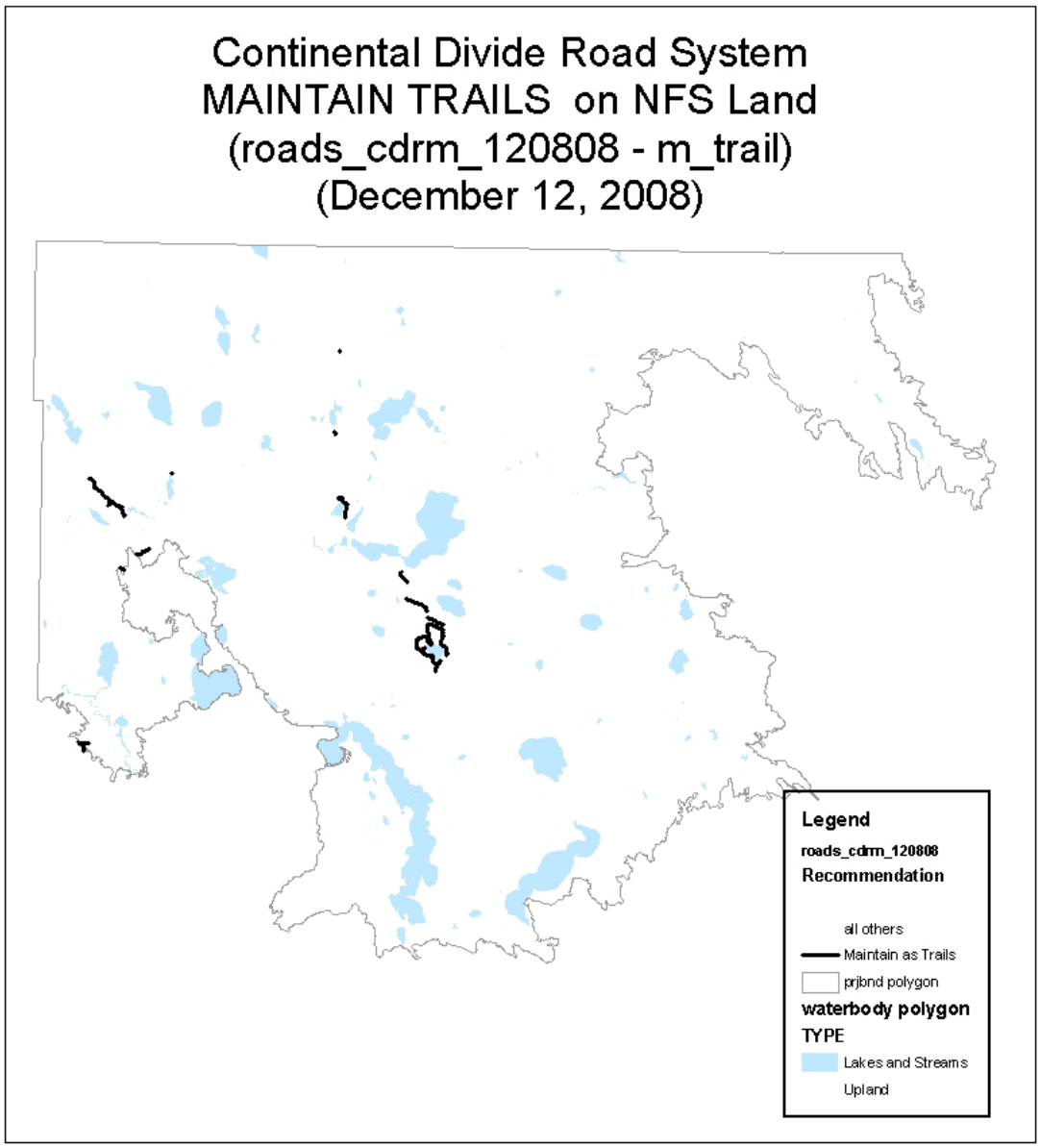
Map G.16 - Roads to be recognized off system (Entries on Other Ownership Land)



Map G.17 - Private Roads on Other Ownerships (for reference)



Map G.18 - Maintain Trails on NFS Land



Roads to Add to the System:
Numerous small sections of roads (about 5.8 miles) are in desirable locations and currently being used or are needed on NFS lands for primarily NFS land access. They should be added to the system (Table B.10. Plus, there are about 1.8 miles of roads that exist but are not on the system, that are needed for access to other ownerships of land (Table B.11).

Table G.10 - Roads to be Added Primarily for NFS Use

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
J	0.02	add	nat	cable	low	rutting	fs		0			Webster Lake		
J end	0.25	add	nat	cable	low	rutting	fs		0					
P1248	1.25	add	IMP	none	med	none	PVT		1					plowed
to lake	0.03	add	nat	none	low	none	fs		0					
to woods	0.08	add	nat	none	low	none	fs		0					
to woods	0.04	add	nat	slash	low	none	fs		0					
U1070	0.08	add	NAT	none	low	rutting	FS		1	AFSR				
U1076	0.57	add	NAT	NONE	LOW	RUTTING	FS		1	AFSR				
U1082	0.12	add	NAT	NONE	LOW	NONE	FS		1	?				
U1083	0.20	add	AGG	NONE	MED	NONE	FS		1	AFSR				
U1086	0.08	add	NAT	none	low	none	FS		1					
U1118	0.02	add	AGG	none	med	none	FS		1					
U1119	0.07	add	AGG	none	low	none	FS		1					
U1120	0.01	add	AGG	none	med	none	FS		1					
U1136	0.47	add	NAT	gate	low	rutting	FS		1					
U1145	1.25	add	NAT	berm	atv	rutting	FS		1					
U1175	0.05	add	NAT	gate	low	none	FS	1	1					
U1262	0.90	add	nat	gate	low	none	FS		1					
y	0.17	add	nat	none	low	rutting	fs		0					
z	0.18	add	nat	none	ATV	none	fs		0					
Total	5.84													

Table G.11 - Roads to be Added Primarily for Private Use

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
C1049	0.18	add_pvt	nat	brush	low	none	CFR		2					
D	0.07	add_pvt	nat	gate	low	rutting	pvt		0					
U1065	0.19	add_pvt	NAT	berm	low	none	FS		1	AFSR				
U1138	0.13	add_pvt	NAT	gate	low	rutting	FS		1					
U1140	0.08	add_pvt	NAT	gate	low	rutting	FS		1					
U1144	0.10	add_pvt	NAT	berm	low	rutting	FS		1					
U1146	0.08	add_pvt	NAT	none	low	none	FS		1					
U1233	0.25	add_pvt	NAT	none	low	rutting	FS		1					
U1234	0.34	add_pvt	NAT	none	low	rutting	FS		1					
U1261	0.33	add_pvt	nat	gate	low	none	FS		1					
Total	1.75													

"Roads" to recognize but not have on the Transportation System:
There are seven other categories of "roads" (some trails) that need to be discussed at this point but none of them need to be on the Transportation System.

There are 4 segments that are user developed OHV trails that should be decommissioned (0.3 miles). (Table G.12)

There is one segment on County land that (for some reason) I kept in as maintain the trail (0.1 miles). (Table G.13).

There are a multitude of driveways to other ownerships in the CDRM area. They were recorded during the field inventory to see how many there were and how extensive they were. (11.2 miles). (Table G.14)

There are numerous pieces of roads that are really just very short entrances from highways or major gravel roads into the forest (1.2 miles) of which 0.7 are on NFS land (Table G.15) and 0.5 miles are on other ownerships of land (Table G.16). They often look like good entrances for the future or good parking spots for the public. They are often 50 feet long or less. They should be recognized as existing, but not added to the transportation system.

There are several roads on other ownerships that were in the GIS or were seen during the field inventory that are recorded for the same reasons as the driveways. They should not be on the transportation system (1.1 miles). (Table G.17)

There are 6.7 miles of various types of trails that are in the GIS database so are dealt with here to account for the lines and the mileages (6.7 miles). (Table G.18)

Table G.12 - "Roads" to be Decommissioned (Really User Developed OHV_Trails)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
atv	0.10	decom	nat	none	low	none	pvt		0					
atv	0.05	decom	nat	none	atv	none	fs		0					
atv	0.05	decom	nat	none	atv	none	fs		0					
atv	0.08	decom	nat	none	atv	none	fs		0					
Total	0.28													

Table G.13 - "Roads" to be Recognized as Existing but not put on the Road System (Really an OHV Trail on Other Ownership of Land)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
atv	0.04	m_pvt	nat	none	atv	none	cfr		0					
Total	0.04													

Table G.14 - Roads to be Recognized as Existing but not put on the Road System (Driveways)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.00	driveway	NAT	none	low	none	PVT		1					
driveway	0.18	driveway	agg	none	low	none	pvt		0					
driveway	0.05	driveway	nat	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	nat	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.11	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.32	driveway	agg	none	med	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.01	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.09	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.10	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.11	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.09	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.10	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	gate	low	none	pvt		0					
driveway	0.11	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.10	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.18	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.10	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.13	driveway	imp	none	low	none	cfr		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.09	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.12	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.05	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.10	driveway	imp	none	low	none	pvt		0					
driveway	0.07	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.13	driveway	imp	none	low	none	fs		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.08	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	gate	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.12	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.12	driveway	imp	none	low	none	pvt		0					
driveway	0.11	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.09	driveway	imp	none	low	none	pvt		0					
driveway	0.13	driveway	imp	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					plowed
driveway	0.03	driveway	nat	gate	low	none	pvt		0					plowed
driveway	0.13	driveway	agg	none	low	none	pvt		0					plowed
driveway	0.17	driveway	agg	none	low	none	pvt		0					plowed
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.17	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					plowed
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.05	driveway	nat	none	low	none	pvt		0					
driveway	0.11	driveway	nat	gate	low	none	pvt		0					
driveway	0.06	driveway	nat	none	low	none	pvt		0					
driveway	0.03	driveway	nat	cable	low	none	pvt		0					
driveway	0.07	driveway	agg	none	low	none	pvt		0					
driveway	0.07	driveway	nat	none	low	none	pvt		0					
driveway	0.03	driveway	nat	gate	low	none	pvt		0					
driveway	0.02	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	nat	none	low	none	pvt		0					
driveway	0.05	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					
driveway	0.02	driveway	nat	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.05	driveway	nat	none	low	none	pvt		0					
driveway	0.05	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.02	driveway	nat	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	nat	gate	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.02	driveway	nat	none	low	none	pvt		0					
driveway	0.02	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.02	driveway	nat	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	nat	none	low	none	pvt		0					
driveway	0.02	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	nat	none	low	none	pvt		0					
driveway	0.04	driveway	nat	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.05	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					
driveway	0.08	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.06	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	imp	none	low	none	pvt		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.02	driveway	imp	none	low	none	pvt		0					
driveway	0.03	driveway	imp	none	low	none	pvt		0					
driveway	0.11	driveway	agg	none	low	none	pvt		0					
driveway	0.09	driveway	agg	none	low	none	pvt		0					
driveway	0.09	driveway	nat	none	low	none	pvt		0					
driveway	0.03	driveway	nat	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.04	driveway	agg	none	low	none	pvt		0					
driveway	0.02	driveway	agg	none	low	none	pvt		0					
driveway	0.03	driveway	agg	none	low	none	pvt		0					
driveway	0.02	driveway	agg	none	low	none	pvt		0					
Total	11.20													

Table G.15 - Roads to be Recognized as Existing but not put on the Road System (Entries on NFS Land)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
BB	0.03	entry	nat	none	low	none	fs		0					
C	0.08	entry	nat	sign	low	none	fs		0					
d	0.04	entry	nat	ditch	low	none	fs		0					
d2	0.04	entry	nat	none	low	none	fs		0					
entry	0.01	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	pvt		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.03	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	none	none	fs		0					
entry	0.02	entry	nat	none	none	none	fs		0					
entry	0.04	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
entry	0.02	entry	nat	none	low	none	fs		0					
f	0.06	entry	nat	none	low	none	fs		0					
to pasture	0.02	entry	nat	none	low	none	pvt		0					
to woods	0.02	entry	nat	none	low	none	fs		0					
w	0.03	entry	agg	gate	low	rutting	fs		0					
aa	0.03	entry_decom_end	nat	none	low	none	fs		0					
Total	0.69													

Table G.16 - Roads to be Recognized as Existing but not put on the Road System (Entries on Other Ownerships of Land)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
entry	0.02	entry_pvt	nat	none	low	none	dnr		0					
entry	0.02	entry_pvt	nat	none	low	none	dnr		0					
entry	0.02	entry_pvt	nat	none	low	none	dnr		0					
entry	0.02	entry_pvt	nat	none	low	none	dnr		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.01	entry_pvt	nat	none	low	none	dnr		0					
entry	0.03	entry_pvt	nat	none	low	none	dnr		0					
entry	0.03	entry_pvt	nat	none	low	none	dnr		0					
entry	0.02	entry_pvt	nat	none	low	none	dnr		0					
entry	0.01	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.01	entry_pvt	nat	none	low	none	pvt		0					
entry	0.03	entry_pvt	nat	none	low	none	st		0					

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
entry	0.03	entry_pvt	nat	none	low	none	pvt		0					
entry	0.05	entry_pvt	nat	none	low	none	pvt		0					
entry	0.02	entry_pvt	nat	none	low	none	pvt		0					
Total	0.46													

Table G.17 - Roads to be Recognized as Existing but not put on the Road System (Roads all on Other Ownerships of Land)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
M	0.03	private	nat	cable	low	none	pvt		0					
N	0.03	private	nat	cable	low	none	pvt		0					
nn	0.05	private	nat	none	low	none	pvt		0					
oo	0.06	private	nat	none	low	none	st		0					
P	0.10	private	imp	none	low	none	pvt		0					
to gravel pit	0.09	private	nat	none	low	none	pvt		0					
to gravel pit	0.19	private	nat	gate	low	none	pvt		0					
to woods	0.07	private	nat	gate	low	none	pvt		0					
U1235	0.37	private	NAT	none	low	none	FS		1					
vv	0.02	private	nat	none	low	none	pvt		0					
Total	1.01													

Table G.18 - "Roads" to be Recognized as Existing but not put on the Road System (Various Trails in GIS)

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
ff	0.57	m_trail	NAT	gate	low	none	FS		0			Rabideau CCC	Hiking	
h	0.54	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
hike	0.08	m_trail	nat	none	hike	none	fs		0					
HWT	0.13	m_trail	NAT	sign	low	none	FS		0			Webster Lake	HWT	

Road Name	Mile	Recommend	surface	closure	use	damage	admn	func class	maint level	PFSR	Forst Hwy	Trail Name	Trail Type	plowed ?
HWT	0.50	m_trail	NAT	gate	none	none	FS		0			Webster Lake	HWT	
HWT	1.96	m_trail	NAT	gate	none	none	FS		0			Webster Lake	HWT	
HWT	0.33	m_trail	NAT	gate	none	none	FS		0			Webster Lake	HWT	
HWT	0.49	m_trail	NAT	gate	none	none	FS		0			Webster Lake	HWT	
O	0.04	m_trail	nat	posts	none	none	fs		0					
trail and steps	0.03	m_trail	nat	steps	low	none	fs		0					
U	0.25	m_trail	NAT	ditch	none	none	FS		0			Webster Lake	HWT	
Webster Trail	0.08	m_trail	NAT	gate	none	none	FS		0			Webster Lake	bog walk	
	0.10	m_trail	NAT	trail	none	none	FS		0			Webster Lake	in campground	
	0.08	m_trail	NAT	trail	none	none	FS		0			Webster Lake	in campground	
	0.16	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.16	m_trail	NAT	gate	low	none	FS		0			Meadow Lake	HWT	
	0.15	m_trail	NAT	gate	low	none	FS		0			Meadow Lake	HWT	
	0.07	m_trail	NAT	gate	low	none	FS		0			Meadow Lake	HWT	
	0.09	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.32	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.28	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.09	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.08	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
	0.16	m_trail	NAT	gate	low	none	FS		0			Carter Lake	HWT	
Total	6.74													

Off Road Vehicle Decision (ORV DN):

In September of 2007 a decision was signed for the ORV EA process that has been on-going the last 2 years. It specified the level of ORV use allowed on each road on the Forest, ranging from "open" to ORV use to "closed" to all vehicular use. The DN did leave some questions unanswered on particular roads in the CDRM area which have been analyzed and recommendations are listed in Table G.19.

Table G.19 -- Recommendations for OHV EA Roads that were not Decided in OHV EA or had subsequent changes

FS NUMBER	MILES	REASON from OHV Process	Rev_Recom*	CDRM Road Recommendation	CDRM Recommendation	Reason in CDRM
2089	0.17	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2089	0.31	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2089A	0.17	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2201H	0.35	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2207F	0.08	Impacts Private Land	DEFER	m	Close to OHV but open to highway vehicles	Short spur, partly a driveway.
2207A	0.19		Open to highway vehicles only	m	Open to OHV and highway vehicles	No good reason to close it.
2208A	0.11	Public Access to Land or Water	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2208B	0.15	Public Access to Land or Water	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2208D	0.21	Public Access to Land or Water	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2213A	0.04	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213A	0.17	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213A	0.43	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213A	0.51	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213AA	0.64	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213AB	0.30	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Swampy road, not visible now.
2213C	0.24	Sensitive Natural Features	DELAY	m	Close to OHV and highway vehicles (OML 1)	Soft road to lake, sensitive features??

FS NUMBER	MILES	REASON from OHV Process	Rev_Recom*	CDRM Road Recommendation	CDRM Recommendation	Reason in CDRM
2215	0.06	Wetland	DEFER	m	Close to OHV but open to highway vehicles	Soft, rutted road
2215	0.85	Wetland	DEFER	m	Close to OHV but open to highway vehicles	Soft, rutted road, part in beaver pond
2217A	0.27	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2236A	0.06	Sensitive Natural Features	DEFER	decom	Close to OHV and highway vehicles - decommission road	Short spur. Proposed for decommissioning.
2238	0.22		Open to highway vehicles.	m	Close to OHV and highway vehicles (OML 1)	Lot of problems north from here with illegal OHV use.
2281A	0.27	decommissioned	DEFER	decom	Close to OHV and highway vehicles - decommission road	Short road, off driveway, other adjacent roads are closed. Proposed for decommissioning.
2281B	0.17	decommissioned	DEFER	decom	Close to OHV and highway vehicles - decommission road	Short road, off driveway, other adjacent roads are closed. Proposed for decommissioning.
2389	0.28	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2389	0.26	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2414A	0.30	Public Access to Land or Water	DELAY	m	Close to OHV but open to highway vehicles	Leads to private land.
2414B	0.31	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Soft, rutted road
2417C	0.16	decommissioned	DELAY	m	Close to OHV and highway vehicles (OML 1)	Bermed, short.
2417C	0.54	decommissioned	DELAY	m	Close to OHV and highway vehicles (OML 1)	Bermed, short.
2417	0.16		DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2417	0.20		DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2417	0.07		DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2417	0.65		DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2417	0.41		DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2417A	0.17	Short Dead-end	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.
2419	0.29	Public Access to Land or Water	DELAY	m	Close to OHV and highway vehicles	Soft, rutted road.
2419C	0.32	Wetland	DELAY	m	Close to OHV and highway vehicles (OML 1)	Short, soft, rutted road

FS NUMBER	MILES	REASON from OHV Process	Rev_Recom*	CDRM Road Recommendation	CDRM Recommendation	Reason in CDRM
2419D	0.31	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Leads to unwanted stream crossing.
2419B	0.16	Public Access to Land or Water	DEFER	m	Open to OHV but OML 1 to highway vehicles	Too soft for highway vehicles. Much current OHV use.
2419B	0.28	Public Access to Land or Water	DEFER	m	Open to OHV but OML 1 to highway vehicles	Too soft for highway vehicles. Much current OHV use.
2436	0.66	Impacts Private Land	DEFER	m	Open to OHV and highway vehicles	No good reason to close it.
2436A	1.06	surface water	DELAY	m	Open to OHV but OML 1 to highway vehicles	Too narrow, soft for highway vehicles.
2514 south of 2508	0.77		Open to highway vehicles and seasonally open to OHV.	m	Open to OHV (1500 # gate) but closed to highway vehicles.	Too soft for highway vehicles. Locals desire access with large OHVs.
2514 north of 2514G	0.25		Open to highway vehicles and seasonally open to OHV.	m	Close to OHV and highway vehicles (OML 1)	Leads to Candidate Research Natural Area. Very soft, rutted road.
2514	0.61	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1)	In Candidate Research Natural Area. Soft road.
2514	0.76	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1)	In Candidate Research Natural Area. Soft road.
2514D	0.82	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1)	In Candidate Research Natural Area. Soft road.
2572	0.05	decommissioned	DEFER	m	Close to OHV and highway vehicles (OML 1)	Short spur. Lot of illegal OHV trails in the area.
2577	0.19	Soil, Slope, or Erosion Conditions	DEFER	m	Open to OHV and highway vehicles	Leads to Holland Lake that people want to access.
2577	0.41	Soil, Slope, or Erosion Conditions	DEFER	m	Open to OHV and highway vehicles	Leads to Holland Lake that people want to access.
2577	0.03	Soil, Slope, or Erosion Conditions	DEFER	m	Open to OHV and highway vehicles	Leads to Holland Lake that people want to access.
2623A	0.47	Wetland	DELAY	m	Open to OHV and highway vehicles	No good reason to close it.

FS NUMBER	MILES	REASON from OHV Process	Rev_Recom*	CDRM Road Recommendation	CDRM Recommendation	Reason in CDRM
3400	0.21	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Leads to unwanted stream crossing. Narrow, slippery, hilly. Proposed for pulling road out of wetland.
3400	0.20	Wetland	DEFER	m	Open to OHV and highway vehicles	No good reason to close it.
3400	0.05	Wetland	DEFER	m	Open to OHV and highway vehicles	No good reason to close it.
3402A	0.02		DELAY	m	Close to OHV but open to highway vehicles	Leads to private land
3402A	0.27		DELAY	m	Close to OHV but open to highway vehicles	Driveway to a house
3402A	0.15		DELAY	m	Open to OHV and highway vehicles	Leads to Gilstad Boat Landing
3406	0.25	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Soft road - rutted, flooded at north end.
3406	1.18	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Soft road - rutted, flooded at north end.
3412DA	0.15	Wetland	DEFER	m	Open to OHV and highway vehicles	No good reason to close it.
3412	0.53		Open to highway vehicles on north end.	m	Open to OHV and highway vehicles	Everything around here is open to both so this should be also. This north end of 3412 is not even drivable by highway vehicles due to rutting.
3415	0.15	Wetland	DELAY	m	Open to OHV and highway vehicles	Good road to State road.
3415	0.14	Wetland	DELAY	m	Open to OHV but OML 1 to highway vehicles	Too narrow, soft for highway vehicles.
3415	0.56	Wetland	DELAY	m	Open to OHV but OML 1 to highway vehicles	Too narrow, soft for highway vehicles.
3415A	0.18	Wetland	DELAY	m	Open to OHV but OML 1 to highway vehicles	Too narrow, soft for highway vehicles.
3416GA	0.17	decommissioned	DEFER	decom	Close to OHV and highway vehicles - decommission road	Short spur. Proposed for decommissioning.
3416C	0.65	decommissioned	DEFER	delete	Close to OHV and highway vehicles - decommissioned road.	Road is gone. Proposed as decommissioned.
3417	0.65	Wetland	DEFER	m	Close to OHV and highway vehicles (OML 1)	Soft, rutted road.
3421	0.10	Wetland	DEFER	m	Close to OHV but open to highway	Short spur off Scenic Highway

FS NUMBER	MILES	REASON from OHV Process	Rev_Recom*	CDRM Road Recommendation	CDRM Recommendation	Reason in CDRM
					vehicles	
3422	0.20	decommissioned	DEFER	m	Close to OHV and highway vehicles (OML 1)	Short spur. Bermed now.
3450A	0.61	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1), except special use permit to private land.	In Candidate Research Natural Area. Access needed to private land.
3450A	0.47	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1), except special use permit to private land.	In Candidate Research Natural Area. Access needed to private land.
3450AB	0.39	Previously Designated	DEFER	m	Close to OHV and highway vehicles (OML 1)	In Candidate Research Natural Area.
3523	0.12	Public Access to Land or Water	DEFER	m	Close to OHV but open to highway vehicles	Short spur off Scenic Highway
3524	0.13	Wetland	DEFER	m	Close to OHV but open to highway vehicles	Short spur off Scenic Highway
3525	0.45	decommissioned	DEFER	decom	Close to OHV and highway vehicles - decommission road	Starts at house. Short road. Proposed for decommissioning.
3844	0.51	Wetland	DELAY	m	Close to OHV but open to highway vehicles	Leads to Morph Meadow wildlife area which is all closed to OHVs.
3856A	0.01	Impacts Private Land	DELAY	m	Close to OHV but open to highway vehicles	Leads to private land.
3856A	0.32	Impacts Private Land	DELAY	m	Close to OHV but open to highway vehicles	Leads to private land.

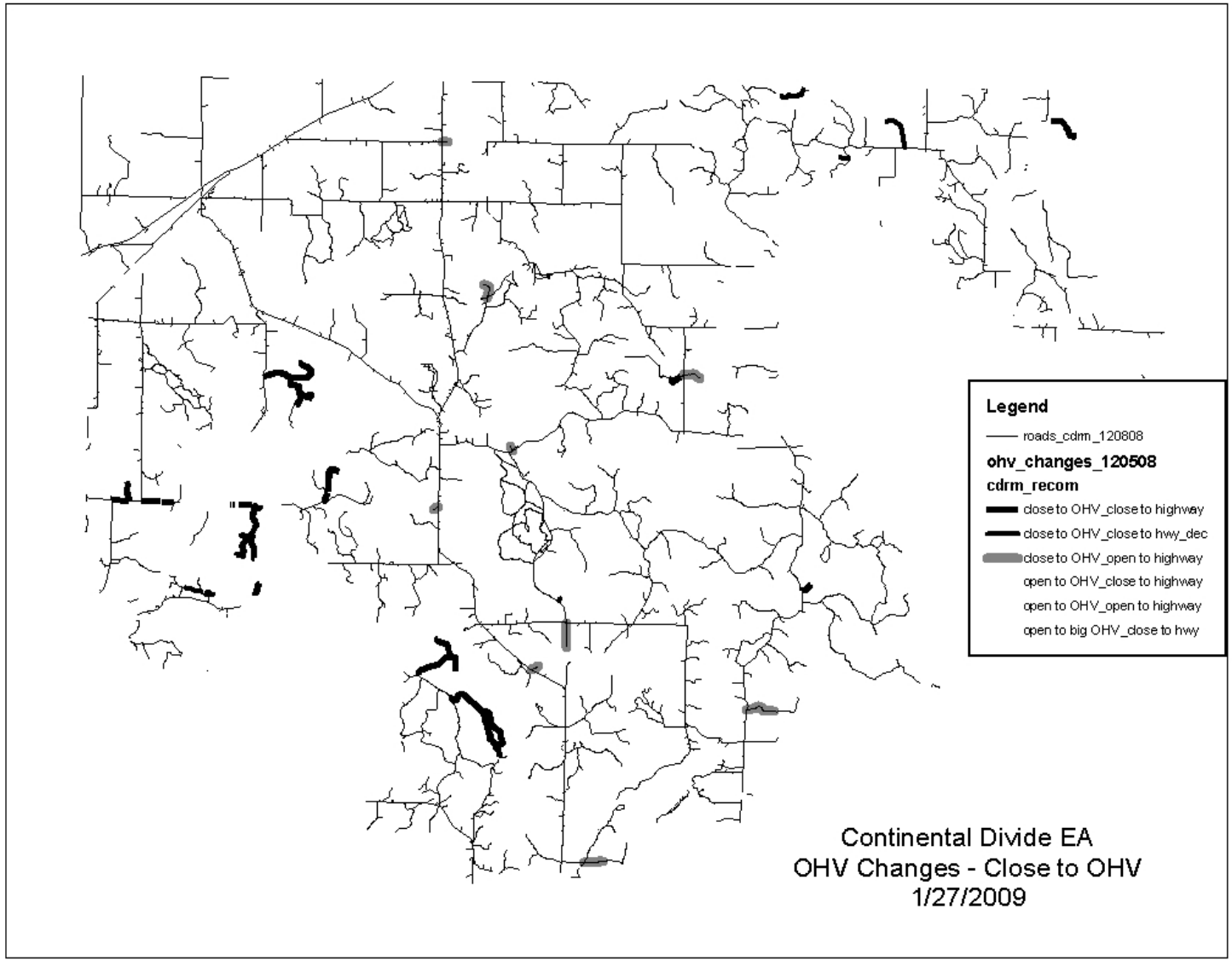
*In this table, DELAY means it is open to ORV use at this time but a subsequent EA should probably recommend closing it to ORV use. DEFER means it is closed to ORV use and a subsequent EA should probably recommend closing it to all vehicular traffic.

A summary of the above table shows the following:

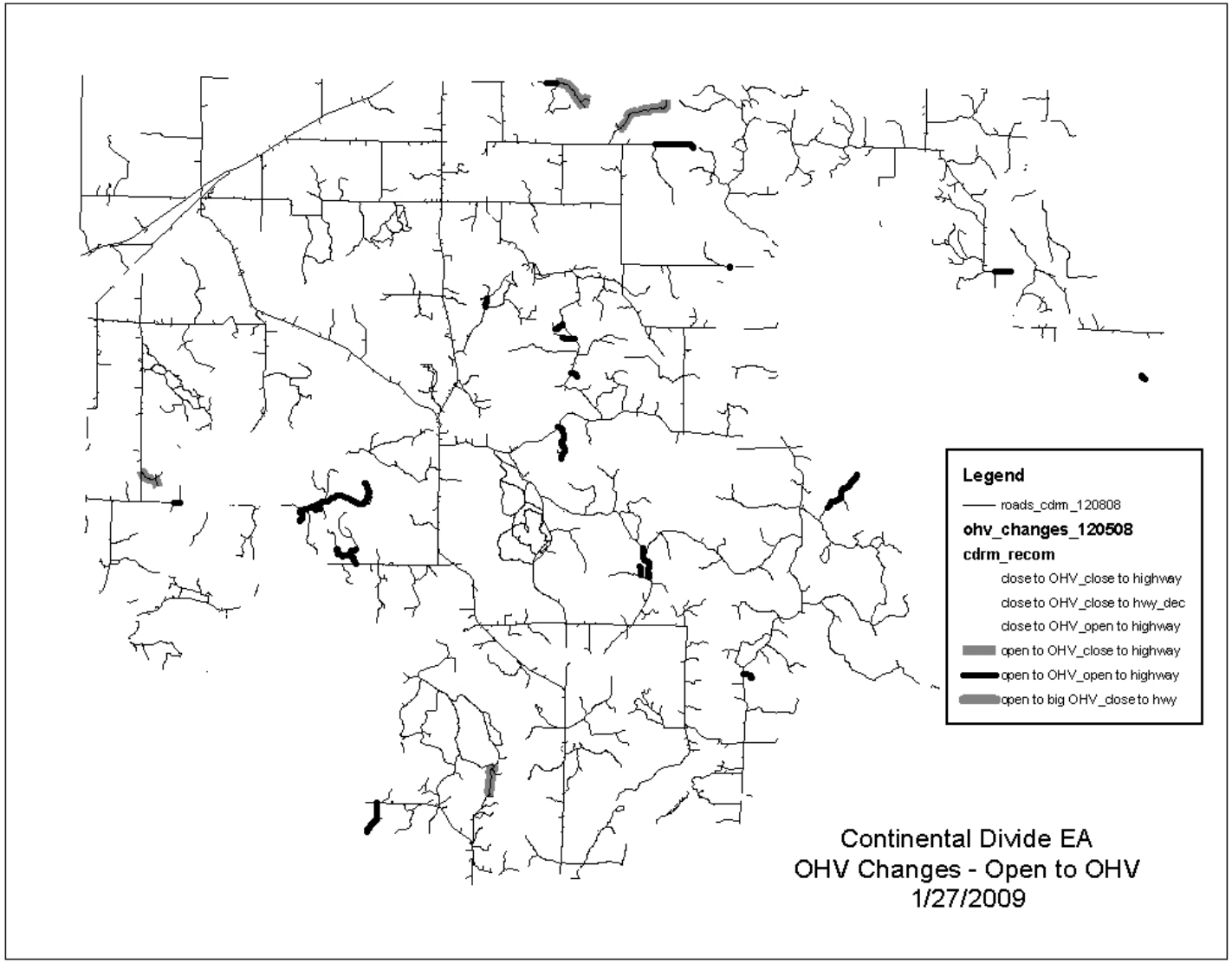
Table G.19.a -- Summary of Recommendations for OHV EA Roads Changes

Current Status	Recommendation	Miles	No. of Roads or Segments
DEFER or DELAY	Open to OHV and Highway vehicles	6.6	19
DEFER or DELAY	Open to OHV only	2.4	4
DEFER or DELAY	Closed to OHV but open to highway vehicles	1.9	8
DEFER or DELAY	Closed to OHV and Highway vehicles	9.9	21
DEFER or DELAY	Closed to OHV and Highway vehicles - decommission the road	1.8	6
Open to all vehicles	Open to OHV only (1500 pound)	0.5	1
Open to all vehicles	Closed to OHV and Highway vehicles	0.3	1
Open to highway vehicles only	Open to OHV and Highway vehicles	0.7	2
Open to highway vehicles only	Closed to OHV and Highway vehicles	1.0	2
Open to all vehicles	Closed to HOV but open to highway vehicles	0.4	1
TOTAL		25.5	65

Map G.19.a - OHV Changes - Close to OHVs



Map G.19.b - OHV Changes - Open to OHVs



APPENDIX H: MITIGATING MEASURES, DESIGN FEATURES, AND BEST MANAGEMENT PRACTICES FOR CDRM EA

Listed below are special measures that are needed in the design and implementation of the treatments in the CDRM area projects. They do not include most measures that are in the Voluntary Guidelines (Gold Book) (PR# 72b) or the Forest Plan (PR# 72). It is expected and assumed that measures from these two documents would be followed. Following are measures that are over and above them and that need to be implemented in order to have the effects listed in this EA. They are also listed in the prescriptions, which would be developed as the analysis is completed. (PR# 320 eventually).

Vegetation

General (not listed in prescriptions):

Specific and Listed on Prescriptions:
The following statement was added to all harvest prescriptions to allow the timber markers to make room for large harvesting equipment ", however cut individual trees of any species as needed to facilitate operations" or "In addition, individual trees of other species may be cut as needed to facilitate the operation of harvesting equipment in the stand."

In some stands where visibility is low and merchantable trees are patchy, "Try to layout during leaf-off because there may be areas to exclude."

For various reasons most harvested stands would have "Reserve Trees". The species and numbers would be determined on a stand by stand basis for the visual, wildlife, or silvicultural reason associated with each stand, e.g. visual buffers, future snags, or diversity. Occasionally there would be enough trees of desirable species to want "Reserve Areas", e.g. near wetlands, inclusions of very young trees, unmerchantable trees, or unusual species for the stand.

Wildlife

Northern Goshawk

ACGE 1 There would be no disturbing activities (timber harvest, prescribed fire, road construction, etc.) within the nesting and post-fledging areas during the breeding season, which lasts from March 1 - August 31. See Forest Plan G-WL-24

ACGE 2 Maintain at least 50% canopy closure in stands proposed for thinning/shelterwood- uneven aged treatment within the foraging zone of all territories.

ACGE 3 Protect all snags greater than 4 inches in diameter at breast height except where safety is a concern. See Forest Plan O-WL-26

ACGE 4 If present, leave at least 2-5 down logs greater than 12” DBH/acre. If these are not present, then leave down logs between 6-12” DBH.

ACGE 5 If a new stick nest is discovered in the project area during timber sale layout and marking operations, then harvest would be deferred within 860 feet until spring call-playback surveys can verify species occupancy. If the stick nest remains unoccupied, then the nest tree would be reserved within an

undisturbed legacy patch. If a new occupied goshawk breeding territory is verified, then the nesting, post-fledging, and foraging areas in this new territory would be analyzed. Proposed treatments may have to be altered or stands may have to be dropped, in order to avoid impacts that could cause the abandonment of the territory.

Bald Eagle

HALE1 No ground disturbing activities within 5 chains (100m) of an eagle nest unless the project would benefit the nest stand.

HALE2: All ground disturbing activities within 10 chains (200m) of an active nest are seasonally restricted to 10/1-2/14.

Great Gray Owl

GGO1 If a great gray owl nest is found within or adjacent to any stand proposed for harvest, a 20-acre no harvest zone would be maintain around the nest. No management activities would occur within 0.5 miles of an active nest from April1 to August 31.

Black-backed Woodpecker

PIAR 1 There would be no activities in stands with known occurrences during the breeding season from March 1 to August 31. Spring burning would be allowed at any time, as any snags that are created by fire would improve black-backed woodpecker habitat.

PIAR 2 Any known nests found during project implementation would be protected from March 1 to August 31 with a 200 foot buffer until the young have fledged.

PIAR 3 Retain 6 to 10 jack pine (if they occur in the stand) per acre during regeneration harvest of mixed conifer stands.

Mesic Northern Hardwoods Sensitive Plant Guild

MNH1 In northern hardwood forest types, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation in a minimum 200-foot zone surrounding seasonal ponds. This guideline would apply to all forest stands typed as 82 or 89, with any type of harvest prescription.

Northern Goshawk Nesting and Post-fledging Zone Mitigations

Comp.	Stand	Acres	Forest Type	ACGE Zone	Harvest Type	Mitigation Measures
25	45	35.1	Sugar Maple-Basswood	Nesting/PFA	Individual Tree Selection	No treatment in portion of unit within nest zone-Timing restriction if nest is active 3/1-8/31
25	11	11.1	Aspen	PFA	Coppice	Timing restriction if nest is active 3/1-8/31
25	16	25.2	Sugar Maple-Basswood	PFA	Individual Tree Selection	No treatment in portion of unit within nest zone-Timing restriction if nest is active 3/1-8/31
22	1	8.5	Balsam Poplar	PFA	Coppice	Timing restriction if nest is active 3/1-8/31
22	51	3.7	Aspen	PFA	Coppice	Timing restriction if nest is active 3/1-8/31
22	62	4.8	Sugar Maple-Basswood	PFA	Individual Tree Selection	Timing restriction if nest is active 3/1-8/31
22	36	1.9	Opening	PFA	Mowing	Timing restriction if nest is active 3/1-8/31

82	31	20.1	Aspen	Nesting/PFA	Plant WP	Timing restriction if nest is active 3/1-8/31
83	112	1.7	Aspen	Nesting	Plant WP	Timing restriction if nest is active 3/1-8/31
66	36	1.5	Opening	Nesting	Plant WP	Timing restriction if nest is active 3/1-8/31
66	73			Nesting	Bridge Replacement	Timing restriction (3/1 - 8/31) if nest next to road is active

Northern Goshawk Foraging Zone Mitigations

Comp	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
109	2	3.5	Red Pine	Thinning	Maintain at least 50% canopy closure
109	18	11	Red Pine	Shelterwood-Uneven Aged	Maintain at least 50% canopy closure
109	12	7.5	Red Pine	Shelterwood-Uneven Aged	Maintain at least 50% canopy closure
108	7	16.9	Red Pine	Shelterwood-Uneven Aged	Maintain at least 50% Canopy closure
108	100	8.1	Red Pine	Shelterwood-Uneven Aged	Maintain at least 50% canopy closure
108	69	4.6	Aspen	Thinning	Maintain at least 50% canopy closure- Convert to RP
108	20	14.4	Red Pine	Shelterwood-Uneven Aged	Maintain at least 50% canopy closure
48	23	6.5	Red Pine	Thinning	Maintain at least 50% canopy closure
48	47	2.6	Red Pine	Thinning	Maintain at least 50% canopy closure
48	1	1	Red Pine	Thinning	Maintain at least 50% canopy closure
9	52	1.8	Balsam Fire/Aspen/Birch	Thinning	Maintain at least 50% canopy closure
4	3	25.7	Red Pine	Thinning	Maintain at least 50% canopy closure

Bald Eagle Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
25	25	3.9	Grass	Plant WP	Timing restriction if active nest- 2/15-9/30
50	8	6.2	Paper Birch	Brushing and Planting WP	Timing restriction if active nest- 2/15-9/30
111	41	1.7	Opening	Seeding WS/WP	Timing restriction if active nest- 2/15-9/30
59	17	25.3	Sugar Maple-Basswood	Individual Tree Selection	Timing restriction for southeastern portion (within 200m buffer) of unit if active nest- 2/15-9/30 - If present, retain WP/RP
59	12	58.8	Mixed Upland Hardwoods	Group Selection	No treatment within 5 chains (100m) of nest - Timing restriction within 200m if active from 2/15 - 9/30 - If present, retain WP/RP in cut areas

Black-backed Woodpecker Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
73	16	30.1	Aspen	Coppice	If present, retain flakey barked conifers

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
114	8	15	Tamarack	Clearcut -Patch/Strip	No timber harvest within a 200' radius of any known nest sites from 4/1-8/31- If present, reserve at least 3 large (>10" DBH) dead or dying conifers/acre in cut areas
112	24	56	Tamarack	Clearcut -Patch/Strip	No timber harvest within a 200' radius of any known nest sites from 4/1-8/31 - If present, reserve at least 3 large (>10" DBH) dead or dying conifers/acre in cut areas
112	4	11.4	Tamarack	Clearcut – Whole Stand	No timber harvest within a 200' radius of any known nest sites from 4/1-8/31 - If present, reserve at least 3 large (>10" DBH) dead or dying conifers/acre. Reserve trees may be clumped.
108	32	31.6	Tamarack	Clearcut-Patch/Strip	No timber harvest within a 200' radius of any known nest sites from 4/1-8/31 - If present, reserve at least 3 large (>10" DBH) dead or dying conifers/acre in cut areas
48	32	32	Jack Pine	Clearcut	Timing Restriction 3/1-8/31-Breeding - Retain 6-10 JP/acre, trees may be clumped in legacy patches - If present, Reserve at least 3 large (>10" DBH) dead or dying conifers/acre
47	9	19.4	Red Pine	Group Selection	If present, retain JP as a stand component and at least 3 large (>10" DBH) dead or dying conifers/acre

Bay-breasted Warbler Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
27	9	35.1	Balsam Fir/Aspen/Birch	Clearcut	Retain conifers in legacy patches- Timing restriction 5/1-7/31-breeding
59	29	56.3	Aspen	Shelterwood-Uneven Aged	Timing restriction 5/1-7/31 for breeding - If present, reserve balsam fir
64	8	41.5	Tamarack	Clearcut -Patch/Strip	Timing restriction 5/1-7/31-Breeding
63	41	42.9	White Spruce/Balsam fir	Thinning	Timing restriction 5/1-7/31-Breeding
63	42	5.4	White Spruce/Balsam fir	Thinning	Timing restriction 5/1-7/31-Breeding
48	7	22.6	Balsam Fir/Aspen/Birch	Shelterwood	Timing restriction 5/1-7/31-Breeding
9	47	7.3	Balsam Fir/Aspen/Birch	Clearcut	Timing restriction 5/1-7/31-Breeding

Ram's Head Lady Slipper Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
114	2	18.9	Aspen/Balsam fir	Coppice	Protect known site with legacy patch of a 250' buffer - Feather edges of conifer swamps- Winter harvest only
112	30	27	Northern White cedar	Shelterwood-Uneven Aged	Protect known site with legacy patch of a 250' buffer - Feather edges of conifer swamps- Winter harvest only
60	5	31.8	Paper Birch	Seed Tree Cut	Protect known site with legacy patch of a 250' buffer - Feather edges of conifer swamps- Winter harvest only
112	15	23.2	Aspen	Coppice	CYAR within 250' of western bndy- Reserve stand within buffer zone- Winter harvest only
108	32	31.6	Tamarack	Clearcut - Patch/Strip	CYAR within 250' of southern bndy-Reserve stand within buffer zone - Winter harvest only

Fairy Slipper Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
112	30	27	Northern Whitecedar	Shelterwood- Uneven Aged	Protect with legacy patch. Orchid is in the swamp. Stand also contains CYAR
60	12	12.4	Paper Birch	Coppice	Protect known site. Orchid is on edge of swamp. If present, retain WC along edge of swamp
54	136	4.8	Tamarack	Clearcut -Patch/Strip	Avoid treating known site. If present retain all WC

Least/Pale Moonwort Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
54	78	1.7	Opening	Mowing	Timing restriction- Mow after Sept. 1

Canada Yew Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
59	25	21.8	Sugar Maple-Basswood	Individual Tree Selection	Protect known site with 120' buffer
64	8	41.5	Tamarack	Clearcut -Patch/Strip	Protect known site with 120' buffer

Sensitive Plants Mitigations

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
112	36	27.1	Paper Birch	Clearcut	Reserve all WC

Mesic Northern Hardwoods Sensitive Plant Guild

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
3	6	57.4	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
212	24	21.7	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
15	9	23.1	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
26	20	19.5	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
25	45	35.1	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
25	5	17.5	Sugar Maple-Basswood	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.
25	16	25.2	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200’ of seasonal ponds.

Comp.	Stand	Acres	Forest Type	Harvest Type	Mitigation Measures
22	65	21.1	Mixed Northern Hardwoods	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
22	62	4.8	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
27	35	14.0	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
27	11	15.9	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
5	25	135.1	Mixed Northern Hardwoods	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
6	23	19.7	Mixed Northern Hardwoods	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
59	12	58.8	Sugar Maple-Basswood	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
59	25	21.8	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
59	17	25.3	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
81	23	33.2	Mixed Northern Hardwoods	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
81	4	5.6	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
44	7	19.4	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
108	18	23.5	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
108	26	12.2	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
118	19	24.2	Mixed Northern Hardwoods	Group Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.
118	18	22.9	Sugar Maple-Basswood	Individual Tree Selection	If present, generally maintain a closed canopy (70% or greater where possible) of mature forest vegetation within 200' of seasonal ponds.

Soils
General (not listed in prescriptions):

Specific and Listed on Prescriptions:
1. When logging on sandy soils, retain on-site the fine logging slash (material < 3" diameter). See Section 3.14.3 and Table 3.14.3.a and Table 3.14.3.b in the Specialist Report (PR# 330) for a list of ELT's having low-nutrient sandy soils. Whole tree harvesting would not be allowed on sandy soils unless the slash is returned and distributed over the site.

2. Limit harvest to frozen ground conditions on somewhat poorly, poorly, and very poorly drained soils.

3. If using a hydro-ax (or similar equipment) to lower slash, the same seasonal restrictions used for harvesting would apply.

4. Scarification for site preparation and mechanical brush piling for fuel reduction would not result in a excessive movement of topsoil. After site preparation and fuel requirements are met leave as much coarse woody debris as possible.

5. Mechanical site preparation (e.g. rototilling or disk-trenching) should be restricted to upland areas away from lakes and streams, using the same guidelines as for filter strip placement. Operate when the soils are dry. Steep slopes over 35% should not be scarified. Avoid scarifying the soil directly up or downhill.

6. Concentrate equipment traffic on primary and secondary skid trails, as possible. Maximize the area not impacted by traffic by concentrating equipment movements to common trails (VSLFMG, 2005). Keep the size of landings to a minimum.

7. Extra care should be taken with harvesting and site preparation equipment on steeper slopes. A main skid trail on a steep slope should be avoided. If skid trails on steep slopes can't be avoided, soil erosion would be minimal as long as water bars, dips, and slash on the trails are properly installed.

8. Stands which have whole tree harvesting as their final harvest method would mitigate the nutrient removal issue on low-nutrient soils by returning slash under 3 inches and redistributing it as evenly as possible back onto the site.

Riparian
General (not listed in prescriptions):
Special treatments for riparian areas apply to harvest activities within the Riparian Management Zone (RMZ). Vegetation management in the near bank RMZ favors long-lived species and harvest is done only to maintain or restore riparian ecological function.

Harvest design features for RMZ (100 & 200 foot zones) include everything from the Forest Plan and Voluntary Guidelines and more specifically:

a. Temporary roads would be obliterated.
b. Minimize crossing of intermittent or perennial streams with harvesting equipment. Protect streambed and streambanks if crossing is necessary.
c. Forest management activities would not take place in wetlands.

d. Seasonal ponds/vernal pools would be protected by not driving equipment through them and not leaving tops or slash in them.
e. Use filter strips where required.
f. Slopes would be protected on temporary roads and skid trails by creating water bars or dips where required.

Specific and Listed on Prescriptions:
Harvest design features for RMZ (100 & 200 foot zones) include everything from the Forest Plan and Voluntary Guidelines and more specifically:

a.b. For stands identified in the table below, maintain a higher BA in the RMZ than prescribed for the rest of the stand with an emphasis on maintaining longer-lived tree species (if present).

The following table lists the stands with acreage within the RMZ that have potentially ground disturbing activities (timber harvest, mechanical site preparation, temporary roads) planned. The above design features and mitigation measures would be incorporated into stand prescriptions in order to meet Forest Plan direction.

Table H.1 -- Treatments in Riparian Management Zones

Comp	Stand	Forest Type	Treatment	RMZ Acres
00003	006	82	Single Tree Selection	0.47
00004	003	2	Thin, fuel removal	0.18
00006	022	16	Thin	0.51
00006	023	89	Group Selection, scarify	1.12
00006	027	98	Mow WL opening	1.57
00009	029	16	Thin	2.06
00022	003	11	Clearcut, scarify, seed	0.77
00022	009	91	Coppice Cut	6.81
00022	028	91	Clearcut, scarify, seed	3.35
00022	065	89	Group Selection, scarify	6.62
00029	012	16	Thin, fuel removal	1.76
00029	023	98	Natural WL opening	0.91
00048	032	1	Clearcut, scarify, seed	1.56
00049	017	91	Coppice Cut	0.03
00049	022	2	Thin, fuel removal	0.07
00049	026	99	Mow WL opening	0.26
00050	008	92	Riparian Planting	1.00
00050	014	91	Riparian Planting	1.00
00050	055	92	Riparian Planting	1.00
00050	087	91	Riparian Planting	1.00
00051	012	99	Natural WL opening	0.89
00051	029	16	Thin	1.16
00051	050	92	Riparian Planting	3.00
00051	051	2	Thin, fuel removal	0.85
00051	052	99	Natural WL opening	0.12
00054	080	99	Mow WL opening	0.09
00054	081	99	Mow WL opening	1.00

Comp	Stand	Forest Type	Treatment	RMZ Acres
00055	011	99	Mow WL opening	0.62
00059	029	91	Shelterwood 2-aged, scarify, seed	9.29
00059	029	91	Riparian Planting	6.00
00061	004	97	Webster Bog Walk	1.00
00062	029	99	Mow WL opening	2.08
00064	008	15	Strip Clearcut	1.22
00065	020	99	Mow WL opening	0.89
00067	022	99	Mow WL opening	0.57
00069	023	99	Natural WL opening	0.00
00071	005	99	Plant_WL_opening	0.91
00071	013	99	Mow WL opening	1.15
00071	014	95	HWT Clearcut strips	2.54
00071	015	91	Coppice 2-aged	2.73
00073	012	91	Group Selection, scarify	3.26
00073	013	99	Mow WL opening	0.25
00073	016	91	Coppice Cut	2.01
00073	018	82	Nelson Lake Road	0.58
00076	035	98	Mow WL opening	0.48
00076	049	99	Mow WL opening	0.01
00079	003	91	Coppice 2-aged	0.41
00079	014	91	HWT Clearcut strips	0.07
00079	040	99	Mow WL opening	0.81
00079	055	91	Coppice 2-aged	0.21
00079	060	91	Coppice 2-aged	0.68
00079	081	91	Coppice 2-aged	1.04
00080	015	91	Clearcut, scarify, plant	2.38
00081	023	89	Group Selection, scarify	5.23
00082	031	91	Riparian Planting	2.00
00082	045	14	Road Prism Removal	1.00
00082	046	99	Road Prism Removal	1.00
00082	080	99	Plant_WL_opening	0.35
00082	083	82	Riparian Planting	3.00
00083	112	91	Riparian Planting	1.00
00108	025	92	Shelterwood Cut, scarify	7.13
00108	026	82	Single Tree, Boat Landing	5.06
00108	046	99	Mow WL opening	0.69
00109	027	99	Mow WL opening	0.05
00111	028	98	Plant_WL_opening	0.17
00111	034	98	Plant_WL_opening	0.16
00115	012	99	Plant_WL_opening	0.30
00115	019	99	Natural WL opening	1.40
00115	045	99	Natural WL opening	0.19
00118	004	91	Riparian Planting	1.00
00118	024	95	Riparian Planting	1.00

Comp	Stand	Forest Type	Treatment	RMZ Acres
00118	025	95	Riparian Planting	1.00
00118	026	95	Riparian Planting	1.00
00118	043	95	Riparian Planting	1.00
00120	008	95	Riparian Planting	2.00
00126	015	99	Mow WL opening	0.03
00134	006	99	Mow WL opening	0.00
00213	011	98	Mow WL opening	0.55
				116.66

Visual
General (not listed in prescriptions):

Specific and Listed on Prescriptions:
HIGH SIO - As visible from the affected travelway or use area: 25' removal, lop rest to 2', reserve trees and clumps as needed.

MEDIUM SIO - As visible from the affected travelway or use area: 25' removal, lop rest to 2'.

LOW SIO - As visible from the affected travelway or use area: 25' removal, lop remainder to 3'.

Heritage Resources
General (not listed in prescriptions):

Specific and Listed on Prescriptions:
Exclude site from harvest, yarding, or other ground disturbing activities. If burning do not disturb ground with firelines or heavy equipment.

Fire
General (not listed in prescriptions):

Specific and Listed on Prescriptions:
1. Burn piles in the winter for safety.

2. Some piles of brush and trees would be retained for wildlife habitat.

3. Provisions of the *Minnesota Smoke Management Plan* (PR# 164) would be designed into the prescriptions for all of the burning.

4. Notify populations and authorities at sensitive receptors, including those in adjacent jurisdictions, prior to the fire.

5. Monitor the effects of smoke on air quality in appropriate locations.

Non-native Invasive Species (NNIS)
General (not listed in prescriptions):

Specific and Listed on Prescriptions:

1. Use timber sale contract clauses (BT6.35), for cleaning potentially infested equipment to help prevent the spread of NNIS.

2. Placement of skid trails, temporary roads, and landings should avoid occurrences of NNIS or crossing areas infested with NNIS.

3. Prior to exposing bare mineral soil during site preparation, the NNIS occurrence near each unit should be treated by mechanical means such as mowing or hand pulling to minimize the seed production while the soil is exposed.

4. Minimize the spread of NNIS by using non-infested gravel sources.

5. Rapidly revegetate exposed bare mineral soil to minimize seeding-in by NNIS.

6. Rapid treatment of new infestations as they are found.

APPENDIX I: SUMMARY TABLE FOR CDRM EA

Summary table for CDRM EA as of 02/02/2009. This is Alternative C, the revised proposed action.

Treatment	**Acres in Alt. C ***	**Total in Alt C**
Clearcut - coppice cut (4102)	Aspen - 657 Paper Birch - 19	677
Clearcut - patch/strip (4115)	Black spruce - 40 of 81 acres Tamarack - 152 of 286 acres	192
Clearcut - whole stand (4117)	Jack pine - 32 Black Spruce 3 of 1 Fir/Spruce - 99 White Spruce - 49 Aspen - 44 Tamarack - 12 of 22	239
Shelterwood - (4131)	White pine - 16 Fir/spruce - 23 Aspen - 18	57
Seed Tree Cut - (4132)	Paper Birch - 102 Aspen - 16	118
Individual Tree Selection (4151)	Sugar maple - 339 of 347 Mixed northern hardwoods - 135	474
Group Selection - (4152)	Red Pine - 87 Mixed northern hardwoods - 174 Aspen - 38	299
Two-aged management - (4162)	Aspen - 41 of 191	41
Shelterwood (uneven-aged management) - (4193)	Black ash - 10 Cedar - 27 Aspen - 32 of 56 Red pine - 101	170
Thin (even BA) - (4220)	Red pine - 153 Fir/spruce - 2 White spruce - 207 Black ash - 40 (1-3-1) Aspen - 5 (1-108-69 Ron ^ to 91 then convert to RP by thinning)	406
Salvage cutting - (4231) 55-7	Tamarack - 24	24
Salvage cutting - (4232) 3-3 and 5-25		0
TOTAL HARVEST ACRES		2,697
Volume Harvested (Economic analysis less 20%)	24,183CF	
Planting harvested stands (4441 in B and 4431 in C)	White pine - 135 White spruce/white pine - 21 (1-59-29 is totally seeded with 6 acres riparian planted below)	156
Seeding harvested stands (4411 or 4421)	<table><tr><td></td><td>4411</td><td>4421</td><td>Total</td></tr><tr><td>Black Spruce</td><td>9 of 14</td><td></td><td>9</td></tr></table>	551

Treatment	Acres in Alt. C *	Total in Alt C
	Tamarack 24 of 47 24 48 Tamarack/BS 0 10 10 Jack pine 0 32 32 White pine 0 77 77 White Spruce/WP 0 140 of 164 140 White Spruce 0 171 171 White pine/WS 0 59 59 Cedar 0 5 5 Total 0 257 551	
Riparian zone planting in harvested and unharvested stands.	White pine 26 acres	26
Release (existing and new) (4512)	1054 of 1173 acres (135 are existing)	1054
Animal damage control (ADC) (existing and new) (4560)	237 of 331 acres (42 are existing)	237
Pruning (existing and new) (4530)	171 of 265 acres (44 are existing)	171
Total existing RAP	221	1,462
Site Prep mechanical for planting (4470)	21 acres	21
Site Prep mechanical for seeding (4480)	541 of 565 acres	541
Site Prep mechanical for natural regeneration (4490)	381 acres	381
Wildlife openings - Scarify and seed 45 openings with white pine or white spruce (add Fruit shrubs in Alt C) (6080)	White pine/WS/Fruiting - 54 White spruce/WP/Fruiting - 15	69
Wildlife openings - Let regenerate naturally to northern hardwoods - 39 openings (6050)	63 acres in or by northern hardwood/sugar maple/oak stands	63
Wildlife openings - Maintain 154 openings (6131)	234 acres (one of these is a 15 acre hay field that is confusing 107-32)	234
Hunter Walking Trail patches of aspen for grouse - 5 stands (plus more is in the patch clearcutting being proposed here.) (6104)	9 acres	9
Remove activity fuels by chopping, burning, hand hauling, etc. (1220)	244 of 347 acres in harvesting of red pine and white spruce and 1 black ash stand	244
Non-native Invasive Species control in an opening	1 acre in 73-48 trying different methods	1
Conversions		
Fir to white pine	23 (4131 shelterwood)	
Fir to white spruce	52 (4117 clearcut)	
Aspen to red pine	5 (4220 thinning)	
Aspen to white pine	18 (4131 shelterwood)	
Aspen to white spruce	21 (4117 clearcut)	
Aspen to mixed northern hardwoods	38 (4152 group selection)	
Aspen to paper birch	16 (4132 seed tree cut)	
Aspen to fir/spruce	23 (4117 clearcut)	
Aspen/spruce to aspen	6 (4102 coppice)	
Paper birch to aspen	19 (4102 coppice)	
Opening to white pine (with WS, fruiting shrubs)	54 (wildlife seeding)	
Opening to white spruce (with WP, fruiting	15 (wildlife seeding)	

Treatment	Acres in Alt. C *	Total in Alt C
shrubs)		
Opening to northern hardwoods (naturally)	63 (natural regen)	
Component of WP in sugar maple	3 (riparian planting)	
Component of WP in mixed northern hardwoods	135 (4151 Single Tree Selection)	
Component of WP in aspen	6 (riparian)	
Component of WP in aspen/spruce	6 (riparian)	
Component of WP in PB	5 (riparian)	
Component of WP in RP	20 (4193 shelterwood UAM)	
Component of WPWS in RP	59 (4152 group selection)	
Component of WSWP in aspen	32 (+6 acres WP planted by lake) (4193 shelterwood UAM)	
Component of WSWP in RP	108 (27 acres 4152 group selection, 81 acres 4193 shelterwood UAM)	
Component of WS in fir/spruce	47 (4117 clearcut)	
Component of WS/PB in fir/spruce	2 (4117 clearcut)	
Component of WS/PB in WS	49 (4220 thinning)	
Component of tamarack/BS in black ash	10 (4193 shelterwood UAM)	
Treatments by Forest Types		
Jack Pine (1)	40	
Red Pine (2)	341	
White Pine (3)	48	
Fir/spruce (11)	123	
Black Spruce (12)	43	of 82
Cedar (14)	33	
Tamarack (15)	188	of 365
White Spruce (16)	295	
Black Ash (71)	49	
Maple (82)	362	of 385
Mixed northern hardwoods (89)	310	
Aspen (91, 94, and 95)	944	of 1208
Paper Birch (92)	143	of 156
Openings (97, 98, 99)	390	of 397
Total treated acres in CDRM EA area	**3,309**	**of 3799**
Wetland management by removing a road prism by Gull River	2 acres in 82-45 & 46	2
Temporary Road construction and obliteration	13 roads (3.3 miles)	
Existing road used as a temporary road (in the decom miles below)	0.2 miles	
Decommission roads	8.7 miles 3.0 are system roads	
Delete roads from system (or already decommissioned)	2.3 miles 1.2 are system roads	
Decommission or delete "non-roads", e.g. ATV trails	0.3 miles	

<table>
<tr><th>Treatment</th><th>Acres in Alt. C *</th><th>Total in Alt C</th></tr>
<tr><td>Add existing roads (plus 1 atv_road) to system</td><td>7.6 miles total
5.8 miles are for NFS use
1.8 miles are for other ownership access</td><td></td></tr>
<tr><td>Add existing trail/road to ATV "trail" system (leads to Rabideau Lake)</td><td>0.4 miles</td><td></td></tr>
<tr><td>Change unclassified road to "entry"</td><td>0.4 miles
0.2 are system roads</td><td></td></tr>
<tr><td>Close 2.5 miles of roads with berms or gates (gate on 2514 south)</td><td>2.5 miles</td><td></td></tr>
<tr><td>Total change in roads</td><td>+3.2 system miles, -11.0 miles of road on the ground</td><td></td></tr>
<tr><td>Swamp Creek Bridge replacement</td><td>66-73</td><td>1</td></tr>
<tr><td>Nelson Lake road side drainage plus expand the parking lot</td><td>73-18</td><td>1</td></tr>
<tr><td>Lengthen Bog/Marsh walk at Webster Lake</td><td>61-4</td><td>1</td></tr>
<tr><td>Make/fix the carry-in canoe landing and FR 2206K at Little Moose Lake</td><td>108-26</td><td>1</td></tr>
<tr><td>Make an OHV Trailhead in existing opening by FR 2236</td><td>60-50</td><td>1</td></tr>
<tr><td>Decisions on selected OHV travel routes</td><td><table><tr><th>Recommendation</th><th>Miles</th><th># roads</th></tr><tr><td>Closed to OHV, closed to highway</td><td>13.0</td><td>30</td></tr><tr><td>Closed to OHV, open to highway</td><td>2.3</td><td>9</td></tr><tr><td>Open to OHV, closed to highway</td><td>2.9</td><td>5</td></tr><tr><td>Open to OHV, open to highway</td><td>7.3</td><td>21</td></tr><tr><td>Total</td><td>25.5</td><td>65</td></tr></table></td><td></td></tr>
<tr><td>Beaver control/stand restoration (55-7)</td><td>24</td><td>24</td></tr>
</table>

* Almost everything came from the "Alt c treated acres" column, not from the "Stand acres" column. Very often parts of stands were left out or only part of stands are treated, e.g. strip clearcuts, patches for grouse, riparian planting.

Appendix J -- Swamp Creek Bridge Photos

(PR# 69d)

Moss on deck ends, damage to upstream stringer and railposts

Lack of bearing at pier cap

Substantial gravel on deck, drains completely plugged.