



United States Department of Agriculture
Forest Service

Interior Vegetation Management Project Decision Notice

Kenton and Watersmeet Ranger Districts, Ottawa National Forest
Gogebic and Ontonagon Counties, Michigan

July 2014



For More Information Contact:

Norman E. Nass, District Ranger

Bessemer, Iron River and Watersmeet Ranger Districts
Ottawa National Forest
E23979 US Highway 2
Watersmeet, Michigan 49969
Phone: 906.358.4551
Fax: 906.358.4000

*Photo on front cover: This is an example of a jack pine plantation stand where the overmature conditions, coupled with insect infestation, has resulted in declining tree vigor. This photo was taken by Marlanea French-Pombier, Environmental Coordinator, Ottawa National Forest.

Definitions of the terms used in this document as well as a list of acronyms are located in the glossary section of the Ottawa National Forest's 2006 Land and Resource Management Plan (Forest Plan), which is available upon request. This documentation is also located at the following website: [Ottawa NF Projects](#) (see the Interior Vegetation Management Project link within the "Completed" section).

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, sexual orientation, marital status, family status, status as a parent (in education and training programs and activities), because all or part of an individual's income is derived from any public assistance program, or retaliation (Not all prohibited bases apply to all programs or activities.)

If you require this information in alternative format (Braille, large print, audiotape, etc.), contact the USDA's TARGET Center at (202) 720-2600 (Voice or TDD). If you require information about this program, activity, or facility in a language other than English, contact the agency office responsible for the program or activity, or any USDA office.

To file a complaint alleging discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call Toll free, (866) 632-9992 (Voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice users). USDA is an equal opportunity provider and employer.

INTRODUCTION

This Final Decision Notice documents the selection of management activities for the Interior Vegetation Management Project (VMP) as analyzed in Alternative 2 of the March 2014 Environmental Assessment (EA). The Responsible Official for this project is Norman E. Nass, District Ranger for the Bessemer, Iron River and Watersmeet Ranger Districts of the Ottawa National Forest.

The project area is located on the Ottawa's Kenton and Watersmeet Ranger Districts in the western Upper Peninsula of Michigan. The project area lies about six miles north of Watersmeet, Michigan. The project area is located within the following legal description: Gogebic County, Michigan: Township (T) 45N, Range (R) 38W, Sections 3-5, 9 and 10; and Ontonagon County, Michigan, T46N, R38W, Sections 3-10, 15-22, and 28-33; T46N, R39W, Sections 1-18, 22-27, 34 and 36; T47N, R38W, Sections 7, 8, 16-21 and 28-33; and T47N, R39W, Sections 13-36. The maps in Appendix 2 display additional information about the project's location.

The project area encompasses approximately 44,200 acres, of which about 32,000 acres are National Forest System lands. About 88% of the project area is within management area (MA) 3.1a, which is managed for both early and late successional forest types, in a moderately-roaded environment. The remaining 12% of the project area is within MA 8.1; an area that emphasizes the protection and management of Wild and Scenic River corridors and identified outstandingly remarkable values. For this project, MA 8.1 is comprised of portions of the Scenic I and Recreational II segments of the Middle Branch Ontonagon Wild and Scenic River.

OBJECTION PROCESS

This Decision has been prepared in accordance with 36 Code of Federal Regulations (CFR) 218. This process became effective on March 27, 2013, as part of the Department of Agriculture's final rule for replacing the Forest Service's appeals process (36 CFR 215) with an objections process as outlined in 36 CFR 218. More information about this rule is available at the Federal Register website (<http://www.federalregister.gov>, March 27, 2013 edition, pp. 18481-18504).

One primary difference of the objections process, which replaced the Forest Service's appeals process, is that eligible parties are able to seek resolution of their unresolved concerns by filing an objection prior to a final Decision being made. Objections could be filed based on unresolved concerns for the actions outlined in the March 2014 Draft Decision. A legal notice was published on April, 5, 2014 to announce the release of the Draft Decision, which initiated a 45-day objection period.

The project's objection Reviewing Officer, Stephen Lenzo, the Ottawa's Acting Forest Supervisor, received one objection to the March 2014 Draft Decision. In response to this objection, the Interior project was subject to further evaluation by the Reviewing Officer and Regional Office staff. The Acting Forest Supervisor and the project's Responsible Official offered to meet with the objector to discuss objection points raised, in accordance with 36 CFR 218.11. The objector declined to meet and therefore no resolution of concerns could be discussed.

This Decision has been prepared pursuant to 36 CFR 218.12, which states that a decision can only be signed once the project's Reviewing Officer has responded in writing to all pending objections, and concerns and instructions identified by the Reviewing Officer have been

addressed. This process is now complete. No instructions were identified by the Reviewing Officer. However, several concerns were raised by the objector, which were addressed through the project's evaluation process. The objector has been sent a letter describing how the project file documentation assisted to clarify or address concerns raised (see project file document 3097).

BACKGROUND INFORMATION

In preparing this Decision, I have taken into consideration the entirety of the project file documentation. This includes the comments received throughout the planning for this project, including the April and May 2012 public meetings, and the scoping periods held in December 2012 and July 2013. I identified the July 2013 scoping period as the official 30-day comment period for this project.

The March 2014 EA documents the results of the effects analysis for two alternatives: Alternative 1 (No Action) and Alternative 2 (the Proposed Action). Development of this EA was performed in accordance with the requirements of the National Environmental Policy Act (NEPA), National Forest Management Act (NFMA), and the Council on Environmental Quality (CEQ) regulations at 40 CFR 1500-1508.

The March 2014 EA is available for public review at any Ranger District office, as well as the Ottawa's website: <http://www.fs.usda.gov/projects/ottawa/landmanagement/projects>. The scoping letter, EA, Draft Decision and this Final Decision are also available upon request, or at the following libraries: Gogebic Community College, Ironwood Michigan; J. Robert Van Pelt Library, Michigan Tech University; and Olson Library, Northern Michigan University (NMU).

DESCRIPTION OF THE DECISION

As the Responsible Official, I have considered several factors during my evaluation of this project. I have reviewed the project file documentation, including the purpose and need for action; public input; and the direction outlined in the Ottawa's 2006 Land and Resource Management Plan (Forest Plan). I have determined that preparation of an Environmental Impact Statement is not necessary based upon the analyses presented in the EA, which includes the Finding of No Significant Impact (EA, Section 4.0), as well as the entirety of the project file.

I have selected to implement Alternative 2 as described in the March 2014 EA; along with project design criteria (see Appendix 1). This Decision will implement a variety of silvicultural management practices on approximately 16,744 acres, which includes 16,278 acres in MA 3.1a and 466 acres in MA 8.1. Actual acreage harvested will be determined after project design criteria are implemented (see Appendix 1). Additionally, this project authorizes transportation system refinements to facilitate timber harvest and improvements to benefit outdoor recreation activities. A variety of other projects to enhance habitat and project area conditions will also be implemented to align the project area's conditions closer to the desired conditions outlined in the Forest Plan.

Specific activities authorized for implementation through this Decision are displayed in Tables 1 through 10 below.

Table 1. Vegetation Management Actions

Activities	Acres (MA 3.1a)	Acres (MA 8.1)
Salvage Harvest - The removal of dead trees and/or trees being damaged or dying due to insect or disease to recover value that will otherwise be lost.	380	0
Clearcut Harvest (including overstory removal) – The removal of all or almost all trees in the stand in a single cutting. Regeneration of a new age class of trees is usually natural, but planting can occur (typically in conifer forest types), resulting in an even-aged (or same-aged) stands of trees.	2,711	0
Selection Harvest (including Structural Improvement) - A cutting method where individual trees are removed from certain size and age of trees within a stand. Regeneration of a new age class of trees is usually natural, resulting in an uneven-aged (or multi-aged) stand of trees.	6,189	30
Long-lived Conifer Enhancement/Group Selection - A cutting method in which trees are removed periodically in small groups. This treatment results in small openings that form mosaics of age-class groups and leads to the formation of an uneven-aged stand. In MA 8.1, natural regeneration or planting in the group openings will result in the establishment of long-lived conifer species and the development of greater tree species diversity.	7	436
Shelterwood Cut – Removal of some trees in a stand managed as even-aged to promote the establishment of a new age class of trees beneath the shelter of residual trees. This effort includes removal of timber to promote the establishment of a new age class of trees (e.g., overstory trees harvested) within 3 to 5 years following the initial shelterwood cut.	99	0
Thinning Harvest (including Improvement Cut) - Treatment where trees are removed to provide improved growing conditions for remaining trees. This method is used in immature stands to reduce stand density of trees to improve growth and enhance forest health.	6,786	0
Pre-Commercial Thinning - A non-commercial treatment where trees generally less than 5 inches in diameter are cut to reduce stocking levels to provide better growing conditions for remaining trees. Cut trees are normally left on site. Slash resulting from thinning may be treated by prescribed fire (i.e., pile burning) especially when necessary to reduce hazardous fuels to improve visual quality or to provide desirable wildlife habitat conditions.	106	0
Total	16,278	466

After vegetation management, post-harvest logging slash treatment will occur to reduce the concentration of hazardous fuels and protect visual quality. Slash treatment can include mechanical treatment with harvesting equipment or removal of slash through biomass harvesting.

Other silvicultural activities include first and third-year survival and stocking surveys as well as site preparation to benefit the regeneration of tree seedlings in stands receiving clearcut, group selection, shelterwood, and in some cases, salvage harvest.

Table 2. Hazardous Fuels Reduction Actions

Activities	Unit of Measure (MA 3.1a)	Unit of Measure (MA 8.1)
Prescribed fire and/or mechanical treatment (i.e., timber harvest, chipping, biomass removal) to reduce hazardous fuels conditions, such as ladder fuels and slash management.	2,804 Acres	423 Acres
Prescribed fire and/or mechanical treatment for site preparation needs in stands identified for regeneration of paper birch and red oak.	85 Acres	0 Acres
Establish fuel management zones adjacent to identified system roads through the removal of vegetation about 50 feet from the forested edge of the road. This activity will include limbing of tree branches to reduce ladder fuels; the removal of some of the understory vegetation, and subsequent slash treatment from these activities as needed.	16 Miles	0 Miles

Table 3. Transportation Management Actions

Activities	Miles (MA 3.1a)	Miles (MA 8.1)
System road construction includes the creation of new road that will primarily be used for administrative use. About one mile of new road will be designated for public use. This activity includes clearing trees, grubbing stumps, installing culverts, placing gravel where needed for road stabilization, as well as the ditching and shaping of roads. ¹	9	0
Temporary road construction includes clearing trees, grubbing stumps, installing culverts, placing gravel where needed for road stabilization, as well as the ditching and shaping of roads. These roads will be decommissioned after use, and will not be available for public access.	5	0

¹ The miles of system road construction are consistent with the information presented on page 35 of the EA. The Draft Decision contained an error; it stated that 14 miles of road would be constructed. The 14 miles reflects the total amount of construction; that is, 9 miles of system road construction in addition to the 5 miles of temporary construction.

Activities	Miles (MA 3.1a)	Miles (MA 8.1)
Reconstruction includes clearing brush, limited road widening and gravel placement where needed, installing and/or repairing culverts, as well as ditching and shaping of roads.	5	0
Decommissioning typically includes removal of culverts and other water crossing structures, berming roads to prohibit motorized vehicle access, and allowing the road bed to naturally re-vegetate. About one mile of decommissioned road segments will be converted into motorized OHV trail (see Table 5).	58	8

Changes to the transportation system include changing the operational maintenance level (OML) of selected roads or road segments where necessary. In addition, road closures will occur where necessary to meet resource needs and/or where needed to ensure the transportation system is consistent with the designated public access system.

Table 4. Recreation Management Actions

Activities	Location
Improve carry-in boat access and rehabilitation of the shoreline area to address resource damage at watercraft launching sites	Tanlund Lake
Close user-created boat launch and rehabilitate shoreline area to address resource damage. Carry-in boat access is still allowable; however, no parking at the current site will be available.	Erickson Lake
Permanent re-route for Trail #3 for snowmobile traffic to avoid dual road use identified for this project, as well as into the future.	0.3 Miles

Table 5. Motorized Vehicle Use Map (MVUM) Changes

Activities	Miles Added	Miles Removed
Roads open to all vehicles; changes in access designations will result in a total of 98.4 miles available on future versions of the MVUM.	2.2	1.4
Roads open to highway legal vehicles only; changes in access designations will result in a total of 20.2 miles available on future versions of the MVUM.	0	5
Roads open to OHVs only; changes in access designations will result in a total of 61.1 miles available on future versions of the MVUM.	0.4 ²	26.9

² This mileage has been increased from 0 miles analyzed in the EA to 0.4 miles to continue to provide OHV access on FR 583.

Activities	Miles Added	Miles Removed
OHV Recreational Trail; changes in access designations will result in a total of 1 mile of trail available on future versions of the MVUM	1	0
Total Miles Available on the MVUM (179.7 Miles)	3.6	33.3

After the release of the Draft Decision, an error on the current Motor Vehicle Use Map was discovered. In the northeast corner of the project area 0.5 miles of Forest Road (FR) 583 is located on private land. The Ottawa National Forest does not have an easement from the private landowner to maintain a road across this property. This error was carried forward under Alternative 2, where the proposed designation included maintaining OHV access (EA, Appendix 3, Maps 4 and 5).

With this Decision, I am correcting this error by removing these 0.5 miles of OHV access, and also correcting this error in our database of record. This correction will also be shown on the Ottawa's Motor Vehicle Use Map when it is updated for its next publication.

The segment of FR 583 that currently crosses private land intersects with South Agate Road, a road under county jurisdiction where OHV traffic is allowed (see Map 1). Correcting the map and data error, thus removing access across private land, results in eliminating access to FR 583 on National Forest System lands directly from South Agate Road. The Interior project does include another opportunity to connect FR 583 to South Agate Road through the planned construction of FR 583E. To maintain OHV access on the remainder of FR 583 as analyzed, I have decided to authorize OHV access on FR 583-E, which would provide a connection from South Agate Road to FR 583-E connecting then to FR 583 (see Map 5). Forest Road 583-E is 0.4 miles in length; of which approximately one-tenth of a mile of this total will be constructed to facilitate timber harvest (see Map 3). With the removal of 0.5 miles of OHV access on northeast end of FR 583 and addition of 0.4 miles of OHV access on FR 583-E, this Decision includes a reduce OHV access by 0.1 miles on these specific roads.

A monitoring item has been added to ensure that FR 583-E can sustain OHV access (see Appendix 1, page 29).

Table 6. Old Growth Actions

Activities	Acres MA 3.1a	Acres MA 8.1
Retain areas that are currently classified as old growth	792	30
Declassify areas where conditions do not include or meet the old growth criteria defined by the Forest Plan	259	30
Classification of old growth acreage in areas where conditions include or meet Forest Plan old growth characteristics to replace those acres declassified.	448	0
Total Classified Old Growth	1,240	30

Table 7. Aquatic and Riparian Resource Actions

Activities	Unit of Measure (MA 3.1a)	Unit of Measure (MA 8.1)
Stream bank restoration to prevent OHVs from fording streams • 1 Site on the Middle Branch Ontonagon River • 1 Site on McGinty Creek	0 Sites	2 Sites
Stream bank restoration associated with culvert removal on FR 5299.	2 Sites	0 Sites
Planting of long-lived tree species in riparian areas to enhance structural diversity and increase the component of long-lived trees.	160 Acres	166 Acres

Table 8. Fisheries Resource Actions

Activities	Unit of Measure (MA 3.1a)	Unit of Measure (MA 8.1)
Large Woody Material placement to improve fisheries habitat through restoring habitat diversity, providing spawning habitat and cover for trout. • Camp, Erickson, Hobo and Tanlund Lakes (Total Acres) • Bluff, Deadman and Paulding Creeks and the Middle Branch Ontonagon River (Total Linear Miles)	38 Acres 6 Miles	0 Acres 15 Miles

Table 9. Wildlife Resource Actions

Activities	Acres (MA 3.1a)	Acres (MA 8.1)
Maintain wildlife openings to provide a component of early successional habitat for several wildlife species.	266	20
Wild rice seeding in Erickson Lake to offer cover and foraging habitat for a variety of aquatic-dependent species. Seeding will not occur on the portion of the shoreline being used for walk-in canoe/boat launch access.	2	0
Underplanting of long-lived conifer to provide hiding cover, winter thermal cover and forage for small mammals.	177	0

Activities	Acres (MA 3.1a)	Acres (MA 8.1)
In Compartment 51, stands 18 and 49, timber harvest is designed to improve wildlife habitat by accelerating development of larger trees and to increase biological diversity and structural complexity. All larger diameter trees (> 14 dbh ³) will be retained. Snags will be created through girdling, and downed woody debris through felling, on 50 to 100 linear feet per acre of at least 8" in diameter, if present. A total of 4 to 10 variable sized gaps per stand will be created to improve vertical structural complexity.	0	30
In clearcut stands, create one large brush pile on average per five acres of clearcut, resulting in the creation of brush piles on about 542 acres. Brush piles serve as dens for black bear, while also providing denning and escape cover for numerous smaller wildlife species. The number of piles placed and site-specific location of piles within the 2,711 acres of clearcut, will be dependent upon available on funding and the implementation tool used (such as stewardship contracting opportunities). Specific stands, amount and location will be determined by biologists.	542	0

Table 10. Mineral Resource Actions

Activities	# Sites
Reclamation measures consistent with planned future uses, including re-shaping and stabilization of steep slopes in up to 19 acres of gravel/sand pits to prevent erosion and potential safety concerns.	Amber Lake and North Flume Pits

RATIONALE FOR THE FINAL DECISION

As the Responsible Official, I have considered several factors during my evaluation of this project. I have reviewed the project file documentation, including the purpose and need for action; the comments received during the project's comment periods; and the direction outlined in the Forest Plan. I have selected Alternative 2 for implementation based on the following rationale.

Purpose and Need for the Proposal

³ Tree diameter at breast height (dbh) refers to the diameter of a tree at 4.5 feet above the ground (where the ground level is highest at the base of a tree). This diameter is the standard point at which a tree's diameter is measured, and is used together with other standard measurements to determine the tree's volume and trees contribution to stand density.

This Decision will implement actions that are consistent with Forest Plan direction, which is the driving force behind the development of this project. The ID Team's comparison of the project area current conditions with the desired conditions described in the Forest Plan revealed that some aspects of the desired condition have not been attained. Therefore, the overall purpose and need for this project is geared towards progressing toward, or maintaining conditions within, the desired ranges outlined in overall Forest Plan direction, as well as direction for MAs 3.1a and 8.1. Alternative 2 will best meet the purpose and need for management of the project area's resources for the following reasons.

Vegetation Management

Silvicultural practices and implementation of project design criteria will meet the purpose and need of this project by restoring structural diversity, improving tree species diversity, and enhancing forest health to reduce insect and disease susceptibility. The selected treatments will maintain or progress vegetative conditions toward the desired conditions outlined in the Forest Plan for all forest types as shown in Table 11 below. However, implementation of Alternative 2 will result in a minor decrease in the short-lived conifer component at the project area scale. This decrease will not result in moving the percentage of short-lived conifer out of the desired range at the MA scale. It does, however, directly meet the purpose and need for converting jack pine to a less fire prone forest type as outlined in the Hazardous Fuels Reduction section.

The 2011 Monitoring and Evaluation (M&E) Report states that the amount of aspen regenerated is currently about 41% of the Forest Plan's estimate (p. 21). In addition, this report states that regeneration of mature aspen stands within the next 10 to 20 years is a priority to maintain the Forest Plan's desired conditions (2011 M&E Report, p. 22). As shown in Table 11, Alternative 2 will result in a change in forest type percentages through the regeneration of aspen forest within MA 3.1a. About 2,313 acres of the 2,711 acres of clearcut harvest (presented in Table 1) will be regenerated to aspen. About 1,640 acres of these acres are currently in the aspen forest type and the remaining acreage (about 673 acres) consists of other forest types, such as short-lived conifer (spruce/fir), northern hardwood and jack pine, which will be converted to aspen. Therefore, Alternative 2 does meet the purpose and need for increasing the aspen component on the landscape (March 2014 EA, p. 9).

Table 11. Comparison of the Percentages for Forest Types in MA 3.1a

Forest Type	Percentage of Forest Types Represented on the MA 3.1a Landscape		
	<i>Forest Plan Desired %</i>	<i>Existing Condition %</i>	<i>Alternative 2 %</i>
Aspen/Paper Birch	35-45%	39%	39.08%
Long-lived Conifer	10-20%	13%	13.69%
Short-lived Conifer	10-20%	10.63%	10.32%
Northern Hardwood	25-45%	37%	36.91%

My Final Decision also meets the purpose and need for supporting the local economy. Support to local economies is realized in a number of ways including employment levels supported by management actions on National Forest System lands and by federal payments to local units of government to partially offset funding shortfalls from untaxed National Forest System lands. As

displayed in Table 12, the economic effects vary greatly between alternatives (EA, p. 49). Revenues are based on the total timber volume estimated to be produced from harvest, which is estimated at about 213,777 hundred cubic feet ([CCF] or approximately 129.8 million board feet [MMBF]) for Alternative 2.

Table 12. Economic Costs and Benefits of the Alternatives Considered

Measure	Alternative 1	Alternative 2
Estimated Revenues (million)	0	8.3
Estimated Costs (million)	\$692,000	8.0
Benefit to Cost Ratio	0	1.04

A benefit to cost ratio greater than 1.0 indicates that the project's overall economic effects are positive. It is important to acknowledge that these calculations are estimates. True revenues will only be known after harvest is complete as project design criteria and timber sale contract stipulations can affect the amount of timber volume harvested.

The following table provides an estimate of the total timber volume to be harvested and associated revenues. This table includes an estimate of the volume by species group and product.

Table 13 Estimated Volume and Revenue by Species Group and Product

Species Group / Product (pulpwood or sawtimber)	Estimated Volume MMBF	Estimated Revenue
Pine Pulpwood	12.46	\$844,888
Other Softwood Pulpwood	6.58	\$320,326
Hardwood pulpwood	58.87	\$2,123,734
Aspen / Birch	20.72	\$676,207
Pine Sawtimber	15.84	\$1,984,301
Other Softwood Sawtimber	6.57	\$320,326
Hardwood Sawtimber	8.83	\$2,030,217
Total – Estimated Volume and Revenue	129.88 MMBF	\$ 8,300,000

Commercial wood products are directly or indirectly derived from forested timberlands. Wood comes from private, public, and industry timberlands to meet state, regional, and national demand for wood products. The forest products industry is vital to Michigan's economy and forest health. The industry is especially important to rural Michigan. It is dominated by large pulp and paper producers, oriented strand board mills, and flakeboard mills (Forest Plan Final Environmental Impact Statement [FEIS] pg. 3-212).

As described on page 3-215 of the Forest Plan FEIS "Timber harvest associated with each alternative does influence the estimated total number of jobs and income in the analysis area. Two factors, timber volume and species product groups, influence the change in numbers of jobs across alternatives as estimated in our analyses". The quantity and type of timber directly affect the number of jobs.

Figure 1. Forest Plan FEIS Area of timberland by ownership class, Western Peninsula, 1993⁴.

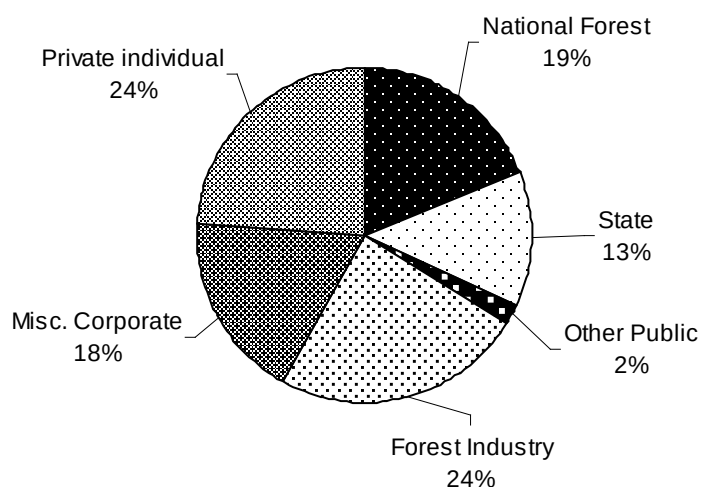
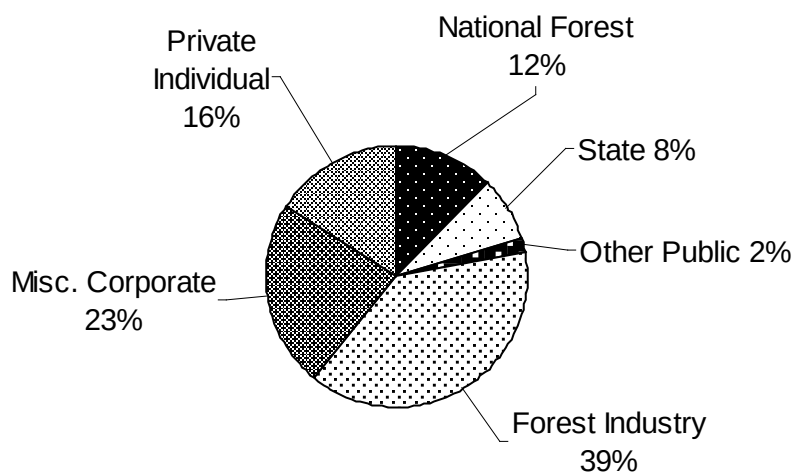


Figure 2. Forest Plan FEIS Average annual removals of sawtimber and growing stock on timberland by ownership class, western Upper Peninsula 1980-1992.



As described on page 3-215 of the Forest Plan FEIS “Timber harvest associated with each alternative does influence the estimated total number of jobs and income in the analysis area.

⁴ Source: Forest Statistics for Michigan’s western Upper Peninsula Unit, 1993, North Central Forest Experiment Station Resource Bulletin NC-153

Two factors, timber volume and species product groups, influence the change in numbers of jobs across alternatives as estimated in our analyses”. The quantity and type of timber directly affect the number of jobs.

Major industry sectors are traditionally defined by the US Standard Industrial Classification system for economic analysis. A consideration of the number of people employed by and number of employers within the major industry sectors is formulated within the [Forest Plan Final EIS] analysis. The results are dominated by two industry groups that depend on natural resources and include:

1. wood products industries, and
2. tourism industries (services, retail trade and manufacturing)

The Forest Plan FEIS estimates that an average of 1,263 jobs are supported by the Forest’s timber program at full funding levels (Forest Plan Final EIS, Table 3-58, pg. 3-214). The Interior project will contribute proportionally to this employment level during the next several years when timber sales are offered. Actual employment levels supported by the Interior project timber sales and integrated resource (stewardship) contracts will depend on total volume of timber and mix of products offered during the project’s implementation.

Federal payments are made each year to local units of government to partially offset funding shortfalls from untaxed National Forest System lands in Michigan. The Payments in Lieu of Taxes (PILT) Act of 1976 authorizes payments to states on behalf of counties that contain federal lands such as national forests. The PILT program provides a per-acre payment based on annual congressional appropriations and a formula that incorporates population, income from other payments, such as the 25% Fund, and other factors. Local governments also receive 25% of the Ottawa National Forest’s annual revenues or a fixed amount established in the Secure Rural and Community Self-Determination Act (SRS Act). These payments are a source of revenue for counties and local school districts, and are meant to offset the loss of potential land, goods, and services related tax revenue. Payments in 2000 to local units of government were about \$1.95 million (\$.51 million PILT, \$1.44 million 25% payment) (Forest Plan Final EIS pg. 3-222).

Counties that contain National Forest System lands individually select either the 25% Fund or the SRS Act payments. Payments to counties through the 25% Fund is based on revenues received from timber sales, campground fees, special use permit fees, and leases for minerals, oil and gas. The revenue that counties receive contributes in varying degrees to a county’s annual budget (Forest Plan Final EIS pg. 3-222). The Interior Vegetation Management Project will provide revenue that contributes to the Forest’s 25% fund payments for Counties that select this option. Payments to Counties through the SRS Act will remain as an option for Counties to offset the loss of potential land, goods, and services related tax revenue if the SRS Act is reauthorized by Congress.

Hazardous Fuels Reduction

Addressing fuel loading through the treatment of conifer plantation conditions, especially in areas of human development, will meet the purpose and need to reduce wildfire risk in the project area (March 2014 EA, pp. 12-13). Reduction of fuels is a priority for the Interior Project as the project area lies completely within a wildland-urban interface as outlined in the Bruce Crossing Area and Stateline Community Wildfire Protection Plans (CWPPs). This Decision will meet some of the objectives outlined in these plans, including reducing forested stand densities,

salvaging trees experiencing mortality from insect and disease factors, converting fire-prone species to less fire-prone species, developing fuel breaks and treating logging slash (Bruce Crossing Area CWPPs, pp. 41 and 42; Stateline CWPP, p. 41). Implementation of Alternative 2 will also meet the purpose and need by using prescribed fire as a tool to achieve resource objectives.

Transportation Management

Alternative 2 meets the purpose and need for improving the transportation system and maintaining the desired road density for MA 3.1a (March 2014 EA, pp. 13-14). Implementation of this alternative will maintain a transportation system that allows for management of National Forest System (NFS) lands, while addressing road-related resource damage and other resource needs.

The selected alternative meets the purpose and need for providing a safe and efficient road network for administrative needs to facilitate the vegetation management proposal, which also will improve public access as outlined in the Recreation section. Current and future access needs will be enhanced through construction of 5 miles of temporary road and 9 miles of system road; 5 miles of system road reconstruction; and conversion of 4.3 miles of unclassified road to permanent system roads by bringing conditions up to standard for long-term management.

Alternative 2 includes other refinements which meet the purpose and need for addressing road-related resource damage and promote future resource protection. These refinements include decommissioning 66 miles of road, approximately 14.4 miles are forest transportation system roads and 51.6 miles are unclassified roads (March 2013 EA, p. 36). Implementation of Alternative 2 will result in a road density of 2.86 miles of road per square mile of land (mi/mi^2) within the project area, which will in turn cause a slight increase to the current road density from $2.89 \text{ mi}/\text{mi}^2$ to about $2.92 \text{ mi}/\text{mi}^2$ at the forest-wide MA 3.1a scale. Although this project increases the overall road density, it will remain below the desired range of 3 to 4 mi/mi^2 outlined in the Forest Plan (3-18).

Recreation

Implementation of Alternative 2 will meet the purpose and need for providing quality recreational experiences by affording resource protection and addressing safety concerns (March 2014 EA, p. 15; and Forest Plan, pp. 2-4, 2-13 to 2-15). This Decision includes closure of user-created boat launches at Erickson and Tanlund Lakes – the use of these sites for carry-in boat/canoe access will not change. However, the current parking access at Erickson Lake does not provide a safe area for parking due its location alongside Erickson Lake Road. Closure of the launching sites to motorized access will meet the purpose and need by addressing shoreline damage, which has led to soil erosion and sedimentation into the lakes. In addition, this Decision includes improving the dispersed recreation trail for carry-in boat access on Tanlund Lake and improving signage at this site to clarify the type of recreational opportunity available. It also includes rehabilitation of the shoreline area at both Erickson and Tanlund Lakes to address resource damage at watercraft launching sites from past motorized use.

This Decision also provides for a 0.3 mile permanent re-route of Trail #3 for snowmobile use. The section of trail to be relocated is presently located on a system road which is too narrow to provide options for dual use access for snowmobiles and logging traffic. The purpose and need to avoid dual-use concerns in this area will be met by re-routing a section of the trail off of FR 5255. The re-routed trail location will be accomplished by construction a new 0.3 mile long section of snowmobile trail.

Implementation of Alternative 2 will also refine designated motorized access system for passenger and off-highway vehicles (OHVs). Changes to the Forest's Motor Vehicle Use Map (MVUM) will meet the purpose and need for providing an efficient access system that provides for resource protection needs. It will also establish local OHV connecting routes to improve the recreational riding environment between Forest Service roads and other routes under county jurisdiction. The resulting Forest Service public access system will provide approximately 98.4 miles of road open to all motorized access (highway legal vehicles and OHVs); 20.2 miles of road open to highway legal vehicles only; and 61.1 miles of road open to OHVs only, which includes one mile of recreational trail that is not co-located with a system road.

I have selected to modify the amount of OHV access on system road as also described on page 7 of this Decision. The March 2014 EA did not include OHV access on FR 583-E. Public access on FR 583-E (0.4 miles) was not proposed because OHV use was already proposed to continue on FR 583 (1.3 miles) according to the current MVUM (Appendix 1, Map 4). During further review, it was determined that the Forest Service has no easement on FR 583 on the 0.5 mile portion crossing private land, and therefore, OHV access cannot be designated on this portion of the road.

In an effort to remain as consistent as possible with the designated access system analyzed, I have decided to add OHV access on 0.4 miles of FR 583-E to replace the 0.5 miles removed from the system. Forest road 583-E will provide a connection to the southern end of FR 583 thus providing for OHV access on the remainder of the road (about 0.9 miles) (see Appendix 3, Map 5). This modification will, however, result in net decrease for OHV access by 0.1 miles.

Public access was not identified as an issue, and no specific concerns were raised regarding the proposed OHV access in this portion of the project area. I did consider an alternative pertaining to the MVUM proposal based on comments received; but eliminated this alternative from detailed analysis (EA, p. 22). All requests for changes in designated access on specific roads were incorporated into the Proposed Action (see Table 14). Reconsideration of this alternative is not warranted based on the decision to implement a change that results in providing 0.1 miles less of OHV access. This change is the best option to maintaining public access in this area, and thereby meeting the purpose and need. Without designating new access on FR 583-E, there would be a net reduction of approximately 1 mile for OHV access.

Forest road 5230, an OML 3 road, will change from open to passenger vehicles only to open to both OHVs and passenger vehicles. This is an important change as it provides motorized recreational driving opportunities requested by the public. This addresses the additional public request to allow OHV use on roads that provide the means to drive between roads that are open to OHVs only or both OHVs and passenger vehicles. The alternative to doing this requires trailering OHVs between open roads. .

Not all changes selected by this Decision will be immediately reflected on the next version of the MVUM. In some cases, changes to the transportation system will be made only after the road reconstruction is completed which is typically accomplished through timber sale operations. This includes Forest Roads 570 5306-H, 5383, 5383-D, 5444-H, 5463-B and 5488-F.

The most substantial change selected under this Final Decision is the 26.9 miles of road removed from the MVUM for those routes currently allowing OHV access only (see Table 5). This change meets the purpose and need for soil and water resource protection. In MA 8.1, this change will be consistent with the Forest Plan's standard for providing a semi-primitive recreational environment and the protection or enhancement of the recreation outstandingly

remarkable value for providing a remote recreational environment (March 2014 EA, p. 39; Forest Plan, p. 3-81.6; and CRMP, p. 2-9).

Old Growth

This Decision retains 822 acres of old growth in the project area that were previously classified (792 acres in MA 3.1a and 30 acres in MA 8.1), declassifies 289 acres that do not meet Forest Plan old growth characteristics (259 acres in MA 3.1a and 30 acres in MA 8.1) and classifies 448 acres of old growth in MA 3.1a. The net result is an increase of 159 acres of classified old-growth with all of the increase occurring in MA 3.1a. As described on page 12 of the March 2014 EA, the current old growth percentage in MA 3.1a is 5.7%, which is within the desired condition range of 4-7% at the forest-wide scale (Forest Plan, p. 3-18). There is no desired condition range for old growth in MA 8.1.

The Forest Plan's FEIS described the amount of old growth allocated at the Forest-wide and Management Area scales (Volume II, Appendix A, p. A-19). Projects, like the Interior Project, identify where these acres should be located on the landscape given site-specific conditions. This Decision meets the purpose and need for this project by determining needed refinements to classified old growth consistent with guidelines outlined in the Forest Plan (pp. 2-23 to 2-25). The change in old growth classification within the project area results in a 0.2% increase at the forest-wide scale, for a total of 5.9% old growth, which remains within the desired condition for MA 3.1a.

Aquatic, Fisheries and Riparian Resources

The selected projects will improve riparian, lake and river aquatic habitat as outlined in the purpose and need (March 2014 EA, pp. 16-18). This Decision includes selection of activities to address erosion on roads that are interfering with or diverting stream/drainage channels. This includes ford closure as well as associated streambank restoration measures for McGinty Creek and the Middle Branch Ontonagon River. Erosion and sedimentation will also be reduced through site restoration in areas of culvert removal and closure of user-created launching sites; the latter is also addressed under the Recreation section.

Implementation of Alternative 2 will meet the purpose and need by improving habitat for aquatic species. This Decision includes increasing the amount of shoreline large woody material (LWM) along lakes and streams to increase habitat diversity and cover for trout and other species (March 2014 EA, p. 17). In addition, structural habitat diversity will be enhanced through underplanting long-lived conifer species in the riparian areas of Bluff Creek, Interior Creek and the Middle Branch Ontonagon River. Activities that will be authorized in the WSR corridor (LWM placement in the Middle Branch Ontonagon, ford closure, riparian area planting) will meet the purpose and need for this project by enhancing the Fish outstandingly remarkable values for both the Scenic I and Recreational II segments of the WSR. These activities will provide improved habitat conditions through restoration of the health, quality and ecological function of aquatic ecosystems as called for in the Forest Plan (p. 2-10).

Wildlife Resources

The Decision will enhance long-lived conifer and northern hardwood habitats, restore upland opening conditions and enhance aquatic habitats as outlined in the purpose and need for this project (March 2014 EA, p. 18). Implementation of long-lived conifer enhancement actions will promote species diversity, structural complexity, and forage/denning habitat through retaining long-lived conifers in MA 3.1a and promoting establishment of long-lived conifers in red pine plantations in MA 8.1 (March 2014 EA, pp. 31-32). Implementation of Alternative 2 will also

allow management of northern hardwood stands (one stand in MA 3.1a and two stands in MA 8.1) to improve stand structure and species diversity. Selection of actions to be performed in the WSR corridor has been an important factor in my evaluation of this project and decision-making process. Implementation of these enhancement actions will protect and enhance the Wildlife outstandingly remarkable values for both the Scenic I and Recreational II segments of the Middle Branch Ontonagon WSR (CRMP, pp. 2-10 and 2-12).

This Decision will also meet the purpose and need for wildlife habitat through maintaining upland openings for several wildlife species and seeding of wild rice in Erickson Lake to provide important hiding cover and forage for a variety of species dependent upon aquatic plant habitat (March 2014, EA, p. 18).

Mineral Resources

Implementation of Alternative 2 will rehabilitate up to 18 acres of Amber Lake pit and up to 1 acre of North Flume pit. This Decision will meet the purpose and need by implementing reclamation measures to address steep undercut slopes, especially at Amber Lake pit, to prevent erosion and address safety concerns (March 2014 EA, p. 19). Final acreage of pit reclamation completed will depend on site conditions as there is still a need to evaluate these pits for the remaining mineral materials available.

PUBLIC COLLABORATION AND COMMENTS

Public involvement for the Interior Project was sought during the April and May 2012 public meetings. These meetings were held to provide an opportunity to collaboratively develop the Interior proposal with the public. Subsequent scoping periods were held in December 2012 and July 2013. These phases of public involvement allowed the Forest Service to inform interested and affected parties about the proposed actions. The July 2013 scoping period was announced as the project's formal, 30-day comment period by the Responsible Official. This additional scoping period was established in response to a change in the use of planning regulations from the Healthy Forest Restoration Act (36 CFR 218c) to the Predecisional Administrative Review Process (36 CFR 218b) as described in the Background Information section of this Final Decision. Additional information regarding public participation for this project is outlined in the March 2014 EA (pp. 19-22) and project file.

Public Collaboration

Several parties attended the two public meetings held for this project. All comments received from collaboration participants were generally supportive of the project's proposal. One organization, The Michigan Trails and Recreation Alliance of Land and the Environment (MI-Trale), brought forward an alternative proposal offering additional connecting loops for OHV recreational riding. MI-Trale requested consideration of following three connecting route options: (1) use of existing road networks (Forest Roads [and spurs] of 5288, 5289 and 5311), and new trail construction, to create a localized loop trail opportunity providing a connecting route between Old 45 and Bond Falls Road; (2) use of FR 5320 to connect OHV traffic between Bond Falls Road and Himanka Hill Road; and (3) use of the existing network of roads and trail construction to connect Sleepy Hollow Road to Tanlund Lake Road. I approved the incorporation of options 1 and 2 into the proposed action (March 2014 EA, Appendix 2, Map 3). This Decision includes implementation of these options. I excluded option 3 from further consideration due to the existing soil and water resource conditions which will not support sustainable motorized uses at times when the ground is not frozen or snow covered (March EA, p. 24).

Public Comments

I carefully reviewed the comments received in consideration of the regulations pursuant to 36 CFR 218b. I determined that there are no unresolved conflicts with the proposed action; and therefore only the No Action and Proposed Action alternatives were analyzed in detail. Public input helped me identify a reasonable range of alternatives (March 2014 EA, pp. 21-22).

I did modify the Proposed Action for those concerns that were raised in response to the scoping comment periods under the following circumstances: (1) concerns were not addressed already through application of law, regulation, policy or proposal; and (2) comments met the parameters outlined in 36 CFR 218.2 and proposed changes will be consistent with the purpose and need for this project. I changed the Proposed Action as outlined in Table 14.

Table 14. Summary of Changes Incorporated into Alternative 2

Public Concern	Activity
Amount of road construction	Road construction was decreased by 0.5 miles to address a concern raised regarding the mileage of construction needed to facilitate timber harvest.
Amount of OHV access	Access on FR 5299 was removed from the proposal due to the lack of an easement to cross privately owned lands. Forest Road 5255-B was added as open to all vehicles based on the public's concern about closing this historically-used road.
Amount of road decommissioning	A portion of FR 5288-K was removed from the system to discourage unauthorized motorized use stemming from the local OHV connector route.

CONSULTATION

As required by the Endangered Species Act, a Biological Assessment, which included a Biological Evaluation, was prepared to address the potential effects to proposed, threatened or endangered species (project file document 240). This evaluation resulted in a finding of No Effect for the federally threatened Canada lynx, and a not likely to adversely effect, with a beneficial effect, determination for the federally endangered Kirtland's warbler. Based on these findings, consultation with the USDI Fish and Wildlife Service was initiated pursuant to Section 7 of the Endangered Species Act. A letter of concurrence from the USDI Fish and Wildlife Service was received on May 30, 2014 as part of the project-specific consultation that took place through review of the Wildlife Biologist's determinations in response to the activities proposed in the March 2014 EA (project file document 3095).

Consultation was held between staff of the Ottawa and Lac Vieux Desert Band of Lake Superior Chippewa Indians in October 2013 and with Keweenaw Bay Indian Community in January 2014. Tribal representatives also received scoping and EA documentation. No concerns were expressed.

OTHER ALTERNATIVES CONSIDERED

In deciding which management practices to implement, I also considered the No Action alternative (Alternative 1) and other alternatives considered, but eliminated from detailed analysis. These alternatives provided a reasonable range of alternatives based on the public comments received and the scope of the proposal (March 2014 EA, pp. 21-25).

Alternative 1

This alternative was developed in response to NEPA requirements for a no action alternative. Alternative 1 serves as a baseline for evaluating other alternatives during the effects analysis for proposed actions. Alternative 1 does not propose any new ground disturbing activities. Current activities, such as dispersed and developed recreation use, fire protection, public safety, and road maintenance within the project area will continue. I have not selected Alternative 1 because it will not meet the purpose and need for management identified in the March 2014 EA (pp. 8-19).

Alternative 1 will not move the project area toward the desired conditions as described in the Forest Plan for MAs 3.1a or 8.1. For example, Alternative 1 will not result in creation of the 0 to 9 year old age class in the aspen forest type since no aspen harvesting will occur. Both long-lived and short-lived conifers see small decreases in the amount of these forest types thus moving closer to the low end of the desired condition range. The opportunity to reduce hazardous fuel conditions and to create fuel management zones along 16 miles of forest roads will not occur. Other restoration and habitat improvement actions in riparian areas, along lake and stream shores and in forest openings will not occur. This alternative will also not incorporate recommendations received through public collaboration and scoping. Additionally, Alternative 1 would not result in management activities that support local or regional economies through timber harvest or outdoor recreation based tourism.

Other Alternatives - Four additional alternatives were considered, but eliminated from analysis. I have determined that no changes have occurred that will require the ID Team to re-evaluate any of these options under detailed analysis for my decision making process. This Decision adopts the rationale disclosed in the March 2014 EA for not carrying these alternatives through the analysis process (pp. 22-25).

SUMMARY OF FINDINGS

My review of the analysis prepared by the ID Team indicates that this Decision is consistent with Forest Plan management direction, compliant with other applicable laws, and responds to public concerns. Although I anticipate that this Decision will not be acceptable to all, I believe that Alternative 2 is the best option to progress the Forest's natural resources toward desired conditions, while being responsive to the comments received during collaboration and scoping periods. Alternative 2 also provides the best opportunity to support local and regional economic conditions by providing forest products, and improves recreation opportunities by creating local routes for motorized vehicle use.

After thorough consideration, I have determined that this Decision will not constitute a major federal action, individually or cumulatively, and Alternative 2 will not significantly affect the quality of the human environment. The site-specific actions of the selected alternative, in both the short and long-term, will not be significant (EA, pp. 25-90). Therefore, I have determined that preparation of an environmental impact statement is not needed.

IMPLEMENTATION

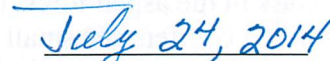
Pursuant to 36 CFR 218.12, this Decision can be implemented immediately. Timber harvesting will be implemented over time starting in the year 2015. Harvesting, implemented through timber sales, typically allows a three to five year contract time period.

Not all changes to the Motor Vehicle Use Map will be immediately reflected on the next version of this map. In some cases, changes to the public transportation system will be made only after the road conditions are improved and are no longer needed for timber sale operations.

CONTACT

For additional information concerning this Decision, contact Marlanea French-Pombier, Environmental Coordinator, at the Watersmeet-Iron River Ranger District (906-358-4031 or e-mail: mfrenchpombier@fs.fed.us).


NORMAN E. NASS
District Ranger


DATE

APPENDIX 1. DESIGN CRITERIA AND MONITORING

Design criteria are specific instructions to reduce or eliminate potentially adverse effects from the selected actions. These criteria are in addition to Forest Plan Standards and Guidelines, Water Quality Management Practices on Forest Land issued by the State of Michigan's Department of Environmental Quality and other applicable laws, regulations, and Forest Plan Direction. Some design criteria also provide detail for how selected actions are to be implemented. Each design criterion describes why it is required or what its implementation will accomplish. How or when each design criterion will be implemented is also described.

Vegetation Management

1. Site prep shall maintain some small clumps of young (sapling-sized) balsam fir; hemlock or other conifer species when practicable. Patches will consist of dense 2 to 10 foot tall balsam fir, spruce, and other species, covering about 5 to 6 percent (2200-2600 sq. ft.) of each acre, and where practicable will be distributed within 1 to 3 patches per acre in aspen regeneration units. The objective is to preserve and enhance hiding cover within the clearcut for hares and other species.
2. Within cutting units with an objective to regenerate aspen (including aspen inclusions within non-clearcut units), retain all existing white pine, hemlock, cedar, oak, and elm. These species can be cut to facilitate timber harvest operations where necessary. Other species, such as healthy black cherry, and other hardwood species may be retained. Trees to be retained are 5.0 inches or larger and on average have a residual basal area that does not exceed 10 ft²/acre. The objective for retaining these species is to add species and structural diversity to the stand while not limiting successful aspen regeneration and future productivity (Forest Plan 2-2, Goal 1c, Objective 2a).
3. Within all non-clearcut harvest units, favor hemlock, white pine, cedar, elm and oak by retaining and crown releasing these species as directed by stand silviculture prescription. These species may be cut to facilitate harvest operations where necessary, or to improve growing space and vigor among these same species that may occur within inclusions. The objective for retaining these species is to improve and/or maintain structural and compositional diversity (Forest Plan 2-2, Goal 1c, Objective 2a).
4. Within the red pine, jack pine, and spruce cutting units, the following operating requirements should be put into the timber sale contract: Within the sale area, decked pine and other conifer material cut between May 1st and August 15th must be removed from the sale area within 30 days of cutting. Winter-harvested material shall be removed by the end of the winter operating season. The purpose of this requirement is to minimize potential breeding sites for bark beetles (Gilmore and Palik, 2006, pp. 34-36).

Fire/Hazardous Fuels Reduction

5. Treatment of hazardous fuels, including removal of dead and dying vegetation, associated ladder fuels and residual slash remaining from all pine plantation treatment (specifically slash that is greater than 3" in diameter) will be treated by chipping, prescribed burning or other mechanical fuels reduction methods. Any stands, after treatment, that fall into Fire Behavior Fuel Model 8 (slow-burning ground fires with low flame lengths with occasional heavy fuel concentration) will be further treated to the extent that total fuel loading is low (≤ 5.0 tons/acre of dead woody material that is < 3 -inches in diameter).

Transportation

6. Selection of a road closure device and closure procedures will follow the road access management guidelines for local roads on the Ottawa. Berms or gates may be used for road closures.
7. Wherever practical, a closure device should be placed at the entrance of a network of roads rather than closing each individual segment.
8. Where possible, log landings will be located a minimum of 100 feet from collector roads, unless specified otherwise to meet visual quality objectives.
9. Temporary roads used during a timber sale will be blocked following harvest completion in such a manner as to inhibit all forms of motorized use. Where applicable, temporary roads may remain open to maintain short term access for post-sale activities (such as site preparation or stocking survey needs). Temporary roads designated as “remain open” will have constructed cross ditches and water bars installed when timber harvest activities are completed. All stream crossing structures, bridges and culverts, and other drainage features (i.e., ditches) shall be left in a functional condition on temporary roads identified to remain open. Roads designated as “remain open” will be closed and decommissioned when post sale activities are completed.

Recreation

10. Ensure that closed roads and trails that had been previously open to roads within the Wild and Scenic River corridor, are signed with their new designation.
11. Provide signage and/or restrict the use of OHVs Prohibit OHV use on FR 5320 during commercial log hauling harvest equipment use as needed to ensure a safe, dual-use environment (project file document 2099a). This roadway was constructed, and is used, as a single lane road with turn-outs. This narrow road (useable roadway is less than 18 feet) has several curved sections. It has been deemed unsuitable for OHV use with commercial log hauling traffic without mitigating safety concerns.
12. Permanently re-route Trail 2 (co-located on FR 5255) to avoid dual-use concerns for this project and into the future. The snowmobile trail reroute in compartment 50 along FR 5255 should be completed prior to winter logging in the surrounding stands to ensure no user conflicts between snowmobile traffic and logging traffic.
13. Temporary reroutes of snowmobile trails may be required when winter season timber harvest activities will conflict with snowmobile use. The normal operating season for winter season timber sales typically runs from December 1st to March 15th. Where winter season timber harvest activities will involve use of a road that is designated as a groomed snowmobile trail, timber and recreation staff will coordinate with the local snowmobile club to identify a temporary reroute of the snowmobile trail. Identification of any required temporary reroute must be completed prior to July 15 so that the snowmobile club can include the temporary route as part of their annual funding request to the Michigan DNR. Snowmobile routes may cross timber sale haul routes provided that warning signs and appropriate traffic control devices (stop signs on snowmobile trail at road intersections) are in place when timber sales operations are ongoing.

14. Where practicable, road closure devices should be setback to allow for dispersed camping sites or parking areas. The closure device (berm or gate) should be placed so as to allow room for dispersed camping sites and/or parking off of collector roads. Additional site hardening may occur if needed at these sites.
15. Ensure that adequate barriers are in place to deter full-sized vehicles from launching boats and canoes at designated carry-down access sites to help prevent erosion and the spread of NNIPs.
16. Erickson Lake shall remain natural and undeveloped with no site improvements, unless necessary to prevent stream or bank erosion, such as gravel hardening.
17. Large woody material placement shall not be placed within 150 feet upstream or downstream of a designated access site to improve user safety.
18. Large woody material placement shall be placed into Bluff Creek and the Middle Branch Ontonagon River without interfering with the navigability to the river.

Riparian/Wetland

19. Site-specific riparian area protection will be applied to all stands with timber management. Riparian design criteria described in Tables 15 and 16 will be utilized for all activities within riparian corridors and riparian areas; these areas are typically identified during sale/contract preparation activities. These measures are to ensure that vegetation manipulation within the riparian corridors and riparian areas maintains or enhances riparian function.
20. All streams within the sale area possessing a defined bed and bank will be designated as a protected stream course in the timber sale contract.
21. Where the risk of erosion exists on low-use, OML 1 and 2 roads, or on decommissioned roads, within the project area, including roads not used by timber sales, seeding may also be done as a part of a post-sale activity, typically performed (but not limited to) Forest Service employees. Seed will be a Forest Service approved local, native plant mix, whenever feasible and available. If unavailable, a non-invasive seed mix approved by the Forest botanist will be used.
22. Wetlands will be crossed for timber management only after all reasonable alternative routes have been considered, and by implementing the following: (1) cross at the narrowest point of the wetland and as close to right angles as feasible; (2) maintain cross drainage at all times, during, and after the project is completed; (3) place easily removable materials such as mats, small pipe bundles, corduroy (log stringers), or other similar cross drainage structures to minimize damage due to fill removal (Blinn, et al, 1998, pp. 21-29); and (4) where there are no road improvements to permit dry season operation, specify “winter only” use with specific sales administration guidelines regarding when use is and is not appropriate.
23. Small wetlands or drainways identified during sale preparation activities may either be excluded from the sale area by paint (larger areas) or no trees will be marked in these areas to protect sensitive soils. Method to use will be at the discretion of sale preparation personnel. This measure is to protect soil quality/productivity and water quality.
24. Trees felled for habitat improvement along lake shorelines will be live, green trees; but will not include live cull or cavity trees. Trees will be a minimum of 12” diameter breast height

(dbh). Trees will be cut far enough from the shoreline to obscure evidence of cut stumps from the lake. If trees are hauled in for placement, this activity will be conducted during frozen ground conditions where soil resource protection is necessary.

25. Selection of a road closure device and closure procedures will follow the road access management guidelines for local roads on the Ottawa. Road closure can be conducted using berms or gates or the use of a tree spade for transplanting trees and shrubs from nearby or adjacent sites into the road surface area. Road decommissioning activities can include blocking the entrance with berms, rocks, stumps, logs and/or transplanted trees, and stabilization through slash placement. Slash may be heavily placed on decommissioned road surfaces for the first 100 feet after the closure device to discourage unauthorized motorized use. Slash may be derived through the cutting of small un-merchantable (generally 4" or less in diameter) nearby trees and shrubs. Roads that are currently overgrown with vegetation and are impassable will not need the entrance blocked.
26. As necessary to attain stabilization of roadbed and fill slopes of temporary roads the remaining roadbed will be returned to the original landscape contour and all crossing structures will be removed. Drainage structures across streams and wetlands and all fills associated with drainages and wetlands will be removed to permit normal maximum water flows which will include some floodplain area and normal wetland function.

Wildlife

Associated with All Timber Harvests

27. No harvest zone of 300' radius around active red-shouldered hawk nests: timing is year round. Active is defined as the red-shouldered hawk pair present in current year or immediately previous year.
28. Approximately 30-acre nest protection area where no disturbance-causing activities will be allowed between March 16 to September 1 for red-shouldered hawks. Disturbance-causing activities include layout/tree marking, road work, logging, hauling, opening maintenance, tree planting and TSI efforts. Nests will be verified by a wildlife biologist or wildlife technician. If a known nesting area has been inactive for two years, or more, prior to treatment, then a wildlife biologist and district ranger may remove or modify some or all of the buffers. Modifications or additional protection measures could be made on a case-by-case basis by the wildlife biologist and district ranger, including evaluation of existing road/trail use within the area.
29. Approximately 30-acre nest protection area where no disturbance-causing activities will be allowed between March 16 to August 1 for goshawks. Disturbance-causing activities include layout/tree marking, road work, logging, hauling, opening maintenance, tree planting and TSI efforts. Nests will be verified by a wildlife biologist or wildlife technician. If a known nesting area is inactive for the current nesting season, then a wildlife biologist and district ranger may remove or modify some or all of the buffers. Modifications or additional protection measures could be made on a case-by-case basis by the wildlife biologist and district ranger, including evaluation of existing road/trail use within the area.
30. Protection measures for newly discovered Threatened, Endangered, and Sensitive (TES) species (either by Purchaser or the Forest Service) will be promptly reported to the other party and the additional special measures for protection will be reviewed on a case-by-case

basis and collaboratively developed by project's botanist and/or biologist and the Responsible Official; incorporating conservation strategies contained in approved recovery plans, conservation approaches, as well as the 2006 Forest Plan, and professional judgment.

31. To the extent practicable, retain existing large woody material, existing natural brush piles and tip-ups (Forest Plan, pp. 2-2, 2-3 and 2-31). The LWM can be moved to allow for safe operations in the harvest area (i.e., off roads, skid trails and landings). Tops and limbs used to stabilize soil, typically on roads or skid trails, should be left in place following harvest operations.
32. Wildlife opening maintenance may include the harvest of merchantable timber and the removal of submerchantable sized trees as may be needed to set back re-growth of vegetation and thus reestablish grass and forb habitat as described in the project's purpose and need. Wildlife openings where tree removal may be considered are included in the following compartments (C) and stands(S): C 203-stands 6, 4*, 23 and, 28*, C174-S12, C02-S7, C49-S19*, C48-S39*, C50-S17*, and C19-S08. Adjacent timber stands selected for timber harvest include the following compartments and stands: C203-stands 7 and 9, C174-S41, C2-stands 4 and 8, C49-stands 7, 16 and 10, C50-stands 36, and 11, C19-stands 4, and 3. The wildlife biologist, and the silviculturist will jointly determine the sale layout and marking guidelines which will meet opening maintenance objectives. Openings will be reviewed prior sale preparation or ground disturbing activities to ensure necessary protections of other resources (such as soils and botany). Stands denoted with an asterisk include those areas that have soil resource restrictions as outlined in design criterion 19.

Associated with Upland Hardwood Management

33. Existing cull trees or snags located in hardwood stands will be retained unless removal is necessary by the timber sale purchaser or stewardship contractor to provide for the safety of all people working in the woods during and after the contract implementation. Felled snags and cull trees shall be left on the site to provide an increase in the coarse woody debris component.
34. Retain 2 to 3 wildlife trees/acre from harvest in northern hardwoods and (Forest Plan, pp. 2-2, 2-3 and 2-31) select trees in the largest size class, if present, which may be a live cavity tree and/or provide wildlife foods (e.g. oak, yellow birch, and black cherry).
35. In Compartment 51, Stands 18 and 49 (within the WSR corridor), timber harvest is designed to improve wildlife habitat by accelerating development of larger trees and to increase biological diversity and structural complexity.

Associated with Aspen Management

36. Temporary openings resulting from clearcut harvest will be separated by a minimum of 10 acres so that harvest areas do not exceed 40 acres. Design non-harvest areas to occur where retained long-lived species are concentrated, if practicable.
37. Retain existing snags in clearcuts, where removal is not necessary for safe operations. The timber sale purchaser or stewardship contractor may fell snags and cull trees when necessary to provide for the safety of all people working in the woods during contract implementation. Snags felled should not be removed for biomass or other reasons, generally. This will include all dead or unstable live trees sufficiently tall to reach landings and roads the purchaser will

be using, including temporary roads & new construction; and should be marked prior to felling by Forest Service.

Associated with Old-Growth Adjacent to Even-aged Management

38. In the following even-aged managed stands adjacent to classified old growth (C 20-S8, C33-S10, C48-S14, C56-S50, C48-S72, C48-S32, C49-S57, C55-S49, C79-S42, C50-S33, C54-S43) create a feathered edge approximately 100 feet wide that follows the boundary of the old growth stand. Within this transitional zone, retain clumps of long lived conifer, oak, yellow birch and cherry species when practicable. Within the rest of these stands retain clumps of long-lived species to maintain this component near old growth (Forest Plan, p. 2-23), only when feasible and still meets objectives for aspen regeneration.

Associated with Timber Harvest Activities in MA 3.1a

39. When aspen occurs as an inclusion within other forest types in MA 3.1a, seek opportunities to regenerate the aspen in areas of approximately 3-5 acres. The objective is to promote small patches of 0-9 year old aspen that will provide early-successional habitat for prey and other wildlife species. Locations will be determined to provide the best opportunity for successful aspen regeneration and is consistent with other resource values. The location of these inclusions shall be identified during timber sale preparation activities so that they can be efficiently relocated following harvest. This will help to assure that these inclusions relocated following harvest for any required reforestation activities, (recording GPS coordinates can be used to fulfill this design criterion).

Associated with Red Pine Treatment in MA 8.1

40. In red pine plantations receiving group selection harvest in the WSR corridor:
 - i. For each group opening created, use slash from trees harvested in openings to create one or two brush piles (dimensions must be no larger than 6' high and 10' wide at base) to improve wildlife denning and cover habitat within pine plantations. Brush piles must be placed outside of the group opening and in areas that do not pose a threat from ladder-fuels. Locations will be determined for each stand based on site conditions. After brush pile creation, some slash must also remain inside the group opening to protect soils; this slash must be lopped and scattered across the group opening to lie within 3' of ground in order for proper regeneration to occur on bare mineral soil. This will also serve to protect soils of droughty or sandy ELTPs (see design criterion 57).
 - ii. Do not remove crown material (< 4"top) or larger material that is not merchantable as sawtimber or pulpwood, from stands within MA 8.1.

Rare Plants

41. To preserve rock plant habitat, maintain existing shade on and around large boulders and rock outcrops, eight feet (approximately) in diameter and larger, implement a 75 foot no-cut zone during sale layout or marking. For areas of exposed (forest floor) rock larger than approximately 20 feet in diameter, implement a 75-foot (one tree length) no-cut zone from the perimeter during sale layout or marking (Forest Plan Guideline, page 2-33). Apply criteria to locations in compartment 48, stand 67 and compartment 33, stand 5; and any new locations as they are found.

42. Provide protective measures during the event of a ground disturbing activity. No-activity buffers around documented special plant populations in the project area as shown in Table 15. The purposes of the buffers are to prevent damage to populations, prevent changes to the light and moisture regimes, and allow some nearby unchanged conditions for populations to possibly spread.

Table 15. No Harvest Buffers for Special Plant Populations

Taxon	Common Name	Location	Buffer information
<i>Botrychium rugulosum</i>	Ternate grapefern	C49 Stand 24	200-foot buffer. 2.9 acres.
<i>Botrychium simplex</i>	Least moonwort	C203 Stand 10	200-foot buffer around two nearby know sites. 3.8 acres.
<i>Dryopteris expansa</i>	Spreading woodfern	C48 Stand 76	200-foot buffer around two nearby points. 3.7 acres.

Minerals

43. For reclamation of the pits, the existing faces will be sloped at 3:1 or as flat as possible, in an attempt to return the area to its natural topography.
44. After the area has been sloped, it will be covered with the stockpiled topsoil and then seeded with a seed mix prescribed by a Forest Botanist.

Cultural Resources

45. All archaeological and historic sites within the area of potential effect will be identified on the ground before project implementation. The flagged areas will be marked pre-sale. Sites located near the project but outside a payment unit need to be identified so that they are not used as landings, parking, etc.
46. All flagged archaeological and historic sites will include a buffer area as determined by the Forest Archaeologist. The standard buffer is 30 meters (approximately 100 feet).
47. Any changes in the project (location, methods, etc.) must be reported to the Forest Archaeologist so that the affects to cultural resources can be reviewed.

Non-Native Invasive Plants

48. All off-road timber harvest equipment shall be cleaned prior to entry to the project area unless equipment was last used in an area known to be free of all priority invasive plants (Forest Plan, p. 2-13; R9 NNIS BMP 4.4 and all applicable Contract Provisions).
49. For any ground-disturbing activities, take reasonable measures to make off-road equipment and vehicles free of soil, seeds, vegetative matter, and other debris that could contain or hold non-native invasive plant seeds, prior to entry into the project area (R9 NNIS BMP 7.5).
50. To help prevent the spread of known invasive plant sites, treat 53 infestations of high-priority species (Japanese barberry, exotic honeysuckle, and Japanese hedge parsley) known to occur

within or nearby areas selected for timber harvest. Where sites occur within stand planned for harvest, treat the infestation before the harvest begins (R9 NNIS BMP 4.2). As of January 2014, eleven sites still need to be treated.

Soils

Design features are applicable to ground disturbing activities such as commercial timber harvest and non-commercial vegetation treatments. Where applicable to a timber sale contract, the following design features are in addition to timber sale contract provisions for protection of soil and water quality. Procedures include “Sustainable Soil and Water Quality Practices on Forest Land” issued by the Michigan Department of Natural Resources and the Michigan Department of Environmental Quality (MDNR, MDEQ, 2009).

51. Generally, sale area layout activities will exclude all mapped slopes greater than 35%.
52. Equipment operations will be prohibited on all slopes greater than 35% except in special situations where equipment operations on a very short slope will greatly facilitate timber sale operations and/or reduce impacts to soils in other areas. These skid trails will be approved by sale administration personnel or in consultation with a soil scientist on a case by case basis.
53. Equipment operations on slopes between 18% - 35% will be evaluated on a case by case basis by Forest Service personnel. If necessary, sale area layout may exclude these slopes within cutting units or areas will not be marked to avoid soil resource damage.
54. When possible, locate landings on well to moderately-well drained uplands. Landings will be placed in areas where slope will direct sediment away from water bodies.
55. Freshly disturbed soil areas, such as landings and un-surfaced road beds may be left to re-vegetate naturally, if non-native invasive plant colonization potential and erosion potential are low. If erosion potential is high, or the area is prone to colonization by non-native species, seed the area to encourage re-vegetation. Seed will be a local native seed mix, or a non-native, non-persistent seed mix appropriate to the site, and approved by a Forest botanist.
56. For timber harvest, the season of operation will follow Soil Scientist guidelines for the ELTP being operated on (see project file document 311). Typically these guidelines will be used to develop operating restrictions, rather than referring to normal operating seasons. Operation outside of these periods must be agreed to under the provisions of the contract. To address soil productivity concerns within stands located on droughty or sandy upland sites, no pile burning activities will occur and slash distribution will be maintained evenly throughout the stand, as specified in the timber sale contract. See Figure 3 for droughty and sandy upland map unit locations relative to treatment areas; in addition, a list of the droughty and sandy upland map units can be found in the soil specialist folder in the project file (document 317).
57. Stands located on droughty or sandy upland sites subject to the fuels treatment objective of the Bruce Crossing CWPP and the State Line CWPP have additional restrictions. The fuels treatment is intended to address the residual slash (within a mile and a half of any private property) after timber harvest activities and may include roller chopping or mastication. Tops and un-merchantable slash may not be forwarded or skidded to the landing unless consultation with soil resource personnel occurs. Tops to the landing will only be considered in consultation with the Forest Soil Scientist and will be used on a very limited basis, if at all.

The preferred method to deal with residual slash in these stands should be mastication. See Figure 3 that depicts the droughty and sandy upland map unit locations relative to treatment areas.

58. Do not remove fine woody debris on shallow soils where bedrock is within approximately 20 inches of the surface. Applicable to the following compartment (C) and stands (S): C49-S01, C49-S15, C32-S25, C50-S03, C50-S05 and C50-S01.
59. Do not remove stumps, roots, or other below-ground biomass. No removal of litter unless needed for site objectives.
60. Avoid re-entry for harvesting biomass. Re-entry is not allowed if tree regeneration has begun, or the site has been planted.
61. Logging debris (chips, bark, etc.) at landings will be reduced to a thickness that will not severely restrict vegetative growth on the area as determined by the sale administration personnel.
62. Two Ecological Classification System (ECS) study plot center points are located in the project area in C54-S66; and C-203-S 29. Protection measures include prohibiting all harvest and machinery travel within a 50 foot radius of the plot center and protecting the three bearing trees.
63. Within prescribed burn areas, scatter any slash piles to limit the intensity and duration of soil heating caused by the burning of concentrated fuels.
64. Conduct prescribed burns so that the resulting burn is of low severity. Generally, the severity of fire effects is proportional to the intensity and duration of soil heating, ensuring a prescribed burn to result in a low severity will help protect soil productivity.

Visuals

Retention/Partial Retention VQO Areas in MA 8.1

65. Wild and Scenic River Corridors - Management activities within the Middle Branch Ontonagon River WSR corridor will be designed to maintain and protect the existing river scenery as viewed first from the river, and second from the river corridor (Forest Plan, p. G-2; WSR CRMP, p. 3-17).
 - a. The Retention VQO applies to the following Compartments (C) and Stands (S): C1-S1; C1-S20; C13-S3, C13-S-23, C13-S37, C13-S39, C13-S47; C16-S8, C16-S12, C16-S28, C16-S41, C16-S43, C16-S45, C16-S48, C16-S49, C16-S51, C16-S52, C16-S54; C17-S5, C17-S17, and C17-31.
 - b. The Partial Retention VQO applies to the following areas: C51-S1, C51-S14, C51-S15, C51-S17, C51-S18, C51-S20, C51-S28, C51-S42, C51-S46, C51-S47, C51-S49, C51-S50, C51-S78; C80-S7 and C80-S10.
66. County Roads, and OML 3 and 4 FRs, in the WSR Corridor
 - i. When possible, locate log landings at least 400 feet from the road. When this is not possible, access roads to the landings should be angled or curved to screen the landing from view unless safety concerns dictate otherwise.

- ii. Remove slash for 25 feet along the forested edge of Bond Falls Road and FR 5250. Beyond this, for an additional 25 foot zone, lop and scatter slash to lie within 36 inches of the ground. This is to reduce the impacts of timber harvesting to the scenic integrity along a well-traveled road.
- iii. Where the treatments include aspen inclusions, visible openings will be no more than ½-acre in size.
- iv. Roadside openings will not be wider than 200'. Distance between the openings will be at least 1,000' where feasible. Transition the edges of the forest between openings by shaping and feathering in a gradual manner rather than leaving peek-a-boo strips of vegetation. The intent is to reduce the perception of a drastic change in vegetation coverage.
- v. All clearcuts greater than five acres in size, adjacent to the above roads, will be shaped and/or "feathered". Openings will not be in geometric shapes, but will blend with the landscape. The intent is to reduce the appearance of sharp lines.

Retention/Partial Retention VQO Areas in MA 3.1a

The Retention VQO applies to the following areas: C30-S1, C30-S3; C31-S20, C31-S37, C31-S40, C31-S41, C31-S43, C31-S45; C32-S28, C32, S34; C54-S7, C54-S10, C54-12, C54-S13, C54-S52, C54-S62, C54-S63, C54-S69, C54-S70; C80-S4, C80-S39, C80-S53, C80-S54 and C80-S55.

The Partial Retention VQO applies to the following areas: C1-S4, C1-S10, C1-S11, C1-S12, C1-S13, C1-S14, C1-S15, C1-S17, C1-S31, C1-S32; C3-S13, C3-S14, C3-S19, C3-S27, C3-S35, C3-S36, C3-S39, C3-S45; C4-S3, C4-S5, C4-S6, C4-S9, C4-S12, C4-S15; C10-S15, C10-S17, C10-S19; C11-S1, C11-S2, C11-S4, C11-S5, C11-S6; C14-S1, C14-S2, C14-S3, C14-S4, C14-S6, C14-S7, C14-S17, C14-S18, C14-S21; C18-S1, C18-S2, C18-S3, C18-S8, C18-S9, C18-S20; C19-S1, C19-S7, C19-S21; C25-S1, C25-S6, C25-S12, C25-S13, C25-S14, C25-S15, C25-S24, C25-S28, C25-S29, C25-S30, C25-S33, C25-S35; C26-S13, C26-S16, C26-S17, C26-S24, C26-S25, C26-S31, C26-S33, C26-S36; C27-S2, C27-S3, C27-S4, C27-S5, C27-S8, C27-S13, C27-S16, C27-20; C32-S1, C32-S7, C32-S9, C32-S16, C32-S18, C32-S19, C32-S44, C32-S47; C33-S1, C33-S2, C33-S3, C33-S4, C33-S5, C33-S6, C33-S7, C33-S9, C33-S16, C33-S20, C33-S21, C33-S22, C33-S28, C33-S29, C33-S30, C33-S32, C33-S34, C33-S35, C33-S36, C33-S37, C33-S38; C55-S8, C55-S12, C55-S24, C55-S78; C56-S1, C56-S2, C56-S77 and C56-S78.

67. Areas Adjacent to U.S. 45 and Old U.S. 45

- i. Roadside openings will be no more than 200;. Visible openings will be no more than 5 acres in size in all aspen clearcut areas. Openings will not be in geometric shapes, but will blend with the landscape. The intent is to reduce the appearance of sharp lines. Remove slash from a 25 foot zone measured from the edge of the roadway (or roadway easement if there is one); lop and scatter slash to within 36 inches for an additional 25 foot zone.
- ii. Where the treatment is thinning harvest, remove slash from a 25 foot zone measured from the edge of the roadway easement; lop and scatter slash to within 36 inches for an additional 25 foot zone if stand is narrow in depth.

68. All applicable stands visible from OML 3 and OML 4 Forest Roads in MA 3.1a

Interior VMP Decision Notice

- i. Where the treatment is clearcut, visible openings should be no more than 5 acres in size. Remove slash from a 25-foot zone measured from the forested edge of the roadway; lop slash to within 36 inches of the ground and scatter for an additional 25-foot zone.
- ii. Where treatment is not clearcut harvest, remove slash from a 25-foot zone measured from the forested edge of the roadway; lop slash to within 36 inches of the ground and scatter for an additional 25-foot zone.

69. Snowmobile Trails 3, 150 and 107

- i. In general, for areas in the foreground of trails, trees will be harvested in such a manner that larger diameter trees and trees that provide visual interest or variety are retained. The retained species and distribution described in the Silviculture and Wildlife design criteria should be utilized in meeting this criterion.
- ii. In areas where selection harvest is implemented adjacent to Snowmobile Trails 3, 150 and 107 slash will be lopped to within 24 inches of the ground and scattered for 25 feet measured from the forested edge of the trail where visible from the trail.

70. Modification VQO Areas - All applicable stands adjacent to the following roads: Himanka Hill, Tanlund Lake, Erickson Lake, Swanson, Calderwood, and Forest Roads 4700 and 5250.

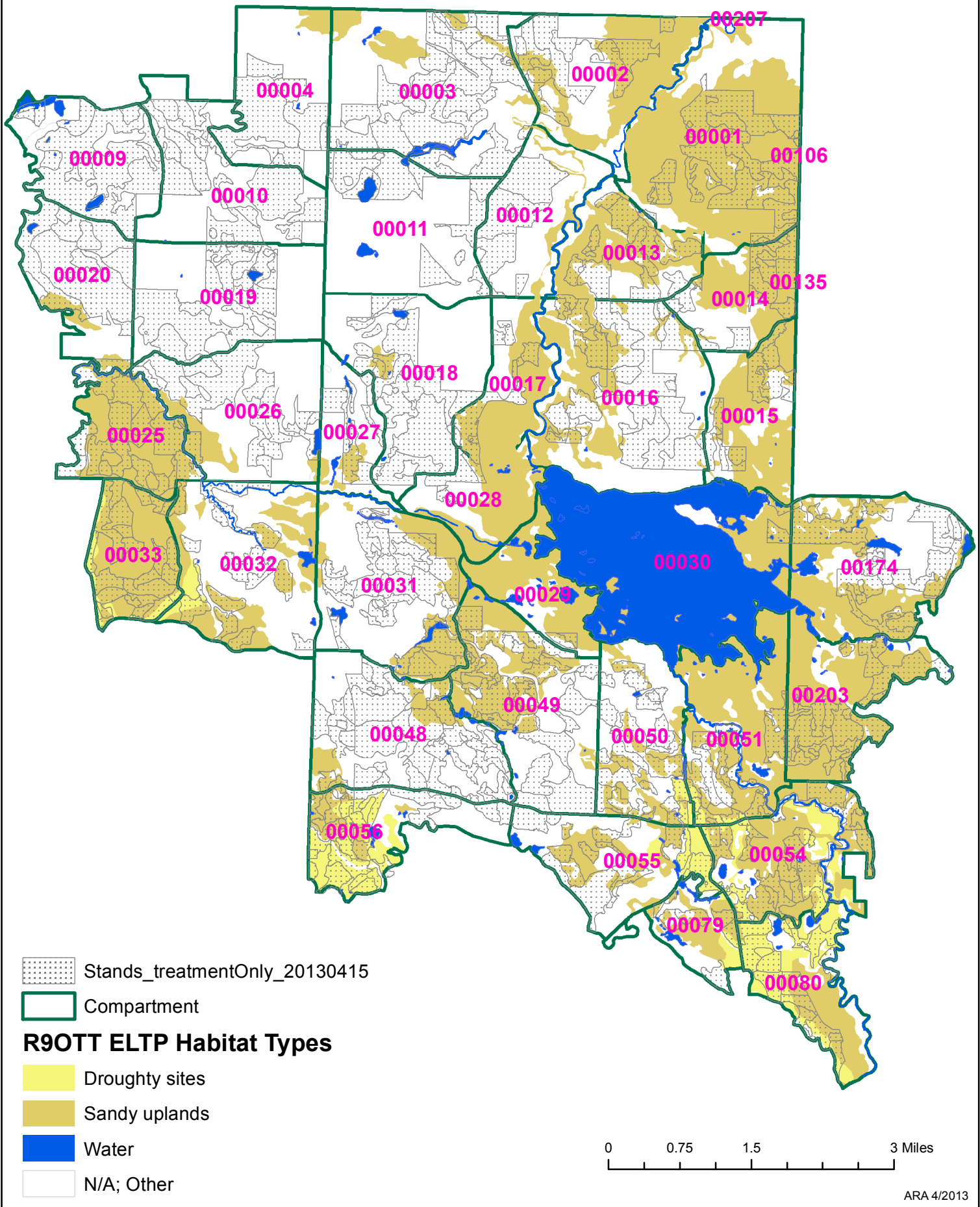
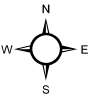
- i. Where the treatment is clearcut harvest, openings up to 25 acres in size may be visible from the roadway. Due to the narrow depth of some stands, necessary inclusions can be placed along the edge of the road, with roadside openings of up to 400' in length between inclusions. Remove slash from a 25 foot zone measured from the forested edge of the roadway; lop and scatter slash to within 36 inches for an additional 25 foot zone.
- ii. Where treatment is not clearcut harvest, remove slash from a 25 foot zone measured from the forested edge of the roadway; lop and scatter slash to within 36 inches of the ground for an additional 25 foot zone.

MONITORING

Evaluate group openings for long-lived conifer establishment treatments in MAs 3.1a and 8.1 to release understory trees where needed 2 to 5 years post-harvest.

Monitor the conditions of FR 583-E to ensure that road conditions can sustain OHV use. This route will be monitored during once per year (during the fall season), for 2 to 3 years. This monitoring is consistent with the Ottawa's OHV Monitoring Strategy (see project file document 3026).

Figure 3. Stands Located on Droughty and Upland Soil Types



RIPARIAN DESIGN CRITERIA

The purpose of the design criteria outlined in Tables 15 and 16 are to protect: (1) aquatic resources from sedimentation that adversely impacts water quality; (2) aquatic species and their habitats; (3) protect soil resources within the riparian areas where the risks of soil displacement can result in aquatic sedimentation and where soils may be more vulnerable to compaction and rutting; (4) protect riparian plant communities; (5) protect wildlife species and their habitats; and (6) provide for connected corridors across the landscape.

Table 16. Design Criteria for Timber Harvest and Associated Activities

Prescriptions for management within Riparian Areas and Riparian Corridors	Riparian Area - Wetlands; areas nearest to the edges of stream/lake/pond/wetland	Riparian Corridor - Area from edge of riparian area to outer edge of corridor.
These Design Criteria, unless otherwise noted, are specific to timber harvest and harvest associated activities. The following vegetative management activities are permitted within riparian areas and corridors since they do not include harvest equipment removing trees from the riparian areas: • Selective tree releases for wildlife habitat enhancement • Tree felling and girdling for riparian area and/or fish habitat enhancement	No commercial timber harvest or harvest associated equipment operation within riparian area. Avoid crossing streams where possible. When crossing is unavoidable, designated stream crossings will be coordinated with MI-DNR for permanently flowing (perennial) streams. For seasonally flowing (intermittent) streams, designated crossings will utilize mitigation measures such as pipe bundles, or any other appropriate method. Remove bundles or crossing structures upon completion, when crossing is no longer necessary. Avoid crossing wetlands where possible. When crossing is unavoidable, designated crossings will utilize mitigation measures such as corduroy (log stringers) or crossing under frozen conditions, or any other appropriate method. Remove corduroy or	Maintain 75% crown canopy closure within all perennial stream and forest seasonal pond riparian corridors (excluding the riparian area) – except where noted. Maintain 50% crown canopy closure within all intermittent stream, lake and pond, and wetland (sedge-meadow floodplain, forest linear, bogs, swamps, and other poorly drained units) riparian corridors (excluding the riparian area) – except where noted. Discourage removal of limbs and other logging debris from riparian corridors where possible. Retain existing cull trees and snags in riparian corridors where possible. Avoid new road/landing construction within riparian corridors where possible. Designated skid trails will direct activities outside of

Prescriptions for management within Riparian Areas and Riparian Corridors	Riparian Area - Wetlands; areas nearest to the edges of stream/lake/pond/wetland	Riparian Corridor - Area from edge of riparian area to outer edge of corridor.
Wildlife opening maintenance <i>although a ½ tree length no-cutting buffer will be maintained adjacent to aquatic feature edge and chainsaws and/or brush-saws may be utilized</i>	crossing structures upon completion, when crossing is no longer necessary. Seasonal ponds will not be used as disposal areas for slash. No equipment will be permitted within seasonal ponds. Do not harvest trees within ½ tree length from the edge of seasonal ponds.	riparian corridors as quickly as possible, will minimize the number of skid trails within riparian corridors, and will avoid steep slopes (D and greater) within the riparian corridors where possible. Landings located near seasonal ponds will be designed, and managed such that they do not contribute sediment to the ponds. No landings will be permitted within 150 feet of seasonal ponds. Retain existing super-canopy trees within lake and pond riparian corridors where possible.

Table 17. Prescriptions for Management within the Riparian Area and Riparian Corridor based on ELTP and/or Aquatic Feature⁵

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Large permanently flowing rivers – Middle Branch Ontonagon Large permanently flowing rivers have wider riparian areas and riparian corridors than other aquatic features in the project area to better facilitate their use as wildlife corridors.	Comps/Stands 01/01, 01/20, 01/26, 01/39, 01/44; 02/01, 02/08, 02/12, 02/21; 03/43; 13/04, 13/06, 13/14, 13/23, 13/39, 13/35, 13/37, 13/41, 13/47; 16/04, 16/43, 16/40, 16/12, 16/52, 16/41, 16/45, 16/08; 17/17, 17/31, 17/03, 17/32, 17/01, 17/07; 18/16; 28/02, 28/03; 80/10	Riparian area includes 1 tree lengths from the edge of the floodplain ELTP or from bankfull stage when floodplain ELTPs aren't present. When the river is nested within a wide wetland that is greater than 3 tree lengths from bankfull stage wide, go to the edge of the wetland plus ½ tree lengths. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 1 tree length	Riparian corridor includes 3 tree lengths from the edge of the floodplain ELTP OR 3 tree lengths from bankfull stage when floodplain ELTPs aren't present. When the river is nested within a wide wetland that is greater than 3 tree lengths from bankfull stage in width, go to the edge of the wetland and add 1 tree lengths. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 2 tree lengths OR 3 tree lengths from bankfull stage, whichever is greater.
Special Management for coldwater trout habitat with aspen clear-cut	The following stands are found within 400 coldwater trout habitat:	Along the perennial fish bearing portion of the streams listed, the riparian area for clearcut management	Riparian corridor includes only the riparian area since it is a large, no-harvest area. Clearcut aspen

⁵ The list of potentially affected compartments/stands is not all inclusive. Direction for riparian areas and corridors will be applied to all stands with proposed management activities and will be applied to aquatic features as they occur on the landscape (i.e. streams evident on the landscape that don't exist on maps or wetlands that appear to lie adjacent to a stand but ground truthing during implementation indicates the riparian corridor does not enter the stand, etc.) A tree length is considered approximately 75 feet.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
management nearby - to discourage beaver activity (400 feet buffer design criteria) Middle Branch Ontonagon, Deadman Creek, Bluff Creek, Sucker Creek	Comps/Stand 16/48, 16/54, 20/30 , 25/35, 26/34, 26/36, 31/45, 203/21	for aspen regeneration: Includes a 400 feet buffer from the river’s bankfull stage, or water inundated area (i.e. beaver ponds), or ELTP wetland floodplain, whichever is greatest. Note: All harvest prescriptions that do not include management for aspen will follow standard riparian design criteria.	management may occur immediately adjacent to the 400 foot riparian area. Note: All harvest prescriptions that do not include management for aspen will follow standard riparian design criteria.
Special Management for riparian corridor habitat in pine plantations – to - improve stand health, structure, composition and large tree character	Comps/Stand 13/03; 14/13; 16/06; 17/05; 27/03, 27/08, 27/20; 31/25, 31/37, 31/43, 31/54; 48/13; 49/16, 49/18; 50/11, 50/32, 50/33; 51/33; 54/01, 54/20, 54/42; 55/02; 56/07, 56/14, 56/28, 56/34, 56/49, 56/56, 56/58; 80/07; 174/05	No harvest within the riparian area, defined as floodplain to the top of slope.	From the break in the top of slope to 2 tree lengths away from the break, maintain 70% crown closure and favor large and long lived species (red pine, white pine, hemlock). Keep machinery a minimum of 30 feet away from the break in slope.
Small permanently flowing streams (A slopes) ELTP 35a	None	Riparian area includes 1 tree length from the bankfull stage. OR when stream is nested within a floodplain, riparian area includes the ELTP defined floodplain plus 1 tree length.	2 tree lengths back from the bankfull stage OR when stream is nested within a floodplain/wetland, go 2 tree lengths from the edge of the wetland, whichever is greater.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Small permanently flowing Streams (B and C slopes), Roselawn Creek, Paulding Creek, Interior Creek, McGinty Creek, unnamed creek, Trout Creek	Comps/Stand 25/01, 25/07, 25/24; 31/01, 31/20, 31/43; 32/01; 48/39, 48/42; 50/31, 50/50; 54/01, 54/46; 55/20; 56/17, 56/44; 174/41, 174/48	Riparian area includes 1 tree length from bankfull stage. OR when stream is nested within swamp, bog, or floodplain, riparian area includes the ELTP defined swamp, bog, or floodplain plus 1 tree length.	When permanently flowing (perennial) stream is nested within swamp, bog, or floodplain ELTP, go to the top of the adjacent slope plus 1 tree length OR 2 tree lengths back from the edge of the swamp, bog, or floodplain, whichever is greater. Otherwise, area to the top of the adjacent slope plus 1 tree length.
Small permanently flowing streams (D slopes)	Comps/Stand 31/63, 31/25; 48/66; 51/28, 51/31, 50/32; 174/19; 203/02, 203/07, 203/09, 203/10, 203/17	Riparian area includes area to the top of the adjacent slope plus 1 tree length.	Area to the top of the adjacent slope plus 2 tree lengths.
Seasonally (intermittent) flowing streams (A slopes) ELTP 35a	Comps/Stand 04/03, 11/02, 48/36, 48/49	Riparian area includes ½ tree length from stream’s bankfull stage.	2 tree lengths back from the bankfull stage
Seasonally (intermittent) flowing streams (B and C slopes) Aho Creek, Pine Creek, Unnamed creeks, Payne Creek, Redlight Creek, Matheson Creek	Comps/Stand 02/03, 02/12; 03/06, 03/12, 03/22, 03/24, 03/35, 03/14; 04/03; 09/09, 09/11; 11/02, 11/04, 11/05, 11/06, 11/18; 12/03; 13/11; 14/12; 16/01, 16/03, 16/19, 16/31, 16/40; 19/16, 19/17; 20/09;	Riparian area includes ½ tree length from stream’s bankfull stage.	Area to top of adjacent slope plus 1 tree length.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Seasonally (intermittent) flowing streams (B and C slopes) Aho Creek, Pine Creek, Unnamed creeks, Payne Creek, Redlight Creek, Matheson Creek	26/06, 26/07; 48/05, 48/08, 48/16, 48/17, 48/18, 48/27, 48/29, 48/30, 48/36, 48/41, 48/49, 48/67, 48/71, 48/74, 48/76; 49/07, 49/19, 49/20, 49/23; 56/04, 56/08; 79/02	Riparian area includes ½ tree length from stream’s bankfull stage.	Area to top of adjacent slope plus 1 tree length.
Seasonally (intermittent) flowing streams (D slopes and greater) Aho Creek, Unnamed creeks	Comps/Stand 04/02, 04/03, 04/05, 04/06; 09/09, 09/11; 11/02; 12/03; 13/04, 13/06, 13/11; 14/13; 16/01, 16/03, 16/06	Riparian area includes Area to the top of the adjacent slope plus ½ tree lengths.	Area to top of adjacent slope plus 1 tree length.
Lakes and ponds A, B, and C slopes) Bum Lake, Hobo Lake, Hijacker Lake, Interior Lake, Sumac Lake, Beaver Pond (trib. to Bluff Creek), Behlow Lake, unnamed lake/pond, Tanlund Lake, Erickson Lake, Pickle Pond, Amber Lake, Camp Lake	Comps/Stand 03/19, 03/21; 09/30; 11/06; 19/02, 19/06, 19/21; 26/11; 27/07 30/01, 30/21; 51/07 54/07, 54/42, 54/43, 54/52, 54/58; 55/20 56/07, 56/17; 80/05, 80/07, 80/39; 174/05, 174/14, 174/45	Riparian area includes 1 tree length from edge of lake/pond. OR If the lake is nested within a swamp, bog, or floodplain, then the riparian area will be 1 tree length from the edge of the ELTP defined swamp, bog, or floodplain.	Riparian corridor includes 2 tree lengths from the edge of the lake/pond. OR if the lake/pond is nested within a swamp, bog, or floodplain, riparian corridor will be 2 tree lengths from the edge of the ELTP defined swamp, bog, or floodplain. OR area to the top of the slope plus 1 tree length, whichever is greater.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Lakes and ponds D slopes and greater	Comps/Stand 11/02; 20/08 and where found	Riparian area includes area to the top of the adjacent slope plus ½ tree lengths.	Area to top of adjacent slope plus 1 tree length.
Forest Seasonal Ponds (1/2 acre in size or larger)	Where found	Riparian area includes the seasonal pond and the tree rooting zone.	The whole seasonal pond plus 1 tree length.
Wetlands (includes sedge-meadow floodplain, swamps, bogs, ash drainways and other poorly or very poorly drained mineral soils) (ELTPs 40, 41, 42, 50, 51, 54, 61, 78, 79, 80, 82, 83, 99, 190d, 190e, 191, 231, 222, 233, 225a, 3303)	Comps/Stand 03/02, 03/05, 03/06, 03/12, 03/24; 04/03; 09/02, 09/09, 09/30, 09/11; 10/01, 10/09, 10/17, 10/18, 10/21, 10/26; 11/02, 11/04, 11/08, 11/12; 12/10, 14/09; 15/04, 15/13; 16/03, 16/19, 16/22, 16/23, 16/36, 16/40, 16/48, 16/49, 16/51; 17/01, 17/03, 17/07, 17/12, 17/32; 18/02, 18/06, 18/08, 18/09, 18/14, 18/19, 18/20, 18/31, 18/38; 19/09, 19/17; 20/01, 20/02, 20/09; 26/05, 26/06, 26/07, 26/13, 26/33; 27/04, 27/16, 27/13;	Riparian area includes the wetland ELTP plus 1 tree length. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 1 tree length	2 tree lengths from the edge of the ELTP defined wetland. OR Entire ELTP plus area to top of adjacent slope plus 1 tree length, whichever is greater. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 2 tree lengths.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Wetlands (includes sedge-meadow floodplain, swamps, bogs, ash drainways and other poorly or very poorly drained mineral soils) (ELTPs 40, 41, 42, 50, 51, 54, 61, 78, 79, 80, 82, 83, 99, 190d, 190e, 191, 231, 222, 233, 225a, 3303)	Comps/Stand 30/01, 30/03, 30/24, 30/37, 30/38; 31/08, 31/09, 31/12, 31/20, 31/21, 31/47, 31/70; 32/16, 32/18, 32/44; 48/17, 48/28, 48/32, 48/54, 48/56; 49/09, 49/13, 49/24, 49/38, 49/54, 49/57, 49/78; 50/03, 50/11, 50/12, 50/30; 51/08; 54/01, 54/07, 54/10, 54/20, 54/24, 54/42, 54/43, 54/52, 54/58, 54/63, 54/70, 54/78; 55/09, 55/13, 55/14, 55/20, 55/49; 56/04, 56/07, 56/28; 79/20, 79/42; 80/05, 80/06, 80/07, 80/13, 80/23, 80/38, 80/39, 80/45, 80/55; 174/05, 174/19, 174/34, 174/45, 174/62; 203/07	Riparian area includes the wetland ELTP plus 1 tree length. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 1 tree length	2 tree lengths from the edge of the ELTP defined wetland. OR Entire ELTP plus area to top of adjacent slope plus 1 tree length, whichever is greater. When adjacent slopes are D, E, F or LTA 20 go to the top of the slope plus 2 tree lengths.
Wetland – Forested Linear Wetland (see ELTPs below)	Comps/Stand 09/11; 10/20, 10/21; 13/41; 14/12, 14/14;	Riparian area includes the wetland ELTP plus ½ tree length.	Edge of forested linear wetland plus 1 tree length.

ELTP/ Aquatic Feature	Compartments/Stand Potentially Affected	Riparian Area - Wetlands; areas nearest to the edges of stream / lake / pond / wetland. Riparian area was previously known on the Forest as the “nearbank zone”	Riparian Corridor - Management direction from edge of riparian area to outer edge of corridor. The corridor was previously known on the Forest as the “riparian influence area” or “outer zone”
Wetland – Forested Linear Wetland (ELTPs 36, 75, 122a, 218, 229)	Comps/Stand 15/02, 15/03; 16/03, 16/19, 16/23; 17/12; 18/14, 18/31; 20/09, 20/10; 26/05, 26/06, 26/07, 26/13; 27/20; 28/03; 30/06, 30/12, 30/14, 30/21, 30/22, 30/24; 31/11, 31/12; 32/16; 40/03; 49/04, 49/05, 49/07, 49/09, 49/11, 49/20, 49/23, 49/24, 49/25, 49/40, 49/51, 49/54, 49/78; 50/24, 50/27, 50/30; 51/08; 55/05; 174/05, 174/15; 203/10	Riparian area includes the wetland ELTP plus ½ tree length.	Edge of forested linear wetland plus 1 tree length.

APPENDIX 2. LITERATURE CITED

Bruce Crossing Area Community Wildfire Protection Plan 2011. Multi-jurisdictional plan for the unincorporated Townships of Stannard, Interior and Haight (Ontonagon County, MI) and Duncan Township (Houghton County, MI). Pages 41 and 42.

Gilmore, et. al. 2006. A Revised Manager's Handbook for Red Pine in the North Central Region. Gen. Tech. Rep. NC-264. North Central Research Station. St. Paul, MN. pp. 34-36. http://files.dnr.state.mn.us/forestry/ecssilviculture/ncsm/ncsm_red_pine.pdf

Michigan Department of Natural Resources. 2009. Sustainable Soil and Water Quality Practices on Forest Land. Michigan Department of Natural Resources and Michigan Department of Environmental Quality, Forest Management Division, Lansing, Michigan.

Stateline Community Wildfire Protection Plan 2009. Multi-jurisdictional plan for the unincorporated Townships of Watersmeet (Gogebic County, MI) and Phelps (Vilas County, WI). Page 41.

USDA Forest Service, Blinn, et al. 1998. Temporary Stream and Wetland Crossing Options for Forest Management. Gen Tech. Rep. NC-202. St. Paul, MN: USDA Forest Service, North Central Research Station. pp. 21-29.

USDA Forest Service. 2006a. Final Environmental Impact Statement for the 2006 Ottawa National Forest Land and Resource Management Plan. Volume II. USDA Forest Service Eastern Region. Appendix A, p. A-19.

USDA Forest Service. 2006b. Land and Resource Management Plan (referred to as Forest Plan). USDA Forest Service Eastern Region. pp. 2-2, 2-3, 2-4, 2-10, 2-13 to 2-15, 2-23 to 2-25, 2-31, 2-33, 3-18, and 3-81.6.

USDA Forest Service. 2007a. Ottawa National Forest Wild and Scenic River Comprehensive River Management Plan. Ironwood, MI: USDA Forest Service. pp. 2-9, 2-10, 2-12 and 3-17.

USDA Forest Service. 2012. Ottawa National Forest FY 2011 Monitoring and Evaluation Report. Ironwood, MI: USDA Forest Service. pp. 21 and 22.

APPENDIX 3. MAPS

Interior VMP Decision

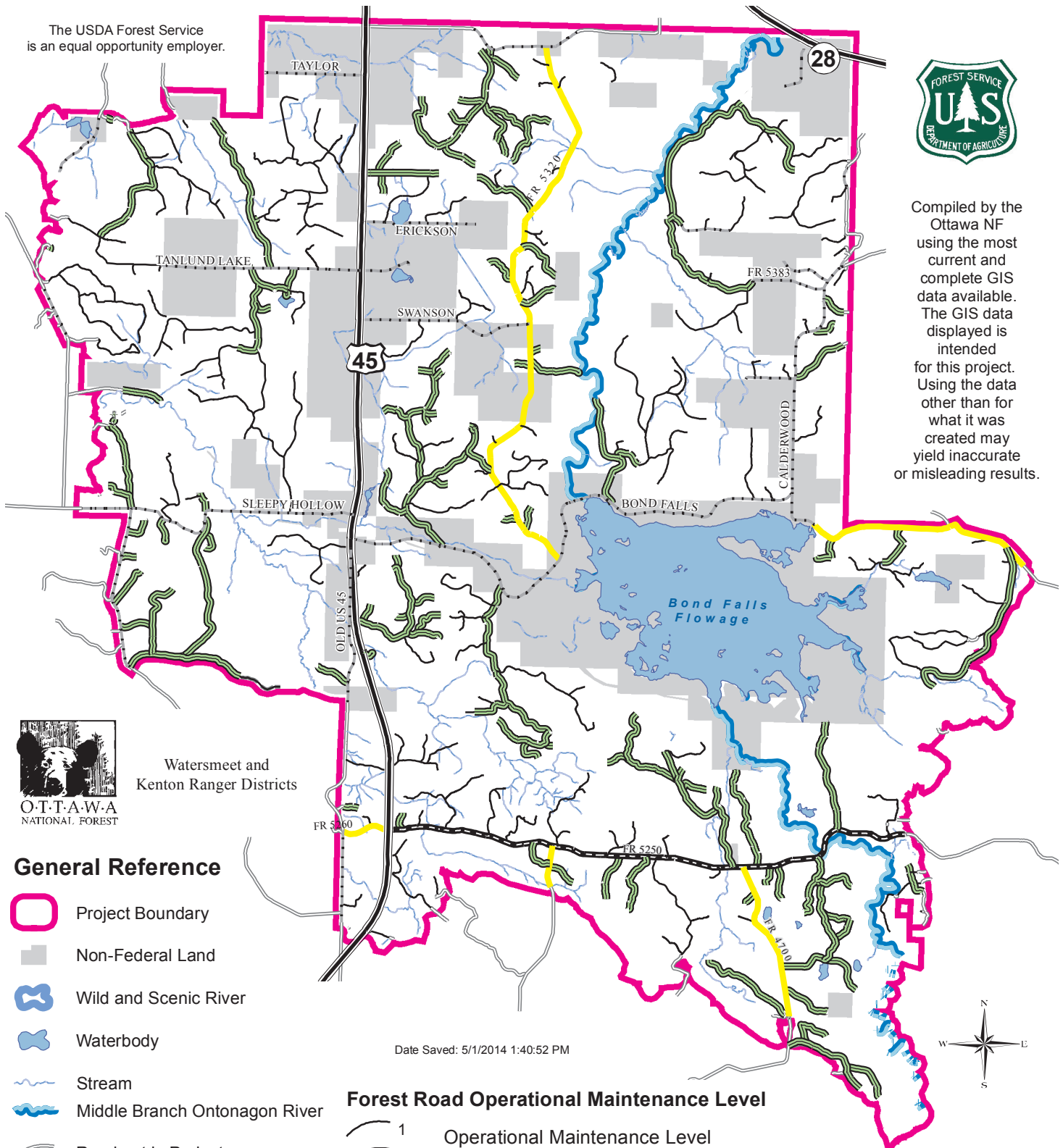
MAP #1

Existing Transportation Maintenance Levels

The USDA Forest Service
is an equal opportunity employer.



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.



Watersmeet and
Kenton Ranger Districts

General Reference

- Project Boundary
- Non-Federal Land
- Wild and Scenic River
- Waterbody
- Stream
- Middle Branch Ontonagon River
- Road not in Project
- Other Non-Federal Road
- State Highway

Forest Road Operational Maintenance Level

- 1
 - 2
 - 3
 - 4
- Operational Maintenance Level
numbers to be described in the
Transportation System section
of the scoping letter.

0 0.5 1 2 Miles

Date Saved: 5/1/2014 1:40:52 PM

Interior VMP Decision

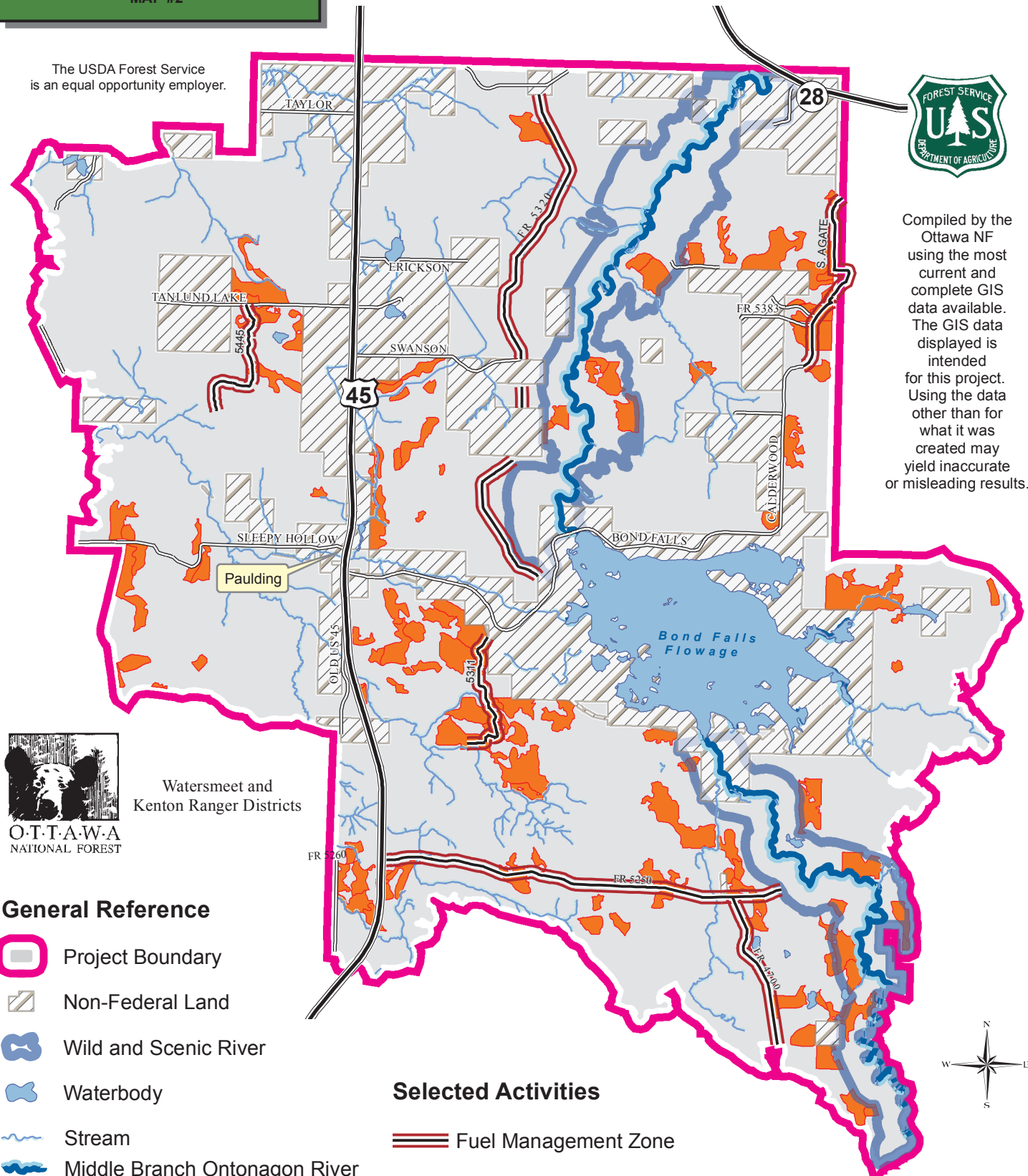
MAP #2

Selected Fuels Projects

The USDA Forest Service
is an equal opportunity employer.



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.



Watersmeet and
Kenton Ranger Districts

General Reference

- Project Boundary
- Non-Federal Land
- Wild and Scenic River
- Waterbody
- Stream
- Middle Branch Ontonagon River
- Main Road
- State Highway

Selected Activities

- Fuel Management Zone
- Fuel Reduction



Date Saved: 5/1/2014 2:28:07 PM

0 0.5 1 2 Miles

Interior VMP Decision

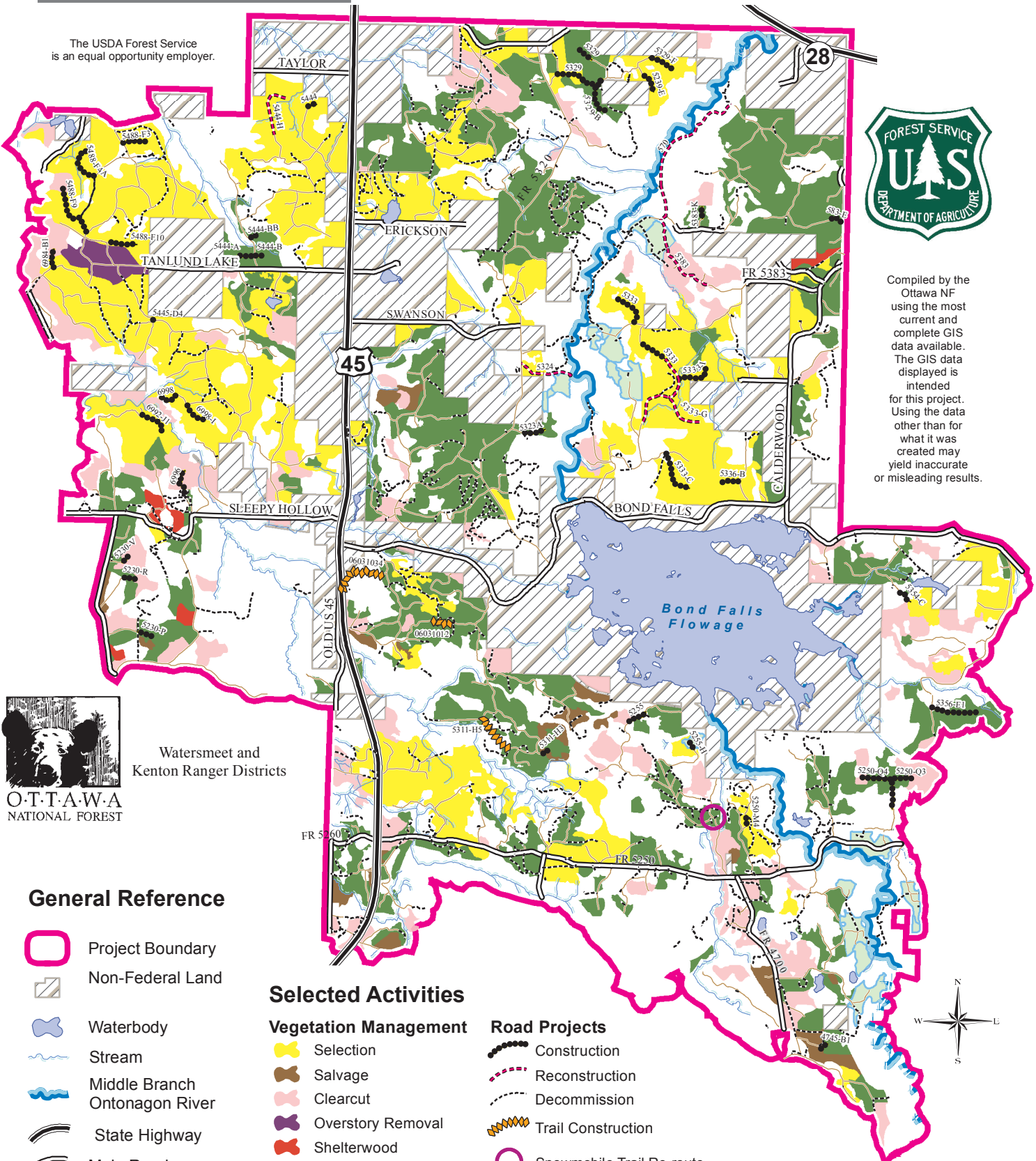
MAP #3

Selected Activities Vegetation Management and Roads

The USDA Forest Service
is an equal opportunity employer.



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.



Watersmeet and
Kenton Ranger Districts

General Reference

- Project Boundary
- Non-Federal Land
- Waterbody
- Stream
- Middle Branch
Ontonagon River
- State Highway
- Main Road
- Other Road

Selected Activities

Vegetation Management

- Selection
- Salvage
- Clearcut
- Overstory Removal
- Shelterwood
- Thinning
- Group Selection/Thinning

Road Projects

- Construction
- Reconstruction
- Decommission
- Trail Construction
- Snowmobile Trail Re-route

Date Saved: 7/8/2014

0 0.5 1 2 Miles

Interior VMP Decision

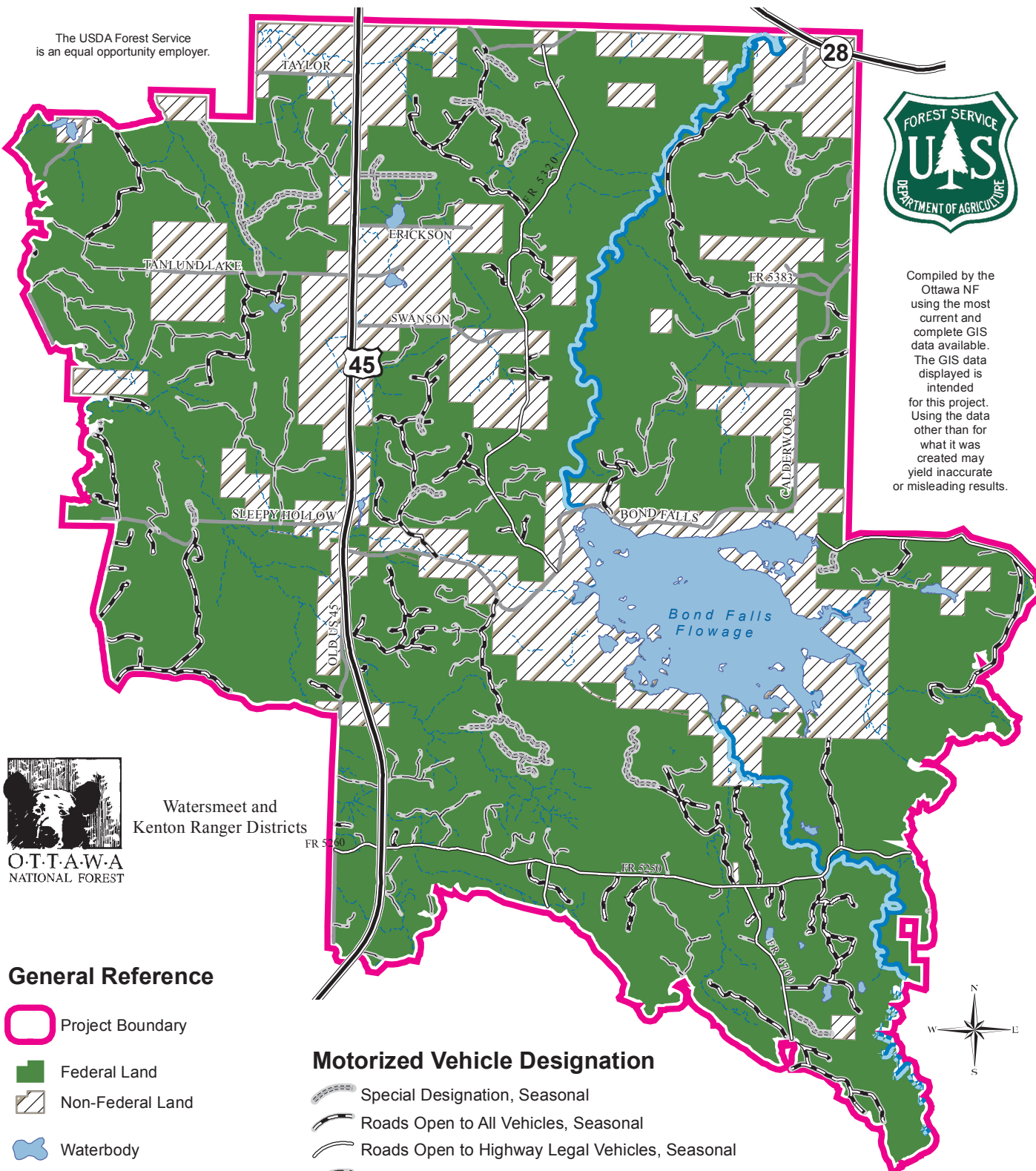
MAP #4

Current Motor Vehicle Use Map

The USDA Forest Service
is an equal opportunity employer.



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.



Watersmeet and
Kenton Ranger Districts

General Reference

- Project Boundary
- Federal Land
- Non-Federal Land
- Waterbody
- Stream
- Middle Branch Ontonagon River

Motorized Vehicle Designation

- Special Designation, Seasonal
- Roads Open to All Vehicles, Seasonal
- Roads Open to Highway Legal Vehicles, Seasonal
- Trails Open to Vehicles 50" or Less in Width, Seasonal
- Other Non-Federal Road
- State Highway



Date Saved: 5/1/2014 1:48:55 PM

0 0.5 1 2 Miles

Interior VMP Decision

MAP #5

Selected Motor Vehicle Use Map



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.



Watersmeet and
Kenton Ranger Districts

General Reference

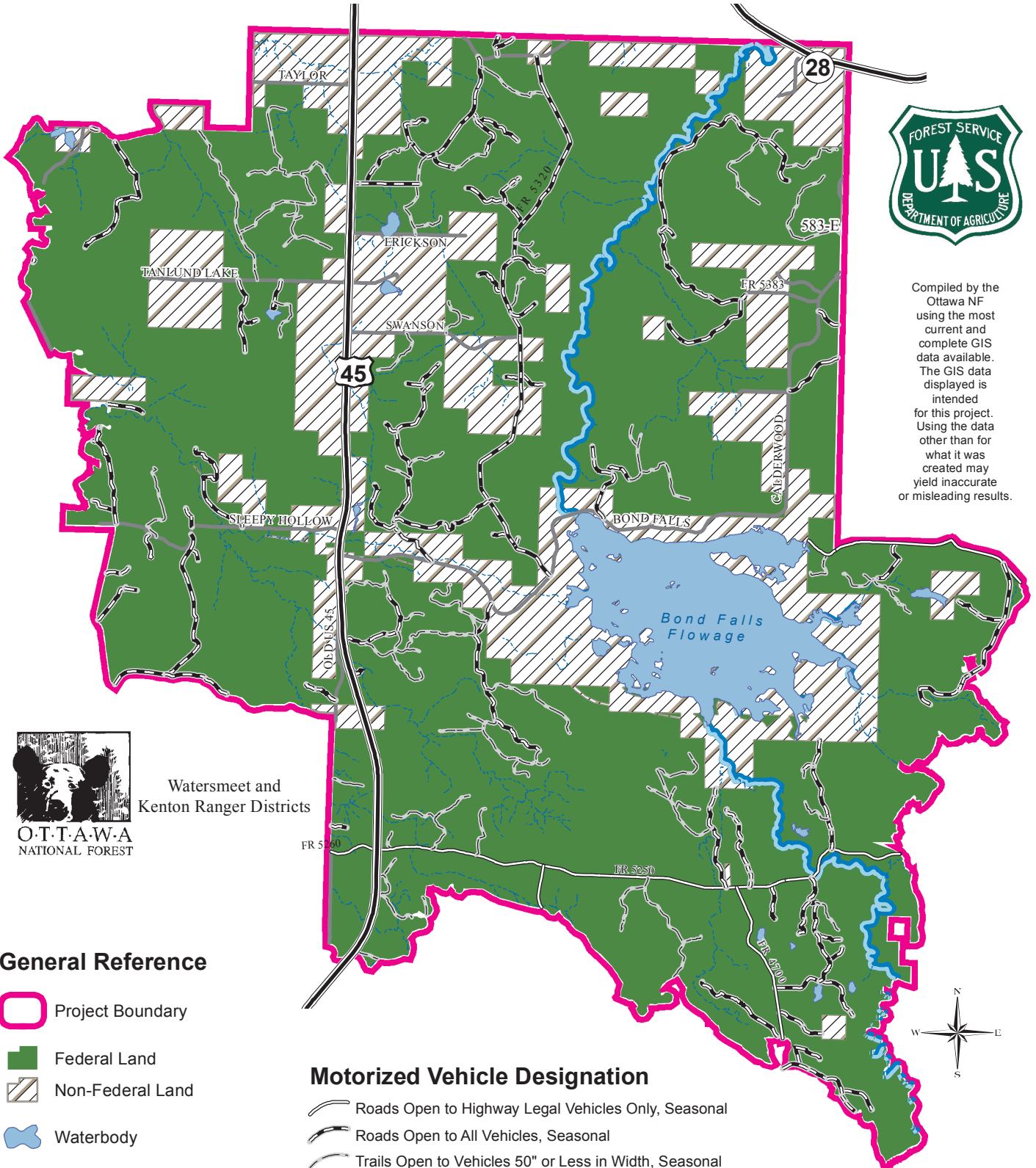
- Project Boundary
- Federal Land
- Non-Federal Land
- Waterbody
- Stream
- Middle Branch Ontonagon River

Motorized Vehicle Designation

- Roads Open to Highway Legal Vehicles Only, Seasonal
- Roads Open to All Vehicles, Seasonal
- Trails Open to Vehicles 50" or Less in Width, Seasonal
- Other Non-Federal Road
- State Highway

Date Saved: 7/8/2014

0 0.5 1 2 Miles



Interior VMP Decision

MAP #6

Selected Activities Associated Projects

The USDA Forest Service
is an equal opportunity employer.



Compiled by the
Ottawa NF
using the most
current and
complete GIS
data available.
The GIS data
displayed is
intended
for this project.
Using the data
other than for
what it was
created may
yield inaccurate
or misleading results.

General Reference

Project Boundary (Management Area 3.1a)

Wild and Scenic River Designation (MA 8.1)

Recreational

Scenic

Non-Federal Land

Waterbody

Stream

Middle Branch Ontonagon River

State Highway

Main Road

Other Road

Opening Maintenance

Tree Planting

Riparian Habitat Improvement

Long-Lived Conifer Establishment
with Commercial Harvest

Old Growth Classification

Currently Classified

Proposed to Classify

Proposed to Declassify

Snowmobile Trail Re-route

Pit Reclamation

Aquatic Habitat Improvement

Culvert Removal

Wild Rice Planting

River Bank Stabilization

Road/Stream Crossing Improvement

Increased Large Woody Structure (Lake)

Increased Large Woody Structure (River/Stream)



O.T.T.A.W.A
NATIONAL FOREST

Watersmeet and
Kenton Ranger Districts

Selected Activities



0 0.5 1 2 Miles

Date Saved: 7/10/2014 1:56:53 PM