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File Code: 1950
Date: January 6, 2014

Dear Forest Neighbor:

I am writing you to inform you of the release of the Final Decision and Finding of No Significant Impact (DN/FONSI) for the Redboat Resource Management Project. This Final Decision documents my selection of Alternative 2 as described in the April 2013 Revised Environmental Assessment, with one modification.

You are receiving this document because you provided comments during one or more of the project's comment periods, or submitted an objection, in accordance with the regulations for the Forest Service's pre-decisional administrative review process outlined in 36 Code of Federal Regulations (CFR) 218.

The attached DN/FONSI includes clarifications and one modification to a project design criterion as instructed by the project's Reviewing Officer, Anthony V. Scardina – Ottawa Forest Supervisor. This information has been incorporated in consideration of the negotiations discussed between the Objectors, Forest Supervisor and myself to address concerns raised during the objection period.

Pursuant to 36 CFR 218.12, this Final Decision can be implemented immediately.

Detailed records of the environmental analysis are available for public review at the Bessemer Ranger District office. More information is also available on the Forest's website: http://www.fs.fed.us/nepa/fs-usda-pop.php/?project=35518. If you need any additional information, please contact Marlanea French-Pombier, Interdisciplinary Team Leader, at the Watersmeet-Iron River Ranger Districts' office (telephone: 906-358-4031; e-mail: mfrenchpombier@fs.fed.us) or Robin McCartney, Environmental Coordinator, at the Bessemer Ranger District (telephone: 906-932-1330, extension 514; e-mail: rmccartney@fs.fed.us).

Sincerely,

Norman E. Nass

NORMAN E. NASS
District Ranger

Final Decision Notice and Finding of No Significant Impact

United States Department of Agriculture

REDBOAT RESOURCE MANAGEMENT PROJECT

Forest Service

January 2014

Ottawa National Forest – Bessemer Ranger District

Gogebic County, Michigan

Norman E. Nass, Responsible Official
District Ranger
Ottawa National Forest
E23979 US Highway 2 East
Watersmeet, Michigan 49969

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Introduction

This Final Decision Notice and Finding of No Significant Impact (herein referred to as the Final Decision) documents selection of management activities in the project area as analyzed in Alternative 2 of the March 2013 Revised 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 Bessemer Ranger District in the western Upper Peninsula of Michigan (see Figure 1). The project area lies south of US Highway 2 and west of State Highway 64, near the town of Marenisco, Michigan. Features of the project area include portions of the Congressionally-designated Presque Isle Wild and Scenic River system, as well as Blueberry and Moraine Creeks, a portion of the Little Presque Isle River, and numerous lakes, including Redboat, Henry, Eel, Thrush, Heart, and Hawk.

The project area is located within the following legal description: Gogebic County, Michigan: Township (T) 45N, Range (R) 43W, Sections 5-7, 18 and 19; T45N, R44W, Sections 1-15 and 22-24; T46N, R43W, Sections 16-21, 28-33 and 32-36; T46N, R44W, Sections 5-9 and 13-36; and T47N, R44W, Sections 31 and 32.

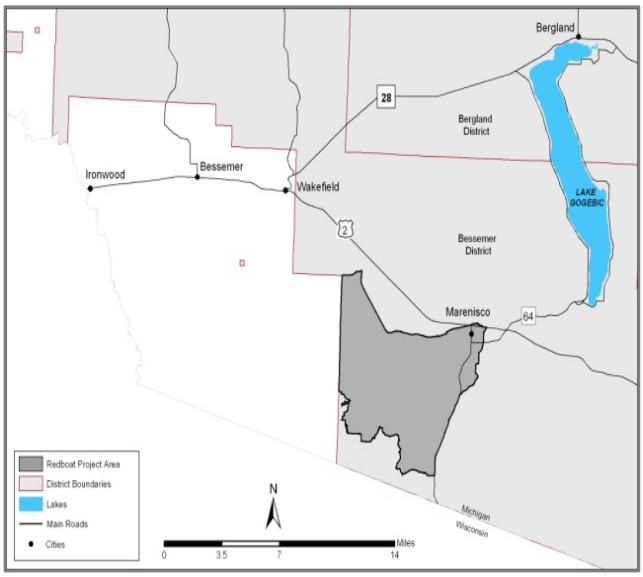


Figure 1. Vicinity Map for the Redboat Project

Objection Process

Regulations pursuant to 36 Code of Federal Regulations (CFR) 218 required that I prepare a Draft Decision for public review as part of the pre-decisional, administrative review process that is now required for environmental assessments. 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 new 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. Objections could be filed based on unresolved concerns for the actions outlined in the June 2013 Draft Decision, prior to a final Decision being made. A legal notice was published on June 11, 2013 to announce the release of the Draft Decision, which initiated a 45-day objection period (reference project file, Proof of Legal Notice Publication, 2013 Draft Decision and FONSI folder) Individuals who submitted a comment regarding the proposed project during any designated opportunity for public comment (e.g. the 2011 Scoping Period, 2012 EA comment period and/or 2013 Revised EA comment period) and whose comment contains the required elements outlined in 36 CFR 218.8, were eligible to file an objection. This Final 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.

The project's objections Reviewing Officer, Anthony V. Scardina, the Ottawa's Forest Supervisor, received three objections to the June 2013 Draft Decision. Mr. Scardina and the project's Responsible Official, Norman E. Nass, held meetings with two of the three Objectors. These meetings provided an opportunity to discuss objection points raised in accordance with 36 CFR 218.11. As a result of the resolution meetings, and internal review of the points raised in all three objections, the Reviewing Officer has decided that the Redboat Project can be authorized with implementation of five instructions (reference project file, Objections folder, objection response letters). The following is a summary of how this Final Decision responds to the Reviewing Officer's instructions; additional information is available in this document as described below.

Reviewing Officer Instructions

1. **Include a summary of the economic analysis in the Final Decision.** An Objector raised concerns that not providing the economic analysis for public review was a lost opportunity to display how the project meets the purpose and need for supporting the local economy (March 2013 Revised EA, p. 7). This analysis was prepared for and is included in the project file, but it was not presented in the March 2013 Revised EA. A summary of the project's economic analysis has been included on pages 10 and 11 of this Final Decision. Specific references to the entirety of this analysis in the project file are also included in this summary.

2. **Clarify the intent of implementing design criterion #10.** In the June 2013 Draft Decision, I included a restriction in MA 6.2 to ensure that temporary openings resulting from even-aged management practices (e.g., clearcut harvest) did not exceed 25 acres in size. This restriction is in response to a guideline in the Ottawa's Land and Resource Management Plan (Forest Plan, page 3-65) but which was not disclosed in the original or the revised EA. An Objector brought forward a concern that additional aspen harvest could occur, with this restriction in place, if additional harvest entries were staggered. As outlined in Appendix 1, design criterion 10 has been clarified to state that more than one harvest entry may occur in stands selected for aspen regeneration harvest in Management Area (MA) 6.2 (see Appendix 1, page 2). However, design criterion 10 has also been modified to ensure that additional harvest can take place in these stands only after trees re-grow, within the 25 acre temporary openings created, and reach a height of 20% of adjacent stands. This clarification will ensure consistency with a Forest Plan guideline (p. 2-23) that determines when a temporary opening can be considered a forested stand.

3. **Clarify the intent of implementing design criterion #69.** An Objector brought forward concerns that the visual quality objectives in the Wild and Scenic River corridor would not be adequate for riparian areas. Design Criterion #69 has been amended to clarify that the no harvest buffers associated with riparian design criteria do assist to meet Retention and Partial Retention visual quality objectives. In addition, design criterion #70 outlines the manner in which design criterion #69 is implemented. The revised language for design criterion #69 now identifies the correlation between #69 and #70 (see Appendix 1, pp. 9-10).

4. **Provide references to project file documentation prepared for the cumulative effects analysis.** An Objector raised questions about the location of the cumulative effects analysis developed for this project. Therefore, specific references to the pertinent documentation in the project file have been included in this Final Decision.

5. **Ensure all references to the project file are provided in the Revised EA, FONSI and Final Decision.** Due to the new documentation format of the 2013 Revised EA, a need was identified to increase the amount of project file referencing to provide crucial connections between the supporting project file documentation and the conclusions determined and findings made. New project file references for the 2013 Revised EA are outlined in Appendix 3 – Errata for the Revised EA. Additional project file references found to be needed for the Draft Decision are corrected in this Final Decision. These clarifications include those topics raised by Objectors in Instructions 1 through 4, as well as other general questions and concerns raised by Objectors.

Background Information

In preparation of my Final Decision, I have taken into consideration the objection points raised; the analyses performed in the March 2013 Revised EA, which includes the public comments received; as well as the entirety of the project file. The March 2013 Revised EA documented the results of the effects analysis for three alternatives: Alternative 1 (No Action); Alternative 2 (the Proposed Action); and Alternative 3 (an action alternative developed to address the four issues identified from public comments) (reference project file, March 2013 Revised EA, pp. 18-28).

Development of the Revised 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 Revised EA is available for public review at any Ranger District office; at the following website: http://www.fs.usda.gov/ottawa, as well as the following college libraries: Gogebic Community College, Ironwood Michigan; Michigan Tech University's J. Robert Van Pelt Library, in Houghton, Michigan and Northern Michigan University's Olson Library in Marquette, Michigan.

Development of a Revised EA was necessary given this project's history. A Decision Notice and Finding of No Significant Impact were previously signed on September 18, 2012, which authorized implementation of the actions outlined in the original, May 2012 EA. I withdrew the September 2012 Decision Notice on December 20, 2012 based on my estimation that some of the effects specific to the proposed activities were not disclosed (reference project file, December 2012 Decision Withdrawal Letter, September 2012 Decision Notice and FONSI folder). I instructed the Interdisciplinary (ID) Team to supplement the original analysis through the March 2013 Revised EA. This Final Decision is specific to the information disclosed in the Revised EA's analysis – it is *not* connected to the September 2012 Decision.

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 (2013 Revised EA, pp. 4-12); the comments received during the project's comment periods (reference project file, public comments folder, May 2011 Scoping Letter; public comments folder, May 2012 EA; and public

comments folder, March 2013 Revised EA) and the direction outlined in the Forest Plan. I have selected Alternative 2 as described in the 2013 Revised EA (pp. 21-28), with the following clarifications (see the Rationale for the Final Decision section for more information):

- ***Timber Resource -*** Timber harvest in aspen stands within Compartment 210 will be implemented using design criterion 10 (see Appendix 1) as clarified due to concerns brought forward by Objector (reference project file, June 23, 2013 Objection, Objections folder). Design criterion 10 ensures that temporary openings resulting from timber harvest are no more than 25 acres in size within MA 6.2 to remain consistent with the Forest Plan's guideline (p. 3-65). As outlined in the June 2013 Draft Decision, implementation of design criterion 10 does exclude the aspen regeneration complex (e.g., an area where temporary openings exceed 40 acres in size) within MA 6.2.

  Design criterion 10 does allow additional harvest adjacent to the temporary openings created in MA 6.2 after the tree seedling and sapling component has regenerated and grown to a height that is at least 20% of adjacent stands (approximated as 12 to 15 feet tall). This will result in a harvest pattern where adjacent areas would be harvested at approximately 3 to 5 year intervals, or in other words, staggered harvest in 3 to 5 year increments.

- ***Old Growth -*** The area classified as old growth is selected in response to public comments on this issue. Comments were received that generally requested either more or less acreage be classified as old growth. However, one commenter in particular noted that classifying old growth in MA 8.1 was not providing benefits since most forest vegetation within MA 8.1 is anticipated to develop old growth characteristics and that declassifying old growth in MA 2.1 near riparian areas may be inappropriate (reference project file, November 4, 2012 Appeal, Appeals folder). The modification to Alternative 2 that I am authorizing with this Final Decision is to reduce the acreage of old growth declassified from 308 acres to 186 acres; and thus increasing the acreage of retained old growth from 511 to 633 acres. The change in the amount of retained, classified old growth acreage is all within MA 2.1. See the Public Involvement and Issues section of this Final Decision for more information.

- ***Transportation System -*** Although not raised as an issue, my Final Decision excludes the action to upgrade Forest Road 8170 (Fisher Road) from an objective maintenance level (OML) 2 road to an OML 3 road. This road is currently open to all motorized vehicles and will be receiving maintenance to provide a safe dual-use environment for highway vehicles and OHVs as part of the Ottawa's road maintenance program. Upgrading the maintenance level of Fisher Road would require expending additional funds to change the condition of the road (widening, etc.) and future funds would need to be allocated to ensure road maintenance activities are implemented commensurate with the higher use level that an OML 3 provides. Therefore, this modification to the selected alternative will result in a cost savings during implementation. No change to the designated public access of the road will occur.

- ***Recreation -*** Further review of the project area has led to a realization that no routes on National Forest System land are available to provide a temporary reroute for Snowmobile Trail 11 S. However, this is dependent on the timing of harvest activities and haul routes actually used. Prior to winter logging operations, the Forest will work with local snowmobile clubs in conjunction with timber sale purchasers to identify potential temporary routes, which will provide opportunities for continued snowmobile use.

Forest Plan guidelines for MA 8.1 include designating OHV routes within WSRs only when necessary to connect established motorized trails outside of the river corridors when consistent with the protection and enhancement of river values (p. 81.6). This Final Decision includes removal of Forest Road 8146 in the West Branch Presque Isle WSR segment. Motorized use of this road segment, which terminates in the WSR corridor, is shown as open to off-highway vehicles on the current MVUM. Removing Forest Road 8146 (0.4 miles) from the Motor Vehicle Use Map will ensure consistency with the Forest Plan's guideline for designated access within the WSR corridor (reference project file, USDA Forest Service 2006a [p. 81.6], Reference folder).

Visuals Resource –Design criterion 69 has been amended clarifying how this criterion will be implemented in response to concerns raised by an Objector. However, there are no specific modifications to planned activities such as timber harvest. Application of design criteria 69 and 70 will ensure visual quality objectives are met for the Wild and Scenic River corridor.

The remainder of actions will be authorized as summarized in the table below and shown in the maps depicting the locations of these actions (see Appendix 4).

Table 1. Selected Actions to Implement by Resource Area

Timber Resource			
Selection harvest in northern hardwood forests to regenerate the existing forest type	7,338 acres	Thinning harvest in red pine forests to improve stand quality and composition	401 acres
Thinning harvest in northern hardwood and mixed forest types to concentrate growth on healthiest stems	417 acres	Underplant white pine within stands of various forest types to increase tree species diversity and increase the long-lived conifer component	186 acres
Improvement Cut in northern hardwood and mixed forest types to improve stand quality and species composition	347 acres	Salvage harvest of various forest types to remove dying trees	14 acres
Aspen clearcut harvest to regenerate aspen, which includes 12 aspen regeneration complexes (e.g., contiguous areas over 40 acres in size)	1,871 acres	Overstory removal in northern hardwood forests to release a mix of understory forest types, including hardwood trees.	70 acres
Conversion of other forest types to aspen through clearcut harvest	697 acres	Shelterwood harvest in mixed forest types, where a paper birch component exists.	38 acres
Old Growth			
Total acreage of currently classified old growth retained • MA 2.1 • MA 8.1	633 acres 372 acres 261 acres	Declassification of old growth acres where conditions do not meet Forest Plan direction, especially for the desired spatial arrangement on the landscape	186 acres

Wildlife Resources			
Treat northern hardwood and other forest types with stand structural improvements to promote understory regeneration, develop additional canopy layers and provide improved wildlife habitat conditions.	865 acres	Treat over-mature paper birch to regenerate the forest type through the use of prescribed fire or mechanical means	14 acres
Long-lived conifer release to remove the northern hardwood overstory in some areas of identified stands to free overtopped long-lived conifers from competing hardwoods.	190 acres	Establish wild rice on Mink Lake	Up to 5 acres in size
Aquatic Resources			
Drop (or haul in) lakeside trees to increase Large woody material (LWM) component: Henry, Eel, Mishike, Plymouth, Mink, Blue Jay, Elbow, Redboat, Glen, Taps, and Thrush Lakes		To increase LWM, drop streamside trees along some portions of the South and West Branches Presque Isle WSR. In addition, streamside alder will be cut, bundled and placed in the Little Presque Isle River.	
Girdle and/or fell trees in northern hardwood stands to increase LWM in areas of steep slope.		Prevent erosion and, if needed, restore to original locations any stream/drainage channel diversions caused by historical road construction or other roads not being used for selected harvest activities. Improve the road to Hawk Lake to prevent erosion, and subsequent sediment delivery to water.	
Recreation			
Add designated access on 1 mile of road, open to all motorized vehicles, on the Motor Vehicle Use Map (MVUM) to provide dispersed recreation access after project implementation.		Improve access for Hawk and Mishike Lakes through establishment of carry-in boat/canoe access.	
Remove designated access on 8.4 miles of road from the MVUM, which are currently open to motorized use, to protect areas from on-going and future resource damage.		Designation of 0.6 miles of road to allow access by all motorized vehicles to Hawk and Mishike carry-in boat/canoe launches, after project implementation will also enhance access to these sites.	
Transportation			
Construct 3.2 miles of new system roads, which will include clearing trees, grubbing stumps, installing culverts, placement of gravel where needed for road stabilization, and ditching/shaping the road.		Where needed, erect earthen berms or gates to prohibit vehicle access to 63 miles of closed Forest system roads.	
Construct 5.6 miles of temporary roads, to access stands selected for harvest where a permanent road is not needed. Additional needs for temporary road may be identified during implementation.		Reconstruct 27.6 miles of Forest system roads to access stands selected for harvest. Reconstruction will include clearing brush, widening existing clearings, placement of gravel, installing/repairing culverts and crossings, and ditching/shaping the roadbed.	

Transportation	
All temporary roads constructed will be rehabilitated by natural re-vegetation and slash placed in areas, where needed, to deter unauthorized use.	Decommission 1.2 miles of Forest system roads and 54 miles of unclassified roads to remove unneeded routes and protect areas from on-going or future resource damage.

Rationale for the Final Decision

I have determined that preparation of an Environmental Impact Statement is not necessary based upon the analyses presented in the EA. No significant impacts were identified for the following activities (reference project file, March 2013 Revised EA [pp. 31-36; 40-42; and 48-78], 2013 EA folder). This Final Decision includes the following actions:

- Implementation of a variety of silvicultural prescriptions. These prescriptions include timber harvest, creation of 12 temporary openings greater than 40 acres in size; slash treatment that includes allowances for biomass harvesting; riparian protection; travel corridors for logging operations; reforestation; mitigation measures; as well as project design criteria and site-specific monitoring (see Appendix 1).

- A transportation system to support several purposes, including a designated public access system, by class of vehicle; road closures; roads and trails removed from administrative management through decommissioning; road construction (both permanent and temporary), and reconstruction to provide access to achieve resource objectives. Road restrictions and other actions are included in my evaluation to meet other resource needs.

- Several projects to enhance conditions for wildlife, riparian, and fisheries habitat; and improve recreation opportunities.

This Final Decision is tiered to the Forest Plan and its associated Final Environmental Impact Statement (FEIS) and planning record. It also incorporates by reference the Comprehensive River Management Plan (CRMP) and its associated project file.

As outlined above, I propose selection of a modified Alternative 2 for implementation. The Final Decision will achieve the purpose and need for this project through implementation of a variety of actions anticipated to result in conditions to align with the desired conditions described in the Forest Plan (reference project file, March 2013 Revised EA [pp. 4-12], 2013 EA folder); and Forest Plan, pp. 3-6 to 3-10, 3-61 to 3-66, and 3-71 to 3-81.9). This alternative will also address concerns raised during the objections process and the public's concerns that led to this project's four issues (reference project file, March 2013 Revised EA [pp. 13-15], 2013 EA folder).

Purpose and Need for the Proposal

This Final Decision will implement actions that are in accordance with Forest Plan direction, which is the driving force behind the development of this project. The ID Team's comparison of the project area's 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 to progress toward, or maintain conditions within, the desired ranges outlined in overall Forest

Plan direction, as well as direction for MAs 2.1, 6.2 and 8.1 (reference project file, USDA Forest Service, 2006a [pp. 2-2 to 2-37; 3-6 to 3-10; 3-61 to 3-66; 3-71 to 3-81.9], References folder).

My decision to select actions to be performed within a WSR corridor has been an important factor in my evaluation of this project and decision-making process. Implementation of the actions described below will protect and enhance river values - their free-flowing condition, water quality, and the outstandingly remarkable values for which they were designated (reference project file, USDA Forest Service, 2007a [pp. 2-1 to 2-3; and 2-20 to 2-24], References folder).

Alternative 2 will best meet the purpose and need for management of the project area's resources for the following reasons.

Timber Resource - Selected treatments will maintain or progress vegetative conditions toward the desired conditions outlined in the Forest Plan for the northern hardwood, aspen/paper birch, long-lived conifer and short-lived conifer forest types within MAs 2.1 and 6.2 (reference project file, USDA Forest Service, 2006a [pp. 3-7 and 3-62], References folder). 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.

My decision includes clearcut harvest to regenerate the aspen forest type in 12 areas (aspen complexes) where the resulting temporary openings from even-aged management will exceed 40 acres in size. The Forest Plan's standard for temporary openings created by the application of even-aged management states, "Temporary openings will be 40 acres or less, except…on a case-by-case basis after 60 days public notice and review by the Regional Forester". After evaluation of the purpose and need, and associated analyses, as well as public comments received, our proposed management of the aspen complexes was approved by the Regional Forester (reference project file, September 2012 Regional Forester Letter, 2012 EA folder). I have taken the Regional Forester's review of the project's aspen proposal into consideration during my decision-making process.

Creating these aspen complexes will allow future management opportunities to provide habitat for several species as outlined in the Forest Plan (reference project file, USDA Forest Service, 2006a [pp. 2-8, 2-9, 2-29, 2-30 and 3-10], References folder). Vegetation management to maintain the aspen component where it currently exists, as well as converting other forest types to aspen (within and outside of aspen regeneration complexes) will assist in progressing the percentage of aspen closer to the Forest Plan's desired condition. However, the percentage of aspen at the Forest-wide scale will remain below the desired range for MA 2.1 and at the higher end of the desired range for MA 6.2 (reference project file, March 2013 Revised EA [pp. 5, 31, 32 and 53], 2013 EA folder).

My Final Decision also meets the purpose and need for supporting the local economy (reference project file, March 2013 Revised EA [p. 7], 2013 EA folder). As displayed in Table 2, the economic effects do not vary greatly between alternatives. This is due to the minor differences in the acres of harvest and costs associated with transportation system refinements needed to facilitate timber harvest. The costs and revenues expected to occur for Alternative 2 are displayed in Table 2. Revenues are based on the total timber volume estimated to be produced from harvest, which is estimated at about 125,793 hundred cubic feet ([CCF] or approximately 77,360 thousand board feet [MBF]) for Alternative 2, which is higher than what Alternative 3 would have yielded at 111,584 CCF (or 68,620 MBF) (reference project file, Economics Specialist Report [pp. 3-5], Specialist Documentation folder).

Table 2. Economic Costs and Benefits of Action Alternatives Considered

Measure	Alternative 2	Alternative 3
Estimated Revenues (million)	5.5	4.9
Estimated Costs (million)[2]	5.9	5.2
Benefit to Cost Ratio	.93	.94

Any benefit to cost ratio less that 1.0 is expected to be negative. 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.

Alternative 2 is not the most economically efficient alternative, due to a greater cost associated with transportation system refinements needed for facilitating timber harvest. However, Alternative 2 does meet the purpose and need for the timber resource to a greater degree than Alternative 3. Higher levels of timber harvest under Alternative 2 will provide more opportunities for employment of local loggers and logging dependent industries, and supply saw log and pulpwood supplies to area mills when compared to Alternative 3. Indirectly, Alternative 2 will support jobs in other local businesses and industries in the communities that provide products and services to those engaged in harvesting or processing timber. Timber sale-generated receipts will also provide potential funds available for intangible public benefits, such as fish and wildlife habitat improvement projects. The entirety of the economic analysis is available in the project file (Economics Specialist Report; Timber Volume Estimations; and Redboat Planning Costs, Specialist Documentation folder).

Old Growth - My decision will retain 633 acres of old growth in the project area that were previously classified (372 acres in MA 2.1 and 261 acres in MA 8.1) and declassify 186 acres that do not contain old growth characteristics (160 acres in MA 2.1 and 26 acres in MA 8.1). The amount of old growth to be classified at the MA scale was decided as part of the Forest Plan's desired condition. The March 2013 Revised EA states that the current old growth percentage in MA 2.1 is 7.4%, which is below the desired condition range of 8-10% at the Forest-wide scale (reference project file, March 2013 Revised EA [pp. 5 and 58], 2013 EA folder).

The Forest Plan's FEIS analyzed the amount of area to allocated as old-growth at the Forest-wide scale (reference project file, USDA Forest Service 2006c [Appendix A, p. A-19], References folder). Projects, like the Redboat Project, analyze where these acres should be located on the landscape given site-specific conditions. My Final Decision meets the purpose and need for this project through declassifying those stands where old growth characteristics do not match the desired conditions outlined in the Forest Plan (reference project file, USDA Forest Service, 2006a [pp. 2-23 and 2-25], References folder).

My Final Decision does not meet the need to classify additional stands within MA 8.1. However, the Forest Plan does not include a desired condition range of old growth for MA 8.1. See the Public Involvement and Issues section of this Final Decision for additional information.

Wildlife Resources - The selected actions will provide habitat conditions to meet the purpose and need for maintaining or enhancing habitat for a diverse mix of game and non-game wildlife species (reference project file, USDA Forest Service, 2006a [pp. 2-8, 2-9, 2-27 to 2-31], References folder).

Actions selected to improve late-successional habitat include increasing northern hardwood structural diversity within MA 8.1, specifically the Recreational segment of the Main Branch Presque Isle and Scenic segment of the West Branch Presque Isle. For MA 8.1, these treatments are intended to increase the long-lived conifer component and result in more varied stand conditions for wildlife habitat, these harvests will leave more trees per acre on average than a typical harvest for timber production. These treatments will progress habitat conditions within the WSR towards MA desired conditions by providing diverse, dynamic, complex and native vegetation types; with emphasis on retention of long-lived species that support a big tree character (reference project file, USDA Forest Service, 2006a [pp. 3-75 and 3-81.6], References folder). These conditions will benefit wildlife populations, which are a designated outstandingly remarkable value of both river segments (reference project file, USDA Forest Service, 2007a [pp. 2-16], References folder). See the Public Involvement and Issues section of this Final Decision for more information.

Additional late-successional wildlife habitat will be enhanced in the West Branch Presque Isle WSR corridor through long-lived conifer release that will improve conditions for understory hemlock, white pine and other long-lived conifer species. Removal of selected northern hardwood trees in the overstory will meet the purpose and need by providing growing space for these conifers, which will eventually provide hiding cover, winter thermal cover, and produce seed cones for wildlife forage. Retention of these forest types on the landscape will adhere to the Forest Plan (reference project file, USDA Forest Service, 2006a [pp. 2-6, 2-8, 3-74 and 3-75], References folder) and CRMP (reference project file, USDA Forest Service, 2007a [p. 3-2], References folder). See the Public Involvement and Issues section for more information.

Wildlife is an outstandingly remarkable value for the South and West Branch segments of the WSR. An increase in early successional forest through actions that regenerate aspen in these areas will benefit several wildlife species dependent on this type of habitat. This habitat type is especially important for beaver colonies that develop and maintain wetland habitat, which subsequently benefits waterfowl (reference project file, USDA Forest Service, 2006a [p. 3-81.2], References folder). The CRMP, and subsequent Amendment #1 of the Forest Plan, support vegetation management activities that maintain, protect and enhance established river values in designated river corridors (reference project file, USDA Forest Service, 2006a [p. 3-81.6], References folder).

This Final Decision also meets the purpose and need for wildlife habitat through seeding of wild rice in Mink Lake to provide important hiding cover and food for fish and wildlife, as well as food for people (reference project file, March 2013 Revised EA [p. 9], 2013 EA folder).

Aquatic, Fisheries and Riparian Resources – The selected projects will improve riparian, lake and river aquatic habitat by correcting problems impairing aquatic resources as outlined in the purpose and need (reference project file, March 2013 Revised EA [pp. 9 and 25], 2013 EA folder). My Final Decision includes selection of activities to meet the purpose and need for addressing erosion on roads that are interfering with or diverting stream/drainage channels. This includes reducing erosion through placement of large woody material on some steep slopes near the WSR to minimize the risk of soil erosion and sedimentation issues during high precipitation events, thereby protecting water quality of the WSR (reference project file, March 2013 Revised EA [p. 74], 2013 EA folder).

Additionally, Alternative 2 will provide improved habitat for aquatic species by enhancing shoreline and lake/stream habitat diversity. The purpose and need will be met through projects that increase the amount of large woody material in selected lakes and rivers to benefit fish and enhance the hydrologic condition of rivers through creating channel diversity. Habitat improvement in the South and West Branches of the Presque Isle will provide improved habitat conditions for aquatic species through increased emphasis on the health, quality, and ecological function of aquatic ecosystems (reference project file, USDA Forest Service, 2006a [p. 2-10], References folder). These projects will positively affect the outstandingly remarkable values as discussed in the FONSI section.

Recreation - Alternative 2 meets the purpose and need for managing dispersed recreation opportunities, while affording resource protection and addressing safety concerns (reference project file, USDA Forest Service, 2006a [pp. 2-4, and 2-13 to 2-15], References folder). 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 roads are no longer needed for timber sale operations.

Selected actions for the designation of motorized access for passenger vehicles and off-highway vehicles (OHVs), including all-terrain vehicles (ATVs) will provide for safe, quality recreation experiences. My Final Decision designates one additional mile of road open to all motorized vehicles, on the MVUM to provide dispersed recreation access, which will also provide motorized access to carry-in boat/canoe access points on Hawk and Mishike Lakes. During the ID Team review of the existing condition, it was determined that several roads remain suitable for continued use as previously designated on the Forest's Motor Vehicle Use Map (MVUM) and this Final Decision will retain public access in these areas (reference project file, Document #9 - October 2011 ID Team Notes for MVUM Proposal, Team Notes folder). However, my Final Decision also meets the purpose and need by ensuring resource protection on some routes, where resources cannot support motorized use, through the permanent removal approximately 8.4 miles of currently designated access (reference project file, March 2013 Revised EA [pp. 10-11 and 26], 2013 EA folder).

Transportation/Access Management - Alternative 2 meets the purpose and need for improving the transportation system and maintaining desired road densities (reference project file, March 2013 Revised EA [p. 12], 2013 EA folder). Implementation of this alternative will maintain a transportation system that allows for management of NFS lands and provides safe and widespread public access, while meeting other resource needs (reference project file, USDA Forest Service, 2006a [pp. 2-12 and 2-37], References folder). The selected alternative provides an efficient road network to facilitate current and future access needs through construction, reconstruction, and maintenance of system roads. Road construction is described in more detail in the Public Involvement and Issues section of this Final Decision. Refinement of the transportation system through 63 miles of road closure, 1.2 miles of system road decommissioning, and 54 miles of unclassified road will met the purpose and need by reducing road network redundancy and protect soil and water resources (reference project file, March 2013 Revised EA [pp. 11-12 and 27-28], 2013 EA folder).

Public Involvement and Issues

Public involvement for the Redboat project was sought during the comment periods for scoping, the May 2012 EA and the March 2013 Revised EA phases of this project. These phases of public involvement allowed the Forest Service to inform interested and affected parties about the proposed actions and the ID Team's environmental analyses. The information prepared by the ID Team during project planning

has permitted me to make this Final Decision with an understanding of the actions and their environmental consequences.

The scoping letter, describing the project's purpose and need and the proposed action, was mailed to over 250 individuals, groups and public agencies (reference project file, May 2011 Scoping Letter, Scoping Documents folder; and Documents 10, 11 and 12 for those parties receiving the Scoping Letter). Notification of the project's scoping period was published through a legal notice in the Ironwood, Michigan's Daily Globe on May 25, 2011. An additional legal notice was published on this date to announce the 60-day public notice period for the temporary opening proposal. Documentation for the Redboat project was posted to the Ottawa's internet site, and proposed activities were listed in the Schedule of Proposed Actions (e.g., the *Ottawa Quarterly*) beginning in the Spring 2011 edition. As further described in the following section, comments received during the scoping period were used by the ID Team to identify issues regarding the effects of the proposed action. Main issues identified from scoping comments were: (1) effects of aspen management; (2) intermediate thinning and structural improvement in the WSR; (3) old growth classification; and (4) effects of system and temporary road construction (reference project file, ID Team Notes - Documents 15 and 26, Internal Correspondence folder).

The May 2012 EA was sent to over 90 interested parties; the legal notice beginning the 30-day comment period was published in the May 9, 2012 edition of the Ironwood Daily Globe reference project file, May 2012 EA; and Documents 1, 2 and 3 for those parties receiving the 2012 EA). Four comments were received (reference project file, public comments, 2012 EA folder). The Decision Notice prepared for the May 2012 EA was withdrawn as outlined in the Background Information section of this document (see page 5).

In order to determine interest for further project participation, a mailing list update request was sent in February 2013 to the parties on the Forest's mailing list, as well as those individuals receiving the May 2012 EA (reference project file, February 2013 Mailing Request Form, 2013 EA folder). As a result, the March 2013 Revised EA was sent to over 50 interested parties (reference project file, interested and affected parties, 2013 EA folder). The legal notice beginning the 30-day comment period was published in the April 5, 2013 edition of the Ironwood Daily Globe. Eleven comments were received, which have been thoroughly reviewed and responses documented in the project file (reference project file, public comments for the 2013 EA and response to comments for the 2013 EA).

I carefully reviewed the comments received during these comment periods and evaluated the basis for developing all issues and how the concerns comprising the issues were addressed by each alternative. A response to comments received for the March 2013 Revised EA is located in the project file as referenced above. Public input helped me identify a reasonable range of alternatives (reference project file, March 2013 Revised EA [pp. 16-19], 2013 EA folder). Although I anticipate that this Final Decision is not be acceptable to all, I believe that Alternative 2 Modified is the best option to progress resource conditions toward desired levels while providing a reasonable resolution for some of the concerns pertaining to the four primary issues as follows.

Issue 1 - Effects of Aspen Management - Commenters expressed concern about the effects of aspen management offered in the proposed action. Some commenters requested more regeneration of the aspen forest type, and others requested less. As discussed in the March 2013 Revised EA, at the Forest-wide scale, the percentage of aspen is below the desired range in MA 2.1 and at the lower end of the desired range in MA 6.2 (reference project file, March 2013 Revised EA [p. 5], 2013 EA folder). At the

project level scale, there is a lack of young aspen forest (0 to 9 year age class) to progress towards meeting the Forest-wide objective to provide at least 12,000 acres of aspen in this age class (reference project file, USDA Forest Service, 2006a [p. 2-8], References folder).

The proposed action contained the highest amount of acreage for aspen regeneration that was realistically available given need to apply project design criteria. Issue 1 was developed specifically to address comments requesting a reduction of aspen regeneration. Three sub-issues were identified - Issue 1a addressed the effects of clearcut harvest on visual quality raised by the public; and Issue 1b was specific to public concerns about the effects of converting northern hardwood forest types to aspen. Development of Issue 1c assisted the ID Team to meet an internal need for a comparison of the effects from clearcut harvest that resulted in temporary openings exceeding 40 acres in size versus an alternative strategy to limit the temporary openings to 40 acres or less (reference project file, March 2013 Revised EA [p. 14], 2013 EA folder).

The Final Decision to implement Alternative 2 Modified meets the purpose and need for managing aspen on the landscape; however, it does not fully satisfy all public concerns related to aspen management. The March 2013 Revised EA determined that visual effects will be short-term (about 5 years) when design criteria are applied. In addition, the visual quality objectives for the aspen regeneration areas in MAs 2.1 and 6.2 are assigned either a Modification or Partial Retention VQO; these areas do not preclude the use of clearcut harvest in terms of potential visual impacts (reference project file, March 2013 Revised EA [pp. 67-70 and 76], 2013 EA folder; and November 2013 Visuals Cause and Effects Analysis, p. 3, Specialist Documentation folder). I believe that this Final Decision will partially address Issue 1a through the implementation of design criteria in the short-term; concerns associated with Issue 1a will be fully addressed in the long-term after areas re-vegetated.

This Final Decision does not address the concerns raised that led to the creation of Issue 1b because I also need to be responsive to Forest Plan objectives. Given the challenges of maintaining aspen on the landscape, as discussed in the March 2013 Revised EA and associated project file, I believe it is important to convert hardwood species to aspen in this project area where opportunities exist. As shown in Table 1, this Final Decision will manage northern hardwood forest types on about 8,000 acres, which will maintain this forest type within the desired ranges for both MAs 2.1 and 6.2 (reference project file, March 2013 Revised EA [pp. 51 and 52], 2013 EA folder; and November 2012 Silviculture Report, pp. 11-13, Specialist Documentation folder). The conversion of 162 acres of northern hardwood to aspen is a minor portion of the hardwood type. However, managing for these additional 162 acres of aspen will increase the aspen percentage by 5%, and reduce the northern hardwood composition by 1% within the project area (reference project file, March 2013 Revised EA [p. 43], 2013 EA folder). This trade-off in forest type management is important given that the aspen percentage is below the desired percentage range in MA 2.1, and at the low end of the desired range in MA 6.2.

The Final Decision for Issue 1b meets Forest Plan Objective 16a, which emphasizes regeneration harvests of mature and over mature aspen within the next 10 to 20 years to ensure that aspen is maintained within the desired vegetation composition range at the MA scales (reference project file, USDA Forest Service, 2006a [p. 2-6], References folder). In addition, Forest Plan guidelines do allow regeneration of aspen through conversion of other forest types (USDA Forest Service, 2006a [p. 2-16]).

I evaluated the analysis performed for Issue 1c and I determined that Alternative 2 Modified is the best choice for retaining and increasing the aspen acreage in the project area. Providing aspen areas on the landscape in larger patches (greater than 40 acres in size) provides important habitat for wildlife species

that depend upon early successional habitat, such as the golden-winged warbler (reference project file, 40 Acre Review Documentation, Appendix 8 and Appendix 12 [p. 6], 2012 EA folder). Although ruffed grouse, a Management Indicator Species, benefits from three distinct age classes of aspen in close proximity, the Forest Plan guideline for MA 2.1 prioritizes regenerating the full extent of an aspen stand when the risk of forest type loss exists due to natural succession (reference project file, USDA Forest Service, 2006a [pp. 3-10 and 3-65], References folder). Implementation of Alternative 2 Modified will provide 70 acres more aspen regeneration over 12 regeneration complexes (reference project file, 40 Acre Review Documentation, Request for Regional Forester Review, 2012 EA folder). Creation of an additional 70 acres of 0-9 year age class is beneficial, but not significant given the scale of this action when compared to the project area (reference project file, March 2013 Revised EA [pp. 59-61], 2013 EA folder; and Wildlife Specialist Reports for Issues 1 and 3 [pp. 2-3] and Vertebrate MIS Analysis [pp. 1, 3 and 5], Specialist Documentation folder).

Alternative 2 Modified will result in a 9% increase of 0 to 9 year-old forest, whereas Alternative 3 would have resulted in a 7% increase in this age class. I determined that providing this additional aspen forest component in these areas is important to provide further progress in creating a component of 0 to 9 year age class to meet Forest Plan Objective 27a (reference project file, USDA Forest Service, 2006a [p. 2-8], References folder).

Finally, implementation of design criterion 10, which has been clarified through the objections resolution process, will allow more flexibility to regenerate aspen in MA 6.2. The total amount of harvest will not be reduced, but rather, it will be regulated through staggered harvest entries to meet the Forest Plan's MA 6.2 guideline for limiting temporary openings to 25 acres in size. Whole stand acres for aspen regeneration harvest are accounted for in Table 1 (see p. 7 of this Final Decision). However, the final acreage available to regenerate aspen in the project area would be determined during sale layout, once all applicable design criteria are applied.

Issue 2 - Intermediate Thinning and Structural Improvement Treatments within the WSR – Issue 2 was developed based upon comments received requesting a management strategy that provides less vegetation treatment for wildlife habitat purposes within the WSR, due to the effects of timber harvest on the visuals resource within the main stem, South Branch and West Branch of the Presque Isle River.

This Final Decision partially addresses Issue 2. I have decided to implement all intermediate thinning and structural improvement treatments in the WSR. However, the March 2013 Revised EA discloses that short-term effects to the visual resource from these treatments are expected when design criteria are applied (reference project file, March 2013 Revised EA [pp. 69-70], 2013 EA folder; and November 2013 Visuals Cause and Effects Analysis, p. 8, Specialist Documentation folder). The effects of this treatment will remain within the established parameters for the Partial Retention visual quality objectives in the long-term (+5 years) for the main stem, South Branch and West Branch Presque Isle Rivers when design criteria are applied (see Appendix 1, design criteria 69 and 70).

Although this Final Decision does not fully address Issue 2 in the short-term, I have carefully weighed the analysis associated with the measures to improve wildlife habitat in northern hardwood and long-lived conifer forest types that are an integral part of this project. These actions will promote several characteristics outlined in the Forest Plan, including retention of long-lived tree species, enhancing visual variety, increasing stand-level species and structural diversity, as well as increasing landscape-level habitat diversity and complexity (reference project file, USDA Forest Service, 2006a [p. 3-81.6],

References folder). These actions will make progress toward the desired conditions for these river segments in the long-term, including supporting stands with diverse composition and structure, and other key habitat features, including cavity trees, standing dead trees and large downed woody material important to many wildlife species (reference project file, USDA Forest Service, 2006a [pp. 3-74, 3-75 and 81.6], References folder; and Vertebrate MIS Analysis [pp. 5-6], Specialist Documentation folder). For these reasons, I have determined that Alternative 2 Modified, to a greater degree, will meet the purpose and need of this project and implement Forest Plan management direction.

Issue 3 – Old Growth Classification – Comments received expressed concern about the old growth proposal, specifically that no new stands were identified for classification. The proposed action disclosed in scoping included retaining most classified old growth stands, but declassifying some stands that do not possess characteristics outlined in the Forest Plan (reference project file, USDA Forest Service, 2006a [pp. 2-23 to 2-25 and 3-8], References folder). Issue 3 was created to offer additional opportunities for old growth classification (reference project file, March 2013 Revised EA [p. 15], 2013 EA folder).

As part of addressing the concerns for additional old growth, the ID Team re-evaluated the project area, but no new areas within MAs 2.1 or 6.2 contained the desired conditions outlined in the Forest Plan (p. 2-25), such as diverse stands with a large tree component in various forest types as well as standing dead and downed coarse woody debris (reference project file, Email 14 [p. 2] and 37 [p. 1], ID Team Notes; and Documents 21 and 26 [pp. 2-3], ID Team Notes). About 372 acres of old growth, previously classified through other processes in MA 2.1, are retained as classified old growth in Alternative 2 Modified described in this Final Decision. Several new areas containing these types of characteristics were identified in the WSR (MA 8.1), and therefore Alternative 3 was created to include several hundred acres more than Alternative 2 within MA 8.1.

Comments were received as a result of the March 2013 Revised EA requesting that classification of old growth should occur in MAs outside of the WSR since conditions within MA 8.1 could succeed toward conditions found in old growth stands with or without an action to classify these areas. One commenter in particular noted that the classification of old growth within the WSR corridor results in "…nothing that isn't there already" (reference project file, March 2013 Public Comment, 2013 EA folder). I find that this commenter's views are consistent with the Final Environmental Impact Statement (FEIS) prepared for the Forest Plan (reference project file, USDA 2006b [p. 3-64], References folder). Page 3-64 of the FEIS notes that in management areas with no suited timber lands (including MA 8.1) there would be little or no active timber harvest and that these areas would likely have high amounts of old growth, especially in the wild and scenic river areas. The FEIS also states that large portions of these MAs would likely become old growth in the future (reference project file, USDA 2006b [p. 3-64], References folder).

I have taken these comments into consideration during my decision making process and concur with the commenter's views that classifying old growth in MA 8.1 does not result in a meaningful change. This is further supported by examining the Forest Plan, which states that the desired vegetation condition within wild and scenic river corridors finds that climax vegetation communities are common and are tied to the site potential of the ecological units where they occur (reference project file, USDA Forest Service, 2006a [p. 3-75], References folder). Therefore, I found that the old growth classification in Alternative 3 does not provide a meaningful resolution to the concern that no additional stands had been identified for old growth classification. Additionally, the decision not to select Alternative 3 has no direct or indirect environmental effects since no active management actions were proposed in any of the stands identified for possible old growth classification. Additionally, the selection of Alternative 2 Modified

does not preclude the potential for future old growth classification for any of these stands as the Forest Plan's guideline include flexibility to evaluate stands in the future (reference project file, USDA Forest Service 2006a [p. 2-24], References folder).

I have determined that this Final Decision does partially address Issue 3 for those 372 acres of old growth in MA 2.1 that were previously classified through other processes. Retaining these areas will meet the purpose and need for this project and the concerns expressed in public comments (reference project file, March 2013 Revised EA [pp. 7 and 15], 2013 EA folder and March 2013 Public Comment, 2013 EA folder).

Issue 4 – Effects of System and Temporary Road Construction – Issue 4 was developed to address concerns expressed about the effects of road construction. Two sub-issues were developed as part of Issue 4. Issue 4a was specific to the effects of road construction on the spread of non-native invasive plants into new areas; and Issue 4b was developed to analyze the effects of road construction on soil and visual resources (reference project file, March 2013 Revised EA [p. 15], 2013 EA folder).

After scoping comments were received, and before the issues were finalized, additional efforts were undertaken by the ID Team to re-evaluate the transportation system to determine if further refinements could be made to address concerns received. Based on this review, the ID Team refined the transportation system in two ways: (1) proposed a decrease in the amount of system road construction, which was replaced by temporary road construction; and (2) opportunities for skidding were available in lieu of road construction in areas where resources could support this activity (reference project file, Document 18 [pp. 2-4], Team Notes). These refinements were integrated into Alternative 2 Modified for the March 2013 Revised EA. Given this information, I determined that Alternative 2 Modified responds, in part, to the comments received as part of the scoping process. Although this Final Decision authorizes 3.2 miles of system road construction and 5.6 miles of temporary road construction analyzed under Alternative 2 in the Revised EA, it will partially address Issue 4 through implementation of design criteria for botanical, soil and visual resources that will minimize impacts (see Appendix 1 of this document); and reference project file, March 2013 Revised EA [p. 51-59], 2013 EA folder).

Other Alternatives Considered

In deciding which management practices to implement, I considered two action alternatives and a no action alternative. These alternatives provided a reasonable range of alternatives based on the issues identified and the scope of the proposal (reference project file, March 2013 Revised EA [p. 16-19], 2013 EA folder). The following discussion summarizes the alternatives considered and provides information as to why each is not being considered for implementation.

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 would continue.

I have not selected Alternative 1 because it would not meet the purpose and need for management identified in the March 2013 Revised EA (pp. 4-13). Alternative 1 would not move the project area toward the desired conditions as described in the Forest Plan for MAs 2.1, 6.2, and 8.1 to the degree of Alternative 2 Modified. This alternative would also not address public concerns raised regarding the

management of resources within the project area discussed in the Issues section (reference project file, March 2013 Revised EA [pp. 18, 29-36, 51, 55, 59-60, 62, 66, 68 and 71], 2013 EA folder).

Alternative 3 – The ID Team developed Alternative 3 using information and data gathered from the project area, as well as concerns associated with the issues identified. This alternative was specifically designed to address commenters' concerns for an alternative providing a management proposal including less activity. Although several actions proposed under Alternative 3 were the same as Alternative 2 (reference project file, March 2013 Revised EA [pp. 21-28], 2013 EA folder), overall, this alternative would meet the purpose and need to a lesser degree than Alternative 2 Modified.

In addition to the rationale stated in the Final Decision section, as well as my evaluation of the issues (see Public Involvement and Issues section), I have not selected Alternative 3 for implementation due to the following reasons.

- Alternative 3 would not maintain or progress toward the desired forest type percentages to the extent accomplished with Alternative 2-Modified (reference project file, March 2013 Revised EA [pp. 58, and 60-61], 2013 EA folder and Silviculturist Report [pp. 15-18], Specialist Documentation folder).

- To address Issues 1 and 4, Alternative 3 excludes all management in the Compartment 210, which completely encompasses the MA 6.2 portion of the project area. Although management direction for MA 6.2 differs from MA 2.1, I believe it is important to include it in the Redboat project area given the need for change identified by the ID Team in this area. Implementation of Alternative 3 would not meet the purpose and need for vegetation management and would not address the objection points brought forth regarding aspen management in this area. As the transportation system from compartment 210 also serves as the primary access for several stands in a portion of the West Branch Presque Isle WSR corridor, selection of Alternative 3 would not meet the purpose and need for the wildlife habitat improvements in this WSR corridor (reference project file, Wildlife Report [pp. 2-3], Specialist Documentation folder).

Other Alternatives - Three additional alternatives were considered, but eliminated from analysis. I have determined that no changes have occurred that would require the ID Team to re-evaluate any of these options under detailed analysis for my decision making process. This Final Decision adopts the rationale disclosed in the March 2013 Revised EA for not carrying these alternatives through the analysis process (reference project file, March 2013 Revised EA [pp. 16-17], 2013 EA folder).

Finding of No Significant Impact

After considering the environmental effects described in the March 2013 Revised EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Therefore, I have determined that an environmental impact statement will not be prepared. I base my findings on the following factors:

Context

In the case of site-specific actions, significance depends on the effects in the project's locale rather than the world as a whole. Both short and long-term effects are relevant (FSH 1909.15, 65.1, Part 02).

This project is a site-specific action that by itself does not have international, national, region-wide, or state-wide importance. Discussion of the significance criteria that follows applies to the intended action and is within the context of local importance in the area associated with the Redboat project area. In the short-term, there will be normal activity associated with timber harvesting and other resource projects. Chapters 1 and 2 in the March 2013 Revised EA describe the locations and current conditions of the various resources. The resource effects sections in Chapter 3, along with the specialist information in the project file, reveal that most of the environmental effects are confined to the project area.

The long-term effect of this project will move or maintain resource conditions toward the desired conditions as described by the Forest Plan for MAs 2.1, 6.2, and 8.1. The cumulative effects of past management, combined with the current proposal, and reasonably foreseeable future actions for each resource are displayed in the March 2013 Revised EA (reference project file, March 2013 Revised EA [pp. 43-49, 52-54, 57-58, 61, 64-65, 70, and 72-76], 2013 EA folder); and the project file's specialist documentation (reference project file, February 2012 Aquatic Analysis [pp. 2-6]; October 2013 Biological Evaluation [pp. 84-86]; April 2012 Botany MIS Report [p. 2]; January 2013 NNIP Report [pp. 8-9]; January 2013 Cultural Resources Report [p. 7]; October 2012 Soils Report [p. 5]; November 2012 Silviculturist Report [pp. 16-19]; and March 2013 Wildlife Specialist Report [pp. 4 and 7]).

These analyses were reviewed in consideration of the Council on Environmental Quality (CEQ) guidance on cumulative effects analysis and results were disclosed in the March 2013 Revised EA (reference project file, 2005 CEQ Memo, Reference folder). I am considering these effects for making the following determinations. This Final Decision is consistent with the management direction and Standards and Guidelines outlined in the Forest Plan. Therefore, it is my determination that the effects of implementing Alternative 2 Modified will not be significant locally, regionally, or nationally.

Intensity

This refers to the severity of impact and the following areas should be considered in evaluating the intensity of the actions. Discussion is organized around the ten significance criteria described in the National Environmental Policy Act (NEPA) regulations (40 CFR 1508.27).

1. Consideration of both beneficial and adverse impacts. I am considering both beneficial and adverse impacts associated with the alternatives as presented in the March 2013 Revised EA. Overall impacts of implementing this Final Decision will have both beneficial and adverse impacts to resources within the project area; however, the March 2013 Revised EA's effects analyses found that no significant impacts would occur (reference project file, March 2013 Revised EA [pp. 48-78], 2013 EA folder).

Benefits of this Final Decision include, but are not limited to, silvicultural practices to restore and/or maintain healthy, diverse and resilient forests to work towards meeting direction outlined in the Forest Plan. These practices will subsequently maintain a range of forest habits in the project area, improve recreational experiences, and provide wood products for the local economy. Additional benefits include a transportation system that will provide enhanced administrative access for facilitation of timber harvest, as well as improving public access where roads and trails will be designated on routes that can sustain use. These improvements will also benefit soil and watershed resources by reducing sedimentation into streams and wetlands. Other habitat enhancements for fisheries, riparian and wildlife will occur through management activities within and outside of the WSR corridors. Additionally, classification of old growth will improve and/or maintain this type of habitat within the desired

conditions outlined in the Forest Plan. These enhancements, along with designated access will provide opportunities for recreational experiences within the project area consistent with Forest Plan expectations.

The potential for adverse impacts from this Final Decision include impacts to habitat for sensitive plant and animal species; however, my proposal to select Alternative 2 Modified will not likely contribute to a trend towards Federal listing or cause a loss of viability (reference project file, October 2013 Biological Evaluation [pp. 12-14], Specialist Documentation folder). There are other adverse impacts I am taking into consideration, which include the impacts from non-native invasive species; effects to the soil resource from timber harvest; and management effects upon visual quality objectives. These impacts are similar to other projects previous to this one and are not unique to this project (reference project file, March 2013 Revised EA [p. 42], 2013 EA folder). Some impacts will be minimized and/or avoided using the design criteria as disclosed in the March 2013 Revised EA. Previous projects, with similar activities using these or similar design criteria, have been found to be effective in avoiding or minimizing adverse effects (reference project file, Analysis Framework [pp. 12 and 14], 2012 EA folder; February 2012 Aquatic Specialist Report [pp. 1, 4 and 5]; January 2013 Botany Effects Summary; and October 2012 Soils Issue 4b Soil Effects Summary [p. 5], Specialist Documentation folder; March 2013 Revised EA [p. 42], 2013 EA folder; and USDA Forest Service 2007b [pp. 11-12]; USDA Forest Service, 2008 [pp. 23-24]; USDA Forest Service, 2012 [pp. 22-23], References folder). The selected design criteria included in this Final Decision are listed in Appendix 1.

In consideration of the March 2013 Revised EA, and its associated project file, I have evaluated the beneficial and negative impacts of the Final Decision and have determined that these impacts are not significant. Impacts from this Final Decision will be within the range of effects identified in the Forest Plan's FEIS (reference project file, USDA 2006b [p. 3-1 to 3-228], References folder) and the analyses performed for the CRMP, which was incorporated as Amendment #1 for the Forest Plan in 2007.

2. Consideration of the effects on public health and safety. This alternative will not significantly affect public health and safety. Harvesting timber is a common activity in the Western Upper Peninsula of Michigan and local residents and seasonal visitors are accustomed to seeing harvest activities. Maintaining a transportation system that facilitates multiple-use management of Forest resources is part of the purpose and need for the March 2013 Revised EA. During timber harvest, roads used by logging equipment are signed and posted to alert the public. Based on past operations of a similar nature, there have been no instances where public safety has been affected. Therefore, I have determined that implementation of Alternative 2 Modified will have no adverse effects on public health and safety.

3. Consideration of the unique characteristics of the geographic area (e.g. such as historic features, park lands, prime farmlands, wild and scenic rivers or wetlands). There are no park lands, or prime farmlands in the project area. However, the project area does include historic features/cultural sites; all sites will be avoided and protected through implementation of the selected design criteria (see Appendix 1).

As disclosed, this Final Decision includes implementation of several activities within the segments of the main stem, South Branch and West Branch Presque Isle Rivers. All ground-disturbing activities, including harvest, refinement of the transportation system to facilitate harvest, as well as road closures and decommissioning, will be implemented using the selected design criteria developed to protect resources. Silvicultural practices implemented to provide wildlife habitat benefits in both the

Recreational and Scenic segments of the WSR are consistent with the CRMP; and the resulting conditions provided by these actions will enhance the species addressed by the Wildlife outstandingly remarkable value in both segments (reference project file, USDA Forest Service, 2007a [pp. 2-21 to 2-24, and 4-3]; and USDA Forest Service, 2006a [pp. 3-74, 3-75, 3-81.1 and 3-81.2], References folder). Implementation of this Final Decision is expected to progress existing conditions towards desired conditions based upon each segments' river values (free-flowing character, water quality and established outstandingly remarkable values). This Final Decision also protects the waters (i.e., wetlands, tributaries to the WSR segments and other features) in the analysis area and will improve conditions over time by reducing the amount of sediment delivered to streams (reference project file, February 2012 Aquatic Specialist Report [pp. 6-8], Specialist Documentation folder).

Prescribed fire may be used to regenerate existing paper birch stands adjacent to Plymouth and Taps Lakes to benefit wildlife species dependent upon this habitat type. Although prescribed fire is an ecologically beneficial choice for this habitat, weather conditions and other factors may ultimately dictate whether the use of mechanical means to meet objectives occurs. In addition, areas of long-lived conifer release will enhance structure and function of the WSR corridor and riparian areas, as well as increase shade to retain cooler stream temperatures in areas not managed for beaver.

Felling of trees to increase the large woody material component in Mishike, Plymouth and Taps Lakes as well as the South and West Branches of the Presque Isle WSR will improve habitat conditions for aquatic species, such as promoting cover and providing structural habitat diversity. Pursuant to the Wild and Scenic Rivers Act, a Section 7 evaluation of the tree felling action into the Presque Isle was performed (reference project file, September 2012 WSR Section 7 Evaluation, Specialist Documentation folder). The Section 7 evaluation states,

> "The projects involve cutting live streamside trees and dropping them in the rivers, usually with the cut ends left on the banks for stability, (this action would) not only add LWM to these streams to increase cover and habitat for fish, aquatic invertebrates, birds and mammals, and increase channel scouring and diversity, but also help to break up the plantations as seen from the river, so that the forested stands appear more natural. Removing some of these trees would improve the growth of the remaining standing trees by reducing competition, thereby increasing the large tree component within the riparian areas (which) is beneficial for stream shading and producing cooler riparian microclimates, both of which can help maintain lower water temperatures within these historical trout streams. Increasing large tree component would also provide for future natural recruitment of even larger LWM as these trees age, die and fall into the rivers. There would be no changes to within-channel features that would adversely affect the river values, including the outstandingly remarkable values."

Based on this analysis, I have determined that my Final Decision will not have a direct and adverse effect to the values (free-flow, water quality, or outstandingly remarkable values) for which the rivers were designated.

4. The degree to which the effects on the quality of the human environment are not likely to be highly controversial. All actions selected for implementation are similar in type and intensity to activities that have previously occurred in the past (reference project file, Analysis Framework [pp. 12 and 14], 2012 EA folder; February 2012 Aquatic Specialist Report [pp. 1, 4 and 5]; January 2013 Botany Effects Summary; and October 2012 Soils Issue 4b Soil Effects Summary [p. 5], Specialist Documentation folder; March 2013 Revised EA [p. 42], 2013 EA folder; and USDA Forest Service 2007b [pp. 11-12]; USDA

Forest Service, 2008 [pp. 23-24]; USDA Forest Service, 2012 [pp. 22-23], References folder). A wide range of comments were received in response to the project's proposals, including comments supporting and opposing the action alternatives (reference project file, Response to Public Comments, 2013 EA folder). The differences in comments reflect a range of opinions, and do not of and by themselves constitute controversy.

I interpret controversy criteria in a FONSI to be the degree to which there is scientific controversy relative to the results of the effects analysis, not whether one favors or opposes a specific alternative. Based upon previous implementation of similar projects, the effects of the selected alternative actions on the quality of the human environment will not be considered as highly controversial. Timber harvesting, refinements of the transportation system, wildlife habitat enhancements and improvements to aquatic and riparian habitat are typical of the management actions that occur across the Ottawa and on many non-National Forest properties. While there are many different views about some of these specific management actions, the activities included in this Final Decision will be consistent with Forest Plan direction and best available science. Therefore, I have determined that the effects as displayed in the March 2013 Revised EA and supporting documentation in the project file are not likely to be highly controversial.

5. Consideration of the degree to which effects on the human environment are highly uncertain or involve unique or unknown risks. The human environment is the natural and physical environment, and the relationship of people with that environment (40 CFR 1508.14). This Final Decision is similar to many past actions in this analysis area and across the Ottawa, and its effects upon the human environment are reasonably expected to be similar (reference project file, Analysis Framework [pp. 12 and 14], 2012 EA folder; February 2012 Aquatic Specialist Report [pp. 1, 4 and 5]; January 2013 Botany Effects Summary; and October 2012 Soils Issue 4b Soil Effects Summary [p. 5], Specialist Documentation folder; March 2013 Revised EA [p. 42], 2013 EA folder; and USDA Forest Service 2007b [pp. 11-12]; USDA Forest Service, 2008 [pp. 23-24]; USDA Forest Service, 2012 [pp. 22-23], References folder). The project file demonstrates a thorough review of the best available and relevant scientific information, consideration of opposing views, and, where appropriate, the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk (reference project file, References folder; and ID Team responses to opposing views, Response to Comments, 2013 EA folder). We have considerable experience with the types of activities being implemented. Actions selected by this Final Decision are similar to the types of activities that have been used for many years on the Ottawa. Based upon my knowledge of past actions and professional and technical knowledge and experience, I am confident that we understand the effects of these activities on the human environment. There are no unique or unusual characteristics about the area or that the selection of Alternative 2 Modified indicates an unknown risk to the human environment.

6. The degree to which this action may establish a precedent for future actions with significant effects or represents a decision in principle about future considerations. As previously stated, this Final Decision includes activities that are similar to many past actions in this analysis area and across the Ottawa (reference project file, Analysis Framework [pp. 12 and 14], 2012 EA folder; February 2012 Aquatic Specialist Report [pp. 1, 4 and 5]; January 2013 Botany Effects Summary; and October 2012 Soils Issue 4b Soil Effects Summary [p. 5], Specialist Documentation folder; March 2013 Revised EA [p. 42], 2013 EA folder; and USDA Forest Service 2007b [pp. 11-12]; USDA Forest Service, 2008 [pp. 23-24]; USDA Forest Service, 2012 [pp. 22-23], References folder). Therefore, the effects are expected to be similar. The associated effects analysis is site-specific to the Redboat project area and is consistent with the Forest Plan and CRMP. There are no precedent-setting actions proposed in the March 2013 Revised

EA; this Final Decision is not a decision in principle about future considerations and will not establish a precedent.

7. Consideration of the action in relation to other actions within individually insignificant, but cumulatively significant effects. Cumulative effects analysis for the project area, by resource, was conducted in the March 2013 Revised EA (reference project file, March 2013 Revised EA [pp. 43-49, 52-54, 57-58, 61, 64-65, 70, and 72-76], 2013 EA folder) and associated specialist resource analyses (reference project file, February 2012 Aquatic Analysis [pp. 2-6]; October 2013 Biological Evaluation [pp. 84-86]; April 2012 Botany MIS Report [p. 2]; January 2013 NNIP Report [pp. 8-9]; January 2013 Cultural Resources Report [p. 7]; October 2012 Soils Report [p. 5]; November 2012 Silviculturist Report [pp. 16-19]; and March 2013 Wildlife Specialist Report [pp. 4 and 7], Specialist Documentation folder). The March 2013 Revised EA analyzed multiple management actions that have been implemented, as well as on-going projects and those proposed in the future. In addition the analysis reviewed private land management activities and considered those actions in the cumulative effects analysis (reference project file, Silviculture Report [p. 17], Specialist Documentation folder). Cumulative effects of this Final Decision, when considered in conjunction with other past, ongoing and reasonably foreseeable activities are not expected to be significant due to timeframes for implementation, protective measures developed in the selected design criteria, and application of Forest-wide Standards and Guidelines (reference the documentation above, in addition to the Analysis Framework, 2012 EA folder, Biological Evaluation [pp. 15, 16, 19, 20, 25, 27, 31, 33-42, 45-48, 51, 54, 56-57, 80, 84-85 and 87, Specialist Documentation folder).

8. The degree to which the action may affect listed or eligible historic places. This project will meet federal, state and local laws for protection of historic places. A project specific inventory of the area has been conducted. As described in the March 2013 Revised EA (pp. 77 and 90) as well as Appendix 1 of this Final Decision, all known or newly discovered sites will be protected. Design criteria will ensure protection of heritage resources in accordance with Federal laws and regulations. See the *Context* discussion for more information.

9. The degree to which the action may affect an endangered species or their habitat. The selected alternative will not adversely affect any proposed, endangered or threatened species or its habitat. The analysis completed in the Biological Evaluation resulted in a finding of No Effect for Canada lynx and Kirtland's warbler (reference project file, Biological Evaluation [p. 12], Specialist Documentation folder).

There is no indication that implementing the proposed vegetation treatments will move a proposed, threatened or endangered species towards federal listing or increase its present federal listing. If any federally proposed or listed animal or plant species are found at a later date or, if any new information relevant to potential effects of an activity on these species becomes available, the activity would be stopped and the Section 7 consultation process, as per the Endangered Species Act of 1973, as amended, would be initiated.

The Biological Evaluation developed for this project takes into consideration the USDI Fish and Wildlife Service's proposal to list the northern long-eared bat (*Myotis septentrionalis*) under the Endangered Species Act (reference project file, Biological Evaluation [pp. 20-23 and 88-89], Specialist Documentation folder). This project is not expected to jeopardize this bat species or its habitat (see pp. 28 and 29 of this Final Decision for more information).

10. Whether the proposed action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The selected alternative is consistent with the Forest Plan. Actions to be implemented under this Final Decision will not threaten a violation of federal, state, or local environmental protection laws. Project design criteria listed in Appendix 1 will assure compliance with these laws. Documentation associated with the Redboat project meets National Environmental Policy Act disclosure requirements.

Findings Required by Other Laws, Regulations and Policy

Numerous laws, regulations and agency directives require that this Final Decision be consistent with their provisions. I have determined that this Final Decision is consistent with all laws, regulations and policy. The following summarizes findings required by major environmental laws.

National Forest Management Act (16 USC 1600 ET SEQ.)

The National Forest Management Act (NFMA) and accompanying regulations require that several specific findings be documented at the project level as follows.

1. ***Consistency with Forest Plan (16 USC 1604[i]):*** This project will implement the Ottawa's Forest Plan. The March 2013 Revised EA discusses the Forest Plan and the goals, objectives, standards and guidelines applicable to the Redboat project (reference project file, March 2013 Revised EA [pp. 4-12], 2013 EA folder). The alternative development process and the management goals of the alternatives, in relation to Forest Plan standards and guidelines and effects, are also displayed in Chapter 2 of the March 2013 Revised EA (pp. 16-20). The Final Decision will further the desired conditions of MAs 2.1, 6.2 and 8.1.

   The Forest Plan's standard for temporary openings states, "Temporary openings will be 40 acres or less, except…on a case-by-case basis after 60 days public notice and review by the Regional Forester". As disclosed in the Rationale section, the 60 day public notice was published on May 25, 2011. An exemption was granted by the Regional Forester on September 11, 2012; therefore, the Final Decision includes implementation of clearcut harvest within 12 aspen regeneration complexes that will result in temporary openings exceeding 40 acres in size.

   Additionally, I have selected several actions to occur within the WSR. As disclosed, the Forest Plan was amended in July 2007 to incorporate direction contained in the CRMP. This direction was integral in developing the purpose and need for this project, and therefore, this Final Decision will be consistent with both the Forest Plan and CRMP. See the Rationale section for more information. Based upon review of the project file, I find the actions and activities described in the selected alternative are consistent with the Forest Plan.

2. ***Suitability for Timber Production (16 USC 1604(g)(2)):*** All lands selected for timber management in this project within MAs 2.1 and 6.2 have been identified as suitable for timber production (reference project file, USDA Forest Service 2006c [Appendix A, pp. A-12 to A-13], References folder; and reference project file, Silviculture Report [pp. 7 and 13], Specialist Documentation folder). The classification of land as suited or unsuited is also tied closely to the Ecological Classification and Inventory and Monitoring System, which provided ecological potential and capabilities for various landtype phases.

Lands within MA 8.1 are not considered suitable timber lands (reference project file, USDA Forest Service 2006c [Appendix A, p. A-13], References folder), so any selected management of vegetation within the WSR is performed for reasons other than timber production. This Final Decision is consistent with direction in the Forest Plan for MA 8.1 as well as the CRMP.

3. ***Optimality Determination and Appropriateness of Even-aged Management (16 USC 1604(g)(3)(f)(i)):*** When the silvicultural treatment of clearcut harvest is proposed for use on National Forest System lands, a determination must be made that it is the optimum method to meet the objectives and requirements of the relevant Forest Plan. Even-aged management where used, must be the appropriate silvicultural system to meet the objectives and requirements of the Forest Plan. The Silviculture specialist report discusses the appropriateness of even-aged management and the optimality of clearcutting for aspen, which is one of the prescribed treatments (reference project file, Silviculture Report [pp. 7 and 13], Specialist Documentation folder). Clearcut harvest is the optimum method for promoting regeneration of the aspen forest type as this species requires full sunlight for vigorous growth and successful competition with shade-tolerant species.

   Using even-aged management will meet the purpose and need for the March 2013 Revised EA. This Final Decision ensures that the aspen forest type is maintained within the MAs 2.1, 6.2 and 8.1 portions of the project area through both regenerating aspen where it currently exists as well as converting other forest types to aspen (reference project file, March 2013 Revised EA [pp. 6 and 8], 2013 EA folder). Currently, there is no 0 to 9 year old age class in the project area. The selected alternative will increase the 0 to 9 year age class of aspen to 9% of the total aspen acres in the project area.

   The optimality of clearcutting to regenerate the forest types for which it is prescribed is further supported by the discussion of clearcutting rationale in the Forest Plan (USDA Forest Service, 2006a [Appendix C, pp. C-8 to C-9], References folder). For the Redboat project, clearcut harvest is the optimum method for achieving the purpose and need of this project for the following reasons: (a) The aspen selected for regeneration is mature to overmature, and there is risk of losing this forest type to succession (being mature to overmature in this context refers to entire stand which is composed of trees that are at or nearing the end of their live expectancy. If these aspen stands are not harvested with the intent to regenerate them there is a strong likelihood that they will succeed to other forest types); (b) the amount of 0- 9 year age class is below what is required for early-successional wildlife species needs; and (c) clearcut harvest is the only system that can assure that required densities of aspen suckers are obtained to meet the needs of wildlife species. For these reasons, I determined that even-aged management is an appropriate management system and the optimal regeneration method for these forest types based on the objectives and requirements of the Forest Plan.

4. ***Vegetative Treatments - (16 USC 1604 [e] [f]):*** All proposals that involve vegetative treatments of tree cover for any purpose must comply with the following requirements. Based upon my review of the March 2013 Revised EA, along with the project file, I find that the vegetative treatments will meet the seven requirements discussed below.

   a) **Be best suited to the multiple-use goals stated in the Forest Plan**. Development of the March 2013 Revised EA and subsequent analysis was completed in an integrated fashion using an ID Team and public input. The ID Team utilized the Ecological Classification System, which provided site-specific capability information to determine appropriate land uses within the

framework of the Forest Plan (USDA Forest Service, 2006a [Appendix D], References folder). In addition, the purpose and need section in the March 2013 Revised EA discusses the link to the goals and objectives for MAs 2.1, 6.2 and 8.1 (reference project file, March 2013 Revised EA [pp. 4-12], 2013 EA folder).

b) **Assures that technology and knowledge exists to adequately restock lands within 5 years after the final harvest.** The knowledge and technology currently exists to adequately restock the harvested areas and the stocking surveys for similar areas are documented in the project file. Analysis of current and historical regeneration data for similar treatments across the Ottawa supports the conclusion that adequate stocking of the selected regeneration harvest units is assured with site preparation efforts occurring in a timely manner following regeneration harvest. This conclusion is supported by a reforestation accomplishment summary offered in the 2011 M&E Report (USDA Forest Service, 2012 [pp. 9-13], References folder).

c) **Not to be chosen primarily because they will give the greatest dollar return.** This Final Decision is based on a variety of reasons as discussed earlier, and not solely on economics. Economic analysis for this project showed that Alternative 2 Modified produced slightly higher revenues of the alternatives considered, however this alternative was chosen for reasons stated earlier, and not solely based on dollars returned (see the Purpose and Need section under Decision Rationale). It is important to acknowledge that commercial harvest of trees in the Presque Isle WSR corridor is considered non-chargeable volume, that is, the timber volume generated could be sold, but it will not be counted towards the Ottawa's allowable sale quantity (USDA Forest Service, 2006a [Appendix E], References folder). The effects analysis shows a slightly negative revenue return for both Alternatives 2 and 3 (reference project file, Economic Specialist Report, Specialist Documentation folder). As this analysis is performed to provide a method to compare the economic efficiency of alternatives, the actual volume harvested is dependent upon several factors, including final volume available per acre, market conditions and operating conditions (USDA Forest Service, 2012 [p. 6], References folder).

d) **Be chosen after considering potential effects on residual trees and adjacent stands**. In this Final Decision, I am considering the effects on residual trees and adjacent stands as discussed in the March 2013 Revised EA (Chapter 3 and Appendix 1). I considered the impacts of reducing the tree density along with the need to provide wildlife and fisheries habitat and watershed benefits. Based on the analysis disclosed in the March 2013 Revised EA and project file, I find that the selection of Alternative 2 Modified provides the best balance of management practices to meet all resource values.

e) **Be selected to avoid permanent impairment of site productivity and to ensure conservation of soil and water resources.** By adhering to Forest-wide Standards and Guidelines and site-specific design criteria, the selected alternative will avoid impairment of site productivity and ensure conservation of soil and water resources. During the analysis, areas that were identified for treatment that were of concern to the ID Team were evaluated in the field and determined to meet the objective of avoiding impairment of site productivity. This determination is supported by the project file (reference project file, Soil Effects Analysis Summary [p. 5], Specialist Documentation folder).

f) **Be selected to provide the desired effects on water quality and quantity, wildlife, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and**

other resource yields. This Final Decision will provide the desired effect on the above resources. All harvest units will be designed to maintain the ecological function of adjacent riparian types, using logging systems and layout that minimize ground disturbance, implementing buffers to all streams by category, and applying Michigan Best Management Practices to all activities. Project design criteria, as well application of Forest Plan Standards and Guidelines, will be used in concert with vegetative management to provide the desired effects on other resource values, including browse production, recreation uses, and aesthetic values.

g) **Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging and administration.** The ID Team assessed the existing transportation system within the project area and proposed changes only when necessary to meet resource objectives. All road activities were evaluated to find a balance between the benefits and the costs of road-associated effects on resources (reference project file, Economic Specialist Report, Specialist Documentation folder). This Final Decision's transportation system will meet the objectives of Alternative 2 Modified and address a portion of the issues described earlier in this document. These actions will be used to facilitate timber harvest and provide for recreational access where applicable. The economic analysis conducted considered the costs of sale preparation, logging, and administration. Total estimated revenues do not exceed approximated costs of project implementation for any action alternative. Alternative 2 Modified has the lowest benefit to cost ratio; however, it includes actions that will meet the purpose and need for this project (see the Decision Rationale section).

5. ***Sensitive Species:*** Federal law and direction applicable to Regional Forester's Sensitive Species (RFSS) include the National Forest Management Act and the Forest Service Manual 2670. In making this Final Decision, I have reviewed the analysis and projected effects on all RFSS plant and animal species listed as occurring or possibly occurring on the Ottawa. There is no indication that implementing the vegetation treatments or other selected actions under this Final Decision will cause effects different than those disclosed in the Biological Evaluation. The following information from the Biological Evaluation's determinations serves as the basis for the Final Decision regarding sensitive species (reference project file, Biological Evaluation [pp. 11-14], Specialist Documentation folder).

"Alternatives 2 and 3 may impact individuals of some sensitive species. Note that our analysis indicates that implementation of any action alternative would not likely cause a trend to federal listing or loss of viability in the planning area for any sensitive species. May Impact Individual determinations were reached for the following species: Mammals (gray wolf, tri-colored bat, little brown myotis);

Birds (red-shouldered hawk, trumpeter swan, spruce grouse, common loon, bald eagle, Connecticut warbler, black-backed woodpecker); Herptiles (wood turtle, four-toed salamander); Invertebrates (rapids clubtail dragonfly, pygmy snaketail dragonfly, forcipate emerald dragonfly, creek heelsplitter mussel, tawny crescent butterfly, West Virginia white butterfly); and

Plants (western moonwort, Mingan's moonwort, pale moonwort, goblin fern, blunt-lobed grapefern, ternate grapefern, little grapefern, large toothwort, greater yellow ladyslipper, white trout-lily, American ginseng, broad beech fern, strict blue-eyed grass, heart-leaved foam flower, meadow zizia, black-foam lichen, yellow ribbon lichen, Orthotrichum moss,

Pylaisiadelpha moss, and butternut). For all the other listed species, Alternative 2 would have no impact. "

I concur with the findings documented for these species in the Biological Evaluation.

The Clean Water Act and State Water Quality Standards

The integrity of the Final Decision area's water and riparian features will be maintained as a result of the application of general Forest Plan Standards and Guidelines (USDA Forest Service, 2006a [pp. 2-2 to 2-9], References folder) and Michigan's Best Management Practices, as well as site-specific protective design criteria (see Appendix 1). The project's riparian design criteria will provide additional site-specific measures to assure riparian areas retain their ecological function. Supporting information in the project file indicates that implementation of this Final Decision will not produce appreciable impacts on aquatics; the Clean Water Act and State Water Quality Standards will be met (reference project file, Aquatics Specialist Report [pp. 6-8], Specialist Documentation folder).

The Endangered Species Act (ESA) (16 USC 1531 ET. SEQ.)

As required by the Endangered Species Act, a Biological Assessment, included in the project's Biological Evaluation was prepared addressing the potential effects to proposed, threatened or endangered species (reference project file, Biological Evaluation [pp. 2-3; and 11-12], Specialist Documentation folder). Evaluations resulted in a finding of No Effect for both Canada lynx (federally threatened) and Kirtland's warbler (federally endangered).

Proposed Species: On October 2, 2013, the USDI Fish and Wildlife Service published in the Federal Register, a 12-month finding on a petition and proposed rule to list the northern long-eared bat (*Myotis septentrionalis*) as an endangered species under the Endangered Species Act. This proposed rule is due to the primary threat of White-Nose Syndrome (WNS) as well as other potential risk factors and management concerns for this bat species (USDI Fish and Wildlife Service 2013). More information about this proposed listing is available at the Federal Register website (http://www.federalregister.gov October 2, 2013 edition, pp. 61045-61080).

Due to this proposed listing; the determination terminology has changed. Under the RFSS status, the BE determination was "May Impact Individuals, but not likely to cause a trend toward federal listing"; the determination has been changed to "Not likely to jeopardize continued existence or adversely modify proposed critical habitat" (reference project file, Biological Evaluation [pp. 2-3; and 11-12], Specialist Documentation folder). Since none of the proposed actions in this project would jeopardize this bat species or its habitat, conferencing (e.g., identify and resolve potential conflicts) with US Fish and Wildlife Service will not be initiated at this time.

If the USDI Fish and Wildlife Service lists this bat species as Endangered (decision expected approximately one year from now during the fall 2014), the Ottawa would initiate informal consultation according to the ESA Section 7 Handbook (reference project file, USDI FWS 1998, Specialist Documentation folder). If at any time WNS is detected in the Upper Peninsula of Michigan, the Forest would determine the appropriate response to reduce the spread and threat to this and other bat species of concern.

National Historic Preservation Act

Fifty-eight archaeological sites lie within the project area. All sites will be avoided and protected following Forest Plan direction and implementation of the selected design criteria that are included as part of this Final Decision to protect heritage resources (see Appendix 1).

A project-specific inventory of all activity areas has been conducted, and has been placed in the archaeological files. If any unknown sites are found within an area of potential effect during project implementation, the project would be redesigned to avoid the site, or measures would be designed to mitigate the effects of the project on the site and submitted to the Michigan State Historical Preservation Office as required by law for their review and consultation. Based upon analysis in the project file, no direct, indirect, or cumulative effects to heritage resources from implementation of the selected alternative are anticipated; therefore the Final Decision is consistent with the National Historic Preservation Act (reference project file, January 2013 Cultural Resources Report [p. 7], Specialist Documentation folder).

Wild and Scenic Rivers Act

The project area encompasses a portion of the main stem and South Branch Presque Isle Rivers and the entirety of the West Branch Presque Isle River. As stated previously, all actions under this Final Decision are consistent with the Forest Plan and CRMP, and therefore no negative impacts to the free-flowing condition, water quality and outstandingly remarkable values of the Presque Isle River system in the project area are expected.

In accordance with Section 7a of the Wild and Scenic Rivers Act, evaluation procedures were undertaken by the ID Team to determine whether the actions to fell trees to increase the large woody material component in the South and West Branches of the Presque Isle WSR would "invade the area or unreasonably diminish" the values present in the area at the time of the river's designation. The resulting determination of this analysis is that the project will not have a direct and adverse effect to the river values of free-flow, water quality, or outstandingly remarkable values (reference project file, September 2012 WSR Section 7 Evaluation, Specialist Documentation folder).

Compliance with Other Regulations and Policies

Executive Order 12898 requires consideration of whether projects would disproportionately impact minority or low-income populations. Public involvement occurred for this project, and the results did not identify any adversely impacted local minority or low-income populations. I have considered the effects of this project on low income and minority populations and concluded that my Final Decision is consistent with the intent of this Executive Order. The local community was notified of this project through the public participation process (reference project file, Scoping Letter Mailing Lists, 2012 EA Mailing Lists, and 2013 EA Mailing Lists).

Summary of Findings

My review of the analysis prepared by the ID Team indicates that this Final Decision is consistent with Forest Plan management direction, compliant with other applicable laws, and responds to public concerns. After thorough consideration, I have determined that this Final Decision will not constitute a

major federal action, individually or cumulatively, and Alternative 2 Modified 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. Therefore, I have determined that preparation of an environmental impact statement is not needed.

Implementation

Pursuant to 36 CFR 218.12, this Final 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 under my Final Decision will be immediately reflected on the next version of the Motor Vehicle Use 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 Final Decision, contact Marlanea French-Pombier, Environmental Coordinator, at (906) 358-4031; or Robin McCartney, Environmental Coordinator, at (906) 932-1330, ext. 514.

Norman E. Nass

NORMAN E. NASS
District Ranger

January 6, 2014

DATE

Appendix 1. Design Criteria and Monitoring

Design Criteria

Silviculture

1. Stands proposed for a clearcut harvest treatment and aspen inclusions in other forest types will receive site preparation for natural regeneration of aspen if needed. Site prep must occur before the second growing season. Site prep will fell all hardwood stems 2.0 to 4.9 inches in size (Forest Plan, p. 2-17). Site prep should maintain small clumps of young (sapling-sized) balsam fir; hemlock or other conifer species to provide cover for snowshoe hare and other prey species. Conifers (primarily fir) not identified as trees to be retained or those needed for foraging habitat can be felled if they are surplus to the needs for wildlife cover (Forest Plan, pp. 2-9 and 2-29). Site prep will be excluded from areas where measures to protect visual quality objectives are applied (see design criteria 70, 71 and 72).

2. Cutting units with an aspen objective should have a dormant season operating period. Dormant season logging typically results in more vigorous and numerous sprouts and therefore responds well to certain Forest Plan guidelines (Forest Plan, p. 2-31). This desired condition can also be obtained conducting summer and fall harvest, but will require suitable site conditions in addition to an adequate abundance and distribution of aspen; indicating a viable parent root system that will produce sprouts.

3. Within cutting units with an objective to regenerate aspen (including aspen inclusions within non-clearcut units), retain existing white pine, hemlock, cedar, oak, elm and black cherry that are 5.0 inches or larger, with the total basal area retained not exceeding 10 feet^2/acre. These species can be cut to facilitate timber harvest operations where necessary. The objective for retaining these species is to add species and structural diversity to the stand while not interfering with successful aspen regeneration and future productivity (Forest Plan, p. 2-2).

4. 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 silvicultural prescription. These species may be cut to facilitate harvest operations where necessary, or to improve growing space and vigor among the 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, p. 2-2).

5. Within selection harvest units, create and encourage regeneration of hemlock, white pine, and mid-tolerant hardwoods by installing canopy gaps (typically between 30 to 66 feet in diameter). The amount and size of gaps will depend on composition of tolerant- and mid-tolerant species (e.g. yellow birch, oak, elm, black cherry) and other stand conditions. In hardwood stands treated by selection harvest, some canopy gaps will be placed adjacent to mid-tolerant hardwood seed sources and inclusions of hemlock and white pine. Locate canopy gaps to release advanced regeneration for hemlock or white, where feasible. Evaluate gaps preferably during first year stocking surveys for potential site preparation for natural regeneration. Site prep could include hand scalping for scarification and felling of sub-merchantable-sized stems of undesirable trees. The objective is to create and develop a new cohort within second-growth stands to improve uneven-aged structure, and increase within-stand tree species diversity (Forest Plan, pp. 2-19 and 2-20).

6. Within the red pine and spruce plantation cutting units, the following operating requirements will be put into the timber sale contract: "Within the sale area, decked pine and other conifer material cut must be removed from the sale area within 30 days of cutting. This requirement will be in effect from 5/1 to 9/30. Winter-harvested material shall be removed before warm spring weather occurs." The purpose of this requirement is to minimize the potential breeding sites for bark beetles (USDA Forest Service, Gilmore and Palik, 2006d, pp. 34-36).

7. Paper birch is a species that is declining in representation across the Ottawa and has specific, hard to create regeneration requirements due to its small seed size and seed bed requirements. The Forest Plan directs management to regenerate existing paper birch stands or convert other types to paper birch using the two-cut shelterwood method (Forest Plan, p. 2-21). Two stands have been identified as having a major component of paper birch (Compartment 213, Stand 4 and Compartment 204, Stand 16) and will receive a shelterwood preparation cut and then a prescribed fire or a mechanical treatment to attempt regeneration of paper birch to expose mineral soil and provide an optimal seed bed. This shelterwood cut will leave a portion of the overstory to provide seed sources and shading until a new stand has regenerated. These stands have fair to good representation of paper birch in the overstory, which will be left as part of the shelterwood to provide seed.

Wildlife

8. Any even-aged stands adjacent to classified old-growth will maintain a component of long- lived tree species. Stands being managed for aspen regeneration that are adjacent to classified old growth should retain 10 to 20 square feet of Basal Area per acre of white pine, red pine, hemlock, cedar, yellow birch, oak, basswood and elm within a 100 foot corridor adjacent to the old growth stand(s). Depending on available species and opportunity, retain trees as singly or in clumps evenly throughout this area. The objective is to maintain a component of long-lived species adjacent to old growth (Forest Plan, p. 2-23).

9. Retain 2 to 3 wildlife trees/acre of harvest in all selection, thinning or improvement treatments in northern hardwood types or aspen types converted to hardwood. Preferably, these will be live cavity trees, with large healthy crowns, and species that provide wildlife foods as well (e.g. oaks, yellow birch, black cherry, conifers), if they exist in the stand.

10. Temporary openings resulting from aspen clearcut harvest will be limited in size through the retention of 10 acre or larger, un-harvested stands in a manner so that harvested areas do not exceed 25 acres in size within MA 6.2; and 40 acres in size within MA 2.1. For MA 6.2, additional clearcut harvest of 25 acres or less may occur in selected stands once the initial 25 acre openings have reached a height that is 20% of the surrounding trees (Forest Plan, p. 2-23). Design non-harvested stands to occur where retention of long-lived species are concentrated, if possible. Aspen regeneration complexes that provide large patches of early successional species habitat consistent with MA 2.1 guidelines (Forest Plan, p. 3-10) are exempt from this design criterion (see Map 1 of Appendix 3).

11. Retain 2 to 3 wildlife trees/acre of harvest in all selection, thinning or improvement treatments in northern hardwood types or aspen types converted to hardwood. Preferably, these will be live cavity trees, with large healthy crowns, and species that provide wildlife foods as well (e.g. oaks, yellow birch, black cherry, conifers), if they exist in the stand.

12. In stands proposed for commercial clearcut, create one large brush pile, on average, per ten acres of clearcut. These piles provide multiple uses including denning/escape cover for numerous wildlife species including black bear, hare, and other mammals, as well as cool, moist refugia for snakes, voles and other small meadow wildlife species. Locations of brush piles will be decided by wildlife staff based on site conditions.

13. Retain existing snags in all harvest units, where removal is not necessary for safe operations. 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 and new construction; BT2.32 of the contract and should be marked by the Forest Service prior to felling.

14. A no harvest zone of 300' radius around any active red-shouldered hawk nest or northern goshawk nest will be established at any time of year. An active pair is defined as the pair present in the current year or immediately previous year.

15. A 30-acre nest protection area where no disturbance-causing activities will be allowed between March 15 and August 1 for northern goshawks and March 15 to September 1 for red-shouldered hawks. Disturbance-causing activities including marking, layout, road work, logging, hauling, opening maintenance, tree planting and timber stand improvement efforts. Nests will be verified as active by a wildlife biologist or wildlife technician. If a known nesting area has been inactive for at least two years prior to treatment, then the Responsible Official and wildlife biologist, may remove or modify some or all of the buffers. Modifications or additional protection measures could be made for both species on a case-by-case basis by the Responsible Official and wildlife biologist, including evaluation of existing road/trail use within the area.

16. In treatment stands within Wild and Scenic River corridors, retain coarse woody debris for wildlife use at least 100 linear feet per acre of coarse woody debris on the ground, which may be made up of multiple shorter pieces of coarse woody debris observed through the acres. Coarse woody debris must be a minimum 8" in diameter. In many instances, this will require felling of live trees and leaving them on-site.

17. In stands receiving structural improvement in Wild and Scenic River Corridors, timber harvest is designed to restore big tree character and increase biological and structural complexity, while retaining biological and structural legacies. Residual stocking levels will generally be higher than stocking guides recommended, yet be open enough to accommodate logging equipment that is typically used in these types of stands to conduct treatments. Variable density is the desired outcome to resemble a mature, unmanaged stand condition, and have higher density objectives than those stands receiving commercial harvest.

18. Any observations, potential sightings or signs suggesting potential use by a Threatened, Endangered or Regional Forester's Sensitive plants and animals during any activities associated with the proposed treatments must be reported to the project biologist/botanist. Protection needs will then be handled on a site-by-site and species-by-species basis. Protection measures will be 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 Forest Plan, and professional judgment.

19. Do not remove crown material (<4”top) or, larger material from stands within MA 8.1 (Wild and Scenic River Corridor).

20. To the extent possible, retain existing large woody debris. Tops and limbs used to stabilize soil, typically on roads or skid trails, should be left in place following harvest operations. Consider augmenting LWD, if the site does not have adequate LWD.

21. For brush piles (wildlife habitat): Retain existing brush and log piles.

22. If biomass harvesting is used, retain 1/3 to 1/6 of fine woody debris from harvested trees except in cases of insect and disease outbreaks or risk of hazardous fuel accumulation (see project file reference). Residues should be dispersed rather than accumulated. Fine woody debris is defined as woody material, living or dead, less than 4 inches diameter inside bark at the large end; including small branches, twigs, cones, and other portions of shrubs and trees. Leaving fine woody debris post-harvest addresses the need to provide nutrient sources back to soil for site productivity (USDA Forest Service, 2010).

Aquatics

23. Site-specific riparian area protection will be applied to all managed stands. Riparian design criteria described in Table 4 of this appendix will be utilized for all activities within riparian corridors and riparian areas. These measures are to ensure that vegetation manipulation within the riparian corridors and riparian areas maintains or enhances riparian function.

24. 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.

25. 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. Seed will be a Forest Service approved local, native plant mix, whenever feasible and available. If unavailable, a non-invasive seed mix approved by a Forest botanist will be used.

26. Wetlands will be crossed for timber management only after all reasonable alternative routes have been considered, and after design criteria are implemented. These criteria may include: (1) crossing at the narrowest point of the wetland and as close to right angles as feasible; (2) maintaining 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 timber sale contract provisions regarding when use is and is not appropriate.

27. For access into Compartment 174 Stand 7, the following is required: crossing should be held to the minimum feasible width; cut stumps flush with the ground; no grubbing of stumps; sufficient frost depth or adequate snow cover must be present before freezing of the roadbed can start; road must be frozen before use. If needed, incorporate measures to allow for water flow during spring thaw.

28. Small wetlands or drainways identified during sale preparation activities may be excluded from the sale area by paint (larger areas) or no trees will be marked in these areas to protect sensitive soils.

The method used will be at the discretion of sale preparation personnel. This measure is to protect soil quality/productivity and water quality.

29. Trees selected for habitat improvement along lake shorelines will be live, green trees (except for live cull or cavity trees, which will not be cut), with a minimum diameter at breast height of 12". No hemlock, white pine, or cedar will be used for this purpose. Felling trees will be performed in a manner to remain visually subordinate to the lakeshore to be consistent with the Partial Retention visual quality objective. Trees will be selected far enough from the shoreline to obscure evidence of cut stumps from the lakes. No trees will be cut within 100 feet of developed public use areas. Also, if trees are cut, outside of the 100 foot limit, near developed sites, they will be felled in a manner to not interfere with boat launching, swimming, or other recreational uses of the shoreline. If trees are hauled in for placement, this activity will be conducted during frozen ground conditions where resource protection is necessary (i.e., heritage sites or other purposes).

30. Road decommissioning activities could incorporate blocking the entrance with berms and stabilization through slash placement. Slash, debris, and stumps to be of a size and placed so it is a solid mat across the road and not easily removed from the size, for a depth of 2-3 feet and length of 150 feet. Road closure may also include the use of a tree spade for transplanting trees and shrubs from nearby or adjacent sites into the road surface area. Roads that are currently overgrown with vegetation and are impassable will not need the entrance blocked.

31. Temporary roads used during a timber sale will be blocked with slash to a depth of 2 to 3 feet, for a distance of 150 feet following harvest completion in such a manner as to inhibit all forms of motorized use. 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.

Soils

32. Design features are applicable to ground disturbing activities such as commercial timber harvest and non-commercial vegetation treatments.

33. 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).

34. Generally, sale area layout activities will exclude all mapped slopes greater than 35%.

35. 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.

36. 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.

37. 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.

38. Freshly disturbed soil areas, such as landings and unsurfaced road beds may be left to revegetate 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 revegetation. 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.

39. For timber harvest, the season of operation will follow Soil Scientist guidelines for the ELTP being operated on (see project file). 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.

40. For soil productivity within stands that are on sandy upland sites within the project area (ELTPs 306B, 322B, 322C, 322D, 324D, 324E), there will not be any whole tree harvesting or pile burning. Slash will remain at the stump or be evenly redistributed across the stand.

41. Do not harvest fine woody debris on shallow soils where bedrock is within 20 inches of the surface.

42. 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.

43. Five Ecological Classification System study plot center points are located in the project area in:

- Compartment 135 Stand 8 (no harvest actions selected);
- Compartment 169 Stand 10 (selected thinning harvest w/aspen regeneration);
- Compartment 174 Stand 8 (no harvest actions selected);
- Compartment 204 Stand 17 (selected group selection cut w/planting); and
- Compartment 203 Stand 43 (selected clearcut harvest w/reserve).

Protection measures include prohibiting all harvest and machinery travel within a 50 foot radius of the study plot center points and protecting the three bearing trees.

44. Conifer bundles for fish habitat improvement will be moved to the shoreline in winter under snow covered and frozen conditions to prevent damaging soils within riparian areas.

Fisheries

45. Do not regenerate aspen within 400 feet of either the bankfull width or water inundated area of the Little Presque Isle River in order to protect coldwater fish habitat (see Aquatic Analysis in project file). Exception will be made for Compartment 169, stand 22, adjacent to the Little Presque Isle Flowage.

46. All permanent road crossing structures proposed for installation (new or replacement) on fish bearing streams within the project area shall be designed for aquatic organism passage.

Botany and NNIP

47. Do not remove stumps, roots, or other below-ground biomass. No removal of litter unless needed for site objectives.

48. Avoid re-entry for harvesting biomass. Re-entry is not allowed if tree regeneration has begun, or the site has been planted.

49. Survey stream locations prior to large wood placement. If RFSS or state-listed aquatic plants are located, revise, relocate, or cancel the woody material placement activities as needed to protect the populations.

50. 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.

51. 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.

52. To protect the butternut sapling, place carsonite poles or other markers to protect from brush disposal and road work the stretch of road and ditch adjacent to the sapling, for about 50 feet in each direction.

53. Provide protective, no-activity buffers around documented special plant populations in the project area as shown in Table 3.

Table 3. Proposed Buffers for Special Plant Populations

Taxon	Common Name	Comp(s)	Buffer Information	Purpose
Juglans cinerea	Butternut	214	½ circle back from road edge, enclosing sapling, up to 200 foot radius as determined when flagging buffer in field (about 1.5 acres)	Prevent direct damage to tree; prevent change in light regime and/or microclimate.
Cypripedium reginae, C. parviflorum var. pubescens	Showy and yellow ladyslippers (co-located)	202	Oval enclosing 3 plant location points, more or less in a line, formed by encircling the 2 farthest- apart plants with ~200 foot radius circles, and connecting the circles' outer edges to make an oval, and connecting the circles' outer edges to make an oval, as determined when flagging buffer in field (about 7 acres)	Prevent direct damage to orchids; prevent change in light regime and/or microclimate. Much of this buffer area may be excluded from treatment already due to riparian matrix.
Dryopteris expansa	Spreading woodfern	170, 172	Circle around each population point, up to 200 foot radius as determined when flagging buffer in field (about 2.9 acres in two locations)	Prevent direct damage to ferns; prevent change in light regime and/or microclimate.

Taxon	Common Name	Comp(s)	Buffer Information	Purpose
Tiarella cordifolia	Heart-leaved foamflower	175/18	Circle around population point, up to 250-foot radius as determined when flagging buffer in field but circle truncated by FR 8300 (about 3.4 acres)	Prevent direct damage to plants; prevent change in light regime and/or microclimate

54. Retain native vegetation in and around project activity to the maximum extent possible consistent with project objectives.

55. Minimize soil disturbance to the extent practical, consistent with project objectives.

56. For any ground-disturbing activities, such as road maintenance, reconstruction and construction, paper birch regeneration scarification or prescribed fire, and boat access work, take reasonable measures to make 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.

57. If fill or mulch is needed, use materials that are free of weed seeds (Ottawa high, new invader, and medium priority species).

Transportation

58. Selection of a road closure device and closure procedures will follow the road access management guidelines for local roads on the Ottawa (see project file). Berms or gates may be used for road closures.

59. Wherever practical, a closure device should be placed at the entrance of a network of roads rather than closing each individual segment.

60. Where possible, log landings will be located a minimum of 100 feet from collector roads, unless specified otherwise to meet visual quality objectives.

61. There is currently a weight-limited (51 Ton) bridge on Forest Road 8100 at the South Branch of the Presque Isle River that is not planned for reconstruction in the short-term. This bridge exceeds 100 feet in length and will not allow for weight distribution of a fully loaded log truck (which can legally go up to 80 Tons in Michigan). Allow log trucks to cross the bridge empty from Highway M-64 to shorten trucking distances since any timber sales planned west of this bridge will have to haul loaded to the north on Forest Roads 8100, 8170, or 8300. Also, allow purchasers to haul partial loads (not to exceed weight limit) over this bridge from the west upon request and coordination for safety of haul with other timber sales in progress and other Forest users.

Recreation

62. Ensure that closed OHV roads and trails that had been previously open in the Wild and Scenic River corridor, are signed for a period of at least two years to inform the public.

63. Where practical, closure devices should have a 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.

64. 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.

65. When harvest operations are restricted to winter harvest only due to soil or other resource conditions, Snowmobile Trail #11S may need to be temporarily rerouted or closed if a suitable temporary route cannot be developed. The TMA will notify District Recreation personnel of the proposed harvest schedule at least 1 winter season prior to planned timber harvest activities for any timber sale that will require winter hauling on roads used by Snowmobile #11S. Recreation personnel will work with the local snowmobile club to identify possible temporary routes. If it is not possible to identify a temporary reroute, Snowmobile Trail #11S will be closed those years when winter hauling is necessary along the trail's current route.

66. In order to prevent damage to the trail system between Plymouth, Taps, and Mishike Lakes, only allow skidding across trails at designated locations, perpendicular to the trail (see project file). No skidding or forwarding will be permitted on the length of the trail unless agreed to by the Forest Service.

67. Dispersed river and lake access sites are to remain natural and undeveloped with no site improvements, unless necessary to prevent stream or bank erosion, such as gravel hardening.

68. Large woody material placement shall not be placed within 150 feet upstream or downstream of a designated access site to improve user safety.

Visuals[1]

69. Wild and Scenic River Corridors - To meet the Visual Quality Objective (VQO) of Partial Retention in the main stem, South and West Braches of the Presque Isle WSR corridor, management activities will be designed, as outlined in design criterion 70, 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. In general, the WSRs are managed to have wider riparian areas and riparian corridors (e.g., no harvest buffer) than other aquatic features in the project area to better facilitate their use as wildlife corridors as outlined in the riparian design criteria (see Appendix 1, p. 14). These areas will provide additional buffers to maintain the Partial Retention VQO of these corridors.
    b. In special management emphasis areas for aspen regeneration and red pine, there will be a reduced no harvest buffer to allow for tree removal closer to the river to protect and enhance the Wildlife outstandingly remarkable value (see Appendix 1, pp. 15-21). However, implementation of design criterion 70 will maintain the Partial Retention VQO.

70. Forest Roads and visible openings within the WSR Corridor (MA 8.1)
    a. In areas identified with a VQO Partial Retention, special road and landing designs will be followed. When possible, this includes locating landings at least 400 feet from the road.

[1] A list of affected stands for each design criterion, as applicable, is located in the project file.

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.

b. Remove slash for 50 feet along the forested edge of M-64 and Forest Roads (8100, 8105, 8120, 8120E, 8131-D, 8135, 8143, 8146, 8153, 8300 and 8338). 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 risk of impacts to aesthetics.

c. In Partial Retention areas, where the treatments include aspen inclusions, visible openings will be no more than ½-acre in size as seen from the river or from the roads/trails identified as open to OHV and/or OHV and passenger vehicle access.

d. In addition to riparian guidelines on pages 14-21, visible openings ~~Roadside openings~~ within or adjacent to the riparian area, will not be greater ~~wider~~ than 200' in length. Distance between the openings will be at least 1,000' where feasible. In those areas between openings, a strip of vegetation at least 20' deep starting at the forested edge of the road, will be maintained.

e. 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.

f. Any log landings will be screened from viewing from M-64 using an angled road or vegetative screen. When possible, landings should be located at least 400 feet from the road. Do not locate landings where they are visible from the WSR corridor.

71. Partial Retention Areas Adjacent to State Highway M-64
    a. Visible openings (as viewed from M-64) will be no more than five 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. 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 50 foot zone measured from the forested edge of the roadway; lop and scatter slash to within 36 inches for an additional 25 foot zone.
    b. Where the treatment is thinning harvest, remove slash from a 50 foot zone measured from the forested edge of the roadway; lop and scatter slash to within 36 inches for an additional 25 foot zone due to the narrow depth of stand 14 of compartment 202.

72. All applicable stands visible from Forest Roads 8100, 8120, 8190 and 8300 in MA 2.1
    a. In Partial Retention areas where treatment is clearcut, visible openings should be no more than ½-acre in size. Remove slash from a 50-foot zone measured from the forested edge of the roadway, and lop slash to within 36 inches of the ground and scatter for an additional 25-foot zone.
    b. In Partial Retention areas where treatment is not clearcut harvest, remove slash from a 50-foot zone measured from the forested edge of the roadway, and lop slash to within 36 inches of the ground and scatter for an additional 25-foot zone.
    c. In Modification areas, 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.

d. In Modification areas, 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.

73. In those stands that are adjacent to Heart Lake Road, a county-owned ROW, no special residue management is needed, as the ROW provides a sufficient visual buffer.

Cultural Resources

74. All archaeological and historic sites within the area of potential effect will be identified on the ground.

75. Site location information will be provided to the project leader to disseminate on a need to know basis. The project leader will ensure that the information is used only by authorized staff.

76. All archaeological and historic sites will have a buffer area marked with flagging. The flagged areas will be marked pre-sale. Sites located near the project but outside a payment unit may need to be identified so that they are not used as landings, parking, etc.

77. If any new cultural resources are discovered then activity must cease around the site and a Forest Service Archaeologist notified.

78. Any changes in the project (location, methods, etc.) must be reported to a Forest Service Archaeologist so that the affects to cultural resources can be re-determined.

Riparian Design Criteria

The purpose of these design criteria are to protect aquatic resources from sedimentation that adversely impacts water quality, aquatic species and their habitats; 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; protect riparian plant communities; protect wildlife species and their habitats; and provide for connected corridors across the landscape.

Table 4. Riparian Design Criteria

Ecological Landtype Phase (ELTP)/ Aquatic Feature	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.
Prescriptions for management within Riparian Areas and Riparian Corridors These Design Criteria, unless otherwise noted, are specific to timber harvest and harvest associated activities. *Continued below:*	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.	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. ***NOTE*** *– Aspen clearcut management will occur closer to some aquatic features in some locations in order to promote beaver for WSR outstandingly remarkable value. These sites were carefully chosen, incorporating slope and soil properties into the recommendation. Riparian corridors in stands scheduled for clear cut management will be partly clearcut (not thinned as previously described in the 50/75% language) by creating an undulating boundary within the riparian corridor. The clearcut line will not enter the riparian area. This will allow riparian function to be met, allow for diversity, avoid a straight edged abrupt buffer, and provide for the uncertainties of knowing exactly where the "line in the sand" is located for riparian area and riparian function vs. strictly upland.*

ELTP/ Aquatic Feature	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.
Continued from above: 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 for riparian area and/or fish habitat enhancement • wildlife opening maintenance *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*	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 crossing structures upon completion, when crossing is no longer necessary. Seasonal ponds will not become disposal area for slash No equipment will be permitted within seasonal ponds Do not harvest trees within ½ tree length from the edge of seasonal ponds. ***NOTE*** *– Aspen clearcut management will occur closer to some aquatic features in some locations in order to promote beaver for WSR outstandingly remarkable value. These sites were carefully chosen, incorporating slope and soil properties into the recommendation.*	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 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 located, 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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[2]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Large Permanently Flowing Streams – South and West Branch Presque Isle Rivers Large permanently flowing streams have wider riparian areas and riparian corridors than other aquatic features in the project area to better facilitate their use as wildlife corridors. The width for this project area was determined by the project wildlife biologist.	Compartment (Comp) 173/Stands 20, 21 and 44; Comp 174/Stand 13; Comp 175/Stands 11, 21, 25, 29, 39, 43 and 44; Comp 76/Stand 25; Comp 177/Stands 19, 34 and 55; Comp 202/Stands 1, 2, 16, 17, 18, and 19; and Comp 203/Stands 1 and 4; Comp 205/Stands 3, 11, 31, 32, 34 and 42; Comp 206/Stand 1 and 44; Comp 207/Stand 27; Comp 210/Stands 6 and 41; Comp 214/Stands 4, 11 and 34; Comp 215/Stand 22; and Comp 217/Stands 11 and 32	Riparian area includes 1 tree length from the edge of the floodplain ELTP or from bankfull stage when floodplain ELTPs are not 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 are not 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 length. 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.

[2] 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 do not 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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for WSR outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR while avoiding sedimentation that will adversely impact the water quality river value.	Comp 174/Stand 12	Riparian area for ELTP 302B associated with the stand includes 1 tree length from the edge of the floodplain 303 ELTP or from bankfull stage when floodplain ELTPs are not present. The beaver riparian prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 315 or 307 – the riparian area includes the wetland ELTP plus 1 tree length. When adjacent slopes are D, go to the top of the slope plus 1 tree length. Forested Linear Wetland ELTP 314A – the riparian area includes the wetland ELTP plus ½ tree length.	Riparian corridor for ELTP 302B includes 100 feet from the edge of the floodplain ELTP or from bankfull stage when floodplain ELTPs aren't present. Riparian corridor for ELTP 323D includes the top of the slope plus 2 tree lengths. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor. The beaver riparian corridor prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: 2 tree lengths from the edge of ELTP 315 or 307 wetlands. OR Entire 315 or 307 ELTP plus area to the top of adjacent slope plus 1 tree length, whichever is greater. When ELTP 315 or 307 are adjacent to D slopes go to the top of the slope plus 2 tree lengths. ELTP 314A is edge of forested linear wetland ELTP plus 1 tree length. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor.

[3] 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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR, while avoiding sedimentation that will adversely impact the water quality river value.	Comp 203/Stand 2	Riparian area includes ½ tree length buffer along ELTP 303. Remaining riparian area includes a 1 tree length buffer from the river's bankfull stage	Riparian corridor includes 100 feet from the edge of the floodplain ELTP 303 or river's bankfull stage. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor.
	Comp 204/Stand 38	Riparian area adjacent to ELTP 303 includes the floodplain ELTP plus 1tree length. Riparian area adjacent to wetland ELTP 307 riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes the floodplain ELTP 303 plus 2 tree lengths. Riparian corridor adjacent to wetland ELTP 307 2 tree lengths from the edge of the ELTP defined wetland. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor.
	Comp 205/Stand 41	Riparian area adjacent to ELTP 303 includes the floodplain ELTP plus 1tree length. Riparian area adjacent to wetland ELTP 315 riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes the floodplain ELTP 303 plus 2 tree lengths. Riparian corridor adjacent to wetland ELTP 315 includes 2 tree lengths from the edge of the ELTP defined wetland. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR, while avoiding sedimentation that will adversely impact the water quality river value.	Comp 205/Stand 41	Riparian area adjacent to ELTP 303 includes the floodplain ELTP plus 1tree length. Riparian area adjacent to wetland ELTP 315 riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes the floodplain ELTP 303 plus 2 tree lengths. Riparian corridor adjacent to wetland ELTP 315 includes 2 tree lengths from the edge of the ELTP defined wetland. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor.
	Comp 207/Stand 31	Riparian area along ELTP C slopes includes the floodplain ELTP 309 plus 1 tree length. The beaver riparian prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 309 not associated with the WSR and wetland ELTP 41, the riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes the floodplain ELTP plus 2 tree lengths. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor. The beaver riparian corridor prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 309 not associated with the WSR and wetland ELTP 41, the riparian corridor includes 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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR while avoiding sedimentation that will adversely impact the water quality river value.	Comp 210/Stand 43	Riparian area includes ½ tree length buffer along ELTP 303. Remaining riparian area includes a 1 tree length buffer from the river's bankfull stage The beaver riparian prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 309 and 315 not associated with the WSR, the riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes 100 feet from the edge of the floodplain ELTP 303. Remaining riparian corridor includes 3 tree lengths from the edge of the bankfull stage. Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor. The beaver riparian corridor prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 309 not associated with the WSR and wetland ELTP 41, the riparian corridor includes 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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR, while avoiding sedimentation that will adversely impact the water quality river value.	Comp 214/Stand 18	Riparian area for ELTP 323D slopes includes the area from the river's bankfull stage or the edge of floodplain ELTP 303 or 327 to the top of the slope plus ½ a tree length beyond the top of the slope. Remaining riparian area includes a ½ tree length from floodplain ELTP 303 or wetland ELTP 327 associated with the river OR if no floodplain ELTP 303 or wetland ELTP 327, 1 tree length buffer from the river's bankfull stage. The beaver riparian prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 327 not associated with the WSR, the riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes riparian area plus an additional 100 feet Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor. The beaver riparian corridor prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Wetland ELTP 327 not associated with the WSR, the riparian corridor includes 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 or 3 tree lengths from bankfull stage, whichever is greater.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's outstandingly remarkable value associated with beaver to encourage beaver utilization (Forest Plan, pp. 3-81.2, 3-81.7). Stands with these prescriptions were closely reviewed by the project soil scientist, hydrologist, wildlife biologist and silviculturist to determine the closest management possible for the WSR, while avoiding sedimentation that will adversely impact the water quality river value.	Comp 215/Stand 13	Riparian area includes a 1 tree length buffer from the river's bankfull stage or 1 tree length buffer from the edge of ELTP 303 floodplain or ELTP 327 wetland where present The beaver riparian prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Floodplain/wetland ELTP s 303, 307, 309, and 327 not associated with the WSR, the riparian area includes the wetland ELTP plus 1 tree length.	Riparian corridor includes riparian area plus an additional 100 feet Clearcut boundary will be undulated within the riparian corridor between the riparian area and the outer edge of the riparian corridor. The beaver riparian corridor prescription does not apply for the following ELTPs since they are not situated in the landscape such that they are associated with the WSR outstandingly remarkable value: Floodplain/wetland ELTP s 303, 307,309, and 327 not associated with the WSR, the riparian corridor includes 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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for the WSR's Forest Plan desired condition for diverse, dynamic and complex native vegetation types and large long-lived riparian trees. Forest health is maintained to minimize threats to outstandingly remarkable values dependent upon forest vegetation (Forest Plan, pp. 3-74 to 3-75, 3-81.6). These stands are dense red pine with balsam fir-spruce understory. The intent is to improve the vigor of the red pine to avoid beetle infestation and improve vigor of fir and spruce by opening up the crown.	Comp 205/Stand 12, 39 Red Pine Stands Adjacent to one another	Riparian area includes ½ tree length from the edge of the very steep drop to the river.	Riparian corridor includes 3 tree lengths from the edge of the floodplain ELTP 303 Silvicultural prescription throughout the corridor will be done in such a way as to move the stand away from a plantation appearance to a more natural appearance for WSR desired condition.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Special Management for Coldwater Trout Habitat With Aspen Clearcut Management Nearby - to discourage beaver activity (400 feet buffer design criteria)	The following stands are found within 400 feet of the perennial fish bearing portion of the Little Presque Isle River: Comp 136/Stand 17; Comp 167/Stands 3, 4, 45, 53, 54 and 56; Comp 168/Stand 4; and Comp 169/Stands 6, 18, 21 and 22	Along the perennial fish bearing portion of the Little Presque Isle River, the riparian area for clearcut management 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	Riparian corridor includes only the riparian area since it is a large no harvest area. Clear cut aspen 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 corridor design criteria
Small Permanently Flowing Streams (A slopes) ELTPs 327,301A, 312A and 314A	Comp 166/Stand 37; Comp 176/Stand 5; Comp 206/Stand 32; Comp 206/Stand 44; Comp 210/Stand 43; Comp 214/Stand 4	Riparian area includes1 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.
Small Permanently Flowing Streams (B and C slopes)	Comp 134/Stands 8 and 9; Comp 135/Stand 20; Comp 136/Stand 17; Comp 167/ Stands 3, 53 and 54; Comp 168/Stands 4 and 12; Comp 169/Stands 6, 10, 18, 21 and 22; Comp 170/Stand 1;	Riparian area includes1 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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Small Permanently Flowing Streams (B and C slopes)	Comp 172/Stands 8, 11, 15 and 29; Comp 173/Stands 29 and 44; Comp 206/Stands 7,26,28 and 44; Comp 207/Stands 14, 21, 26, 27 and 34; and Comp 213/Stands 12 and 31	Riparian area includes1 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)	Comp 210/Stands 8, 11 and 14 and Comp 213/Stands 12 and 31	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) ELTPs 311A, 314A and 326A	Comp 170/Stand 24; Comp 175/Stand 8; Comp 215/Stand 13; and Comp 217/Stand 32	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)	Comp 134/Stands 6, 7, 8, 12; Comp 135/Stand 23; Comp 136/Stand 17,18; Comp 165/Stands 2, 7, 8, 9, 10 and 13; Comp 166/Stands 13, 16, 32, 36, 37 and 41; Comp 167/Stands 1, 19, 21, 25, 43 and 51; Comp 168/Stand 12; Comp 169/Stands 10, 11, 16 and 23; Comp 172/Stands 11 and 33;	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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Seasonally (Intermittent) Flowing Streams (B and C slopes)	Comp 173/Stands 4, 34 and 35; Comp 174/Stands 15 and 17; Comp 177/Stands 2, 7 and 28; Comp 207/Stands 9, 11, 12 and 34; Comp 214/Stands 4, 11 and 34; and Comp 215/Stands10 and 22	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)	Comp 174/Stands 12 and 18; Comp 177/Stand 2; Comp 206/Stand 13; Comp 207/Stand 9; and Comp 214/Stand 4	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)	Comp 134/Stand 1; Comp 166/Stands 6, 13, 23 and 36; Comp 167/Stand 42; Comp 173/Stand 35; Comp 174/Stands 12, 15, 18 and 24; Comp 176/Stand 25; Comp 177/Stands 19 and 55; Comp 202/Stands 1, 2 and 17; Comp 203/Stands 13, 14, 15, 18, 19, 22, 24, 30 and 40; Comp 204/Stands 22 and 26;	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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Lakes and Ponds A, B, and C slopes)	Comp 205/Stands 5, 11, 20, 27, 31 and 44; Comp 206/Stands 13, 22 and 53; Comp 213/Stands 2, 4, 8, 16, 24, 23, 31 and 45; Comp 214/Stands 3, 4, 34 and 35	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.
Lakes and Ponds D slopes and greater	Comp 174/Stands 12, 18, 24; Comp 203/Stands 14, 18, 24, 29, 30; Comp 204/Stand 16; Comp 205/Stands 20 and 27; Comp 206/Stands 13 and 16; Comp 213/Stands 2, 4 and 31; Comp 214/Stands 6 and 32	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.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Wetlands (includes sedge-meadow floodplain, swamps, bogs, and other poorly or very poorly drained mineral soils) (ELTPs 7, 40, 41, 42, 300, 303, 307, 308, 309, 312A, 313, 315, 316, 327, 415, 417, 418, 421,422 423A, 424, 436)	Comp 134/Stands 1, 6, 7, 8, 9, 12, 13, 14, 17, 20 and 21; Comp 135/Stands 2, 7, 12, 16, 18, 20, 23 and 30; Comp 136/Stands 2, 5, 17, 19 and 25; Comp 164/Stands 1, 3 and 4; Comp 165/Stands 8, 9, 17, 27 and 38; Comp 166/Stands 1, 4, 6, 9, 13, 16, 17, 20, 22, 25, 29, 32, 36, 37, 40, 42 and 43; Comp 167/Stands 1, 2, 3, 4, 8, 16, 19, 21, 23, 24, 25, 26, 27, 30, 31, 41, 42, 43, 44, 45, 46, 53, 54 and 56; Comp 168/Stands 6, 8, 9, 12, 16; Comp 169/Stands 6, 10, 11, 16, 18, 21, 22, 24 and 26; Comp 170/Stands 1, 3, 4, 7, 9, 11, 17, 24, 28 and 29; Comp 171/Stands 2, 6, 11, 12, 13, 14 and 15; Comp 174/Stands 1, 3, 7, 9, 12, 13, 14, 15, 17, 18, 24;	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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Wetlands (includes sedge-meadow floodplain, swamps, bogs, and other poorly or very poorly drained mineral soils) (ELTPs 7, 40, 41, 42, 300, 303, 307, 308, 309, 312A, 313, 315, 316, 327, 415, 417, 418, 421,422 423A, 424, 436)	Comp 175/Stands 7, 8, 9, 11, 12, 13, 20, 21, 24, 30, 39, 40 and 42; Comp 176/Stands 2, 5, 10, 11, 13, 15, 21, 22 and 25; Comp 177/Stands 1, 2, 11, 12, 15, 19, 20, 21, 24, 25, 28, 34, 37, 39, 41, 46, 48, 50, 55 and 56; Comp 201/Stands 30, 52 and 55; Comp 202/Stands 1, 2, 3, 5, 6, 11, 13, 16, 17, 18 and 20; Comp 203/Stands 1, 2, 4, 5, 12, 15, 18, 19, 22, 24, 27, 29, 30, 32, 34, 38, 40 and 43; Comp 204/Stands 2, 3, 5, 7, 8, 15, 16, 17, 21, 22, 26, 35, 37, 38, 42; Comp 205/Stands 1, 5, 7, 11, 20, 26, 27, 30, 31, 32, 34, 39, 41, 44, 50; Comp 206/Stands 1, 2, 7, 11, 13, 16, 18, 19, 20, 26, 27, 28, 32, 44, 53 and 55;	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/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Wetlands (Continued)	Comp 207/Stands 9, 11, 12, 14, 17, 19, 21, 24, 26, 27, 31, 34 and 36; Comp 210/Stands 1, 6, 8, 10, 11, 14, 20, 23, 25, 29, 31, 33, 36, 40, 41 and 43; Comp 213/Stands 2, 4, 8, 12, 13, 15, 16, 21, 23, 24, 27, 28, 29, 31, 33, 37, 38, 40, 45, 47, 48, 52, 53, 54; Comp 214/Stands 3, 4, 11, 12, 13, 18, 19, 21, 28, 32 and 34; Comp 215/Stands 1,10, 13 and 22; Comp 217/Stands 11, 21, 32 and 33	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 (ELTPs 36, 304, 419, 425)	Comp 134/Stands 1, 6, 8, 7, 9, 12, 13, 14, 17, 20, 21 and 22; Comp 135/Stands 2, 3, 7, 9, 12, 16, 18, 20, 23 and 30; Comp 136/Stands 2, 4, 5, 17, 18 and 19, Comp 164/Stands 1, 4 and 9; Comp 165/Stands 1, 2, 3, 7, 9, 10, 11, 13, 15, 24, 26, 27, 37, 40 and 41; Comp 166/Stands 6, 13, 16, 17, 20, 23, 25, 32, 36, 37, 39, 41 and 43; Comp 167/Stands 2, 8, 12, 15, 27, 40, 44, 48 and 51; Comp 168/ Stands 4, 7, 8, 9, 12 and 16;	Riparian area includes the wetland ELTP plus ½ tree length.	Edge of forested linear wetland plus 1 tree length.

ELTP/ Aquatic Feature	Compartments/ Stands Potentially Affected[3]	Riparian Area (Wetlands; areas nearest to the edges of stream/lake/pond/wetland. Riparian area was previously known on the Forest as "nearbank zone")	Riparian Corridor (Management direction from edge of riparian area to outer edge of corridor. Corridor was previously known on the Forest as "riparian influence area" or "outer zone")
Wetland – Forested Linear Wetland (ELTPs 36, 304, 419, 425)	Comp 169/Stands 6, 10, 11, 16, 18 and 26; Comp 170/Stands 1, 3, 11, 24 and 31; Comp 172/Stands 5, 6, 10, 11, 16, 17, 19, 22, 32, 33 and 40; Comp 173/Stands 4, 7, 34, 35, 44, 50 and 54; Comp 175/Stand 8; Comp 177/ Stands 4, 6, 7, 8, 9, 24 and 46; Comp 207/Stands 1, 2, 11, 12, 27 and 47; Comp 213/Stands 27, 28, 29 and 48; Comp 214/Stand 25 and Comp 215/Stand 10	Riparian area includes the wetland ELTP plus ½ tree length.	Edge of forested linear wetland plus 1 tree length.

Monitoring

The application of all Forest Plan standards will be monitored. In addition, the following project specific activities will also be monitored.

- A Silviculturist will ensure that harvest prescriptions are in compliance with applicable direction. We will also monitor stocking in stands harvested by individual selection or clearcut prescriptions to determine regeneration success (e.g., first and third year surveys). This monitoring will evaluate stands to ensure they are adequately stocked with desirable tree species in order to meet the requirements of the National Forest Management Act [Section 219.27 (c) (3)].

- Areas proposed for clearcut harvest will be monitored to evaluate whether the adequate regeneration is occurring. If not, we will assist regeneration through hand felling of sub-merchantable sized stems and scarifying the ground by hand scalping.

- Periodic monitoring of roads that will be closed to OHV use that are presently open to ensure unauthorized use is not occurring. Additional monitoring will also take place on roads that will be decommissioned or closed to public use, to prevent illegal use.

- Wild rice will be monitored after planting for several years to ensure it gets established. Re-seeding may occur periodically, as needed.

- Structural diversity enhancement stands in river corridors will be checked after commercial logging operations have ceased to ensure that there is the desired amount of downed logs and snags remaining in the treated acres. If desired quantities are not present post-harvest, wildlife staff will fell and girdle trees as needed.

- Additionally, a certified Silviculturist will determine if long-lived conifers had been adequately released by the commercial logging. If not, remaining trees that are crowding the desired trees will be felled or girdled, as needed.

Appendix 2. Literature Cited

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.

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.

USDA Forest Service. 2006a. Ottawa National Forest Land and Resource Management Plan. USDA Forest Service Eastern Region. Pp. 2-2 to 2-10; 2-12 to 2-17; 2-19 to 2-21; 2-23 to 2-25; 2-27; 2-29 to 2-31; 2-37, 3-6 to 3-10; 3-61 to 3-66; 3-71 to 3-81.9; Appendix C, pp. C-8 and C-9; Appendix D; and Appendix E.

USDA Forest Service. 2006b. Final Environmental Impact Statement for the 2006 Ottawa National Forest Land and Resource Management Plan. Volume I. USDA Forest Service Eastern Region. Pp. 3-1 to 3-228.

USDA Forest Service. 2006c. Final Environmental Impact Statement for the 2006 Ottawa National Forest Land and Resource Management Plan. Volume II. USDA Forest Service Eastern Region. Pp. A-12, A-13, and A-19.

USDA Forest Service, Gilmore, D.W., and Palik, B.J. 2006d. 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.

USDA Forest Service. 2007a. Ottawa National Forest Wild and Scenic River Comprehensive River Management Plan. Ironwood, MI: USDA Forest Service. Pp. 2-1 to 2-3; 2-16, 2-21 to 2-24, 3-2, 3-17 and 4-3.

USDA Forest Service. 2007b. Ottawa National Forest Fiscal Year 2006 Monitoring and Evaluation Report. Ironwood, MI: USDA Forest Service. Pp. 11-12.

USDA Forest Service. 2008. Ottawa National Forest Fiscal Year 2007 Monitoring and Evaluation Report. Ironwood, MI: USDA Forest Service. Pp. 22-24.

USDA Forest Service. 2010. Ottawa National Forest Approach to Biomass Harvest. Ironwood, MI: USDA Forest Service.

USDA Forest Service. 2012. Ottawa National Forest Fiscal Year 2011 Monitoring and Evaluation Report. Ironwood, MI: USDA Forest Service. Pp. 6, 9-13, and 22-23.

Appendix 3. Errata for the March 2013 Revised EA

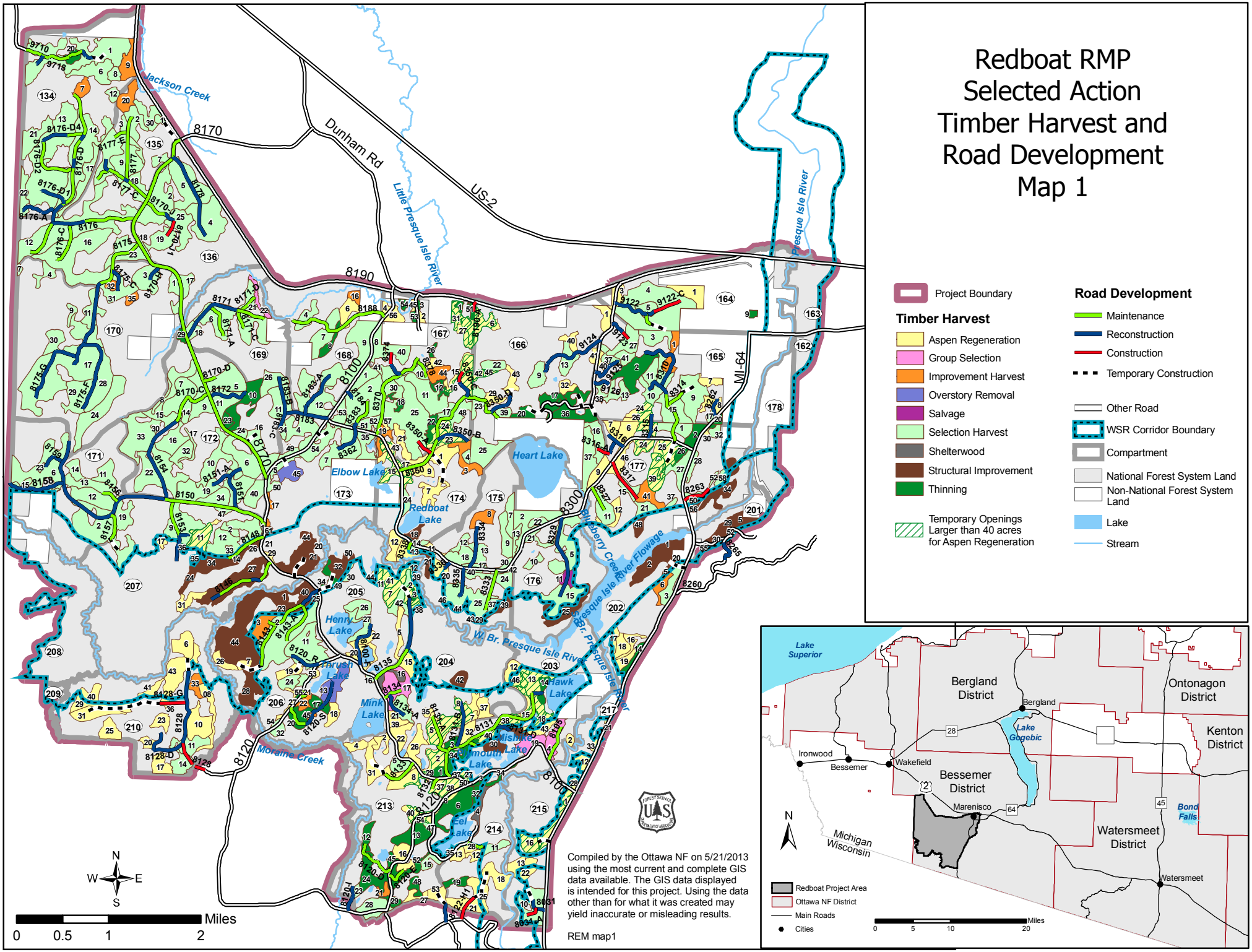
As described in the Final Decision (page 5), additional references to the project file for the March 2013 Revised EA is part of the Reviewing Officer's Instructions. The information below provides clarification regarding the location of where supporting documentation for conclusions made in the Revised EA. The following project file references are specific to resource topics raised during the objection process. This document serves to supplement the information disclosed in the March 2013 Revised EA; the EA documentation has not been modified.

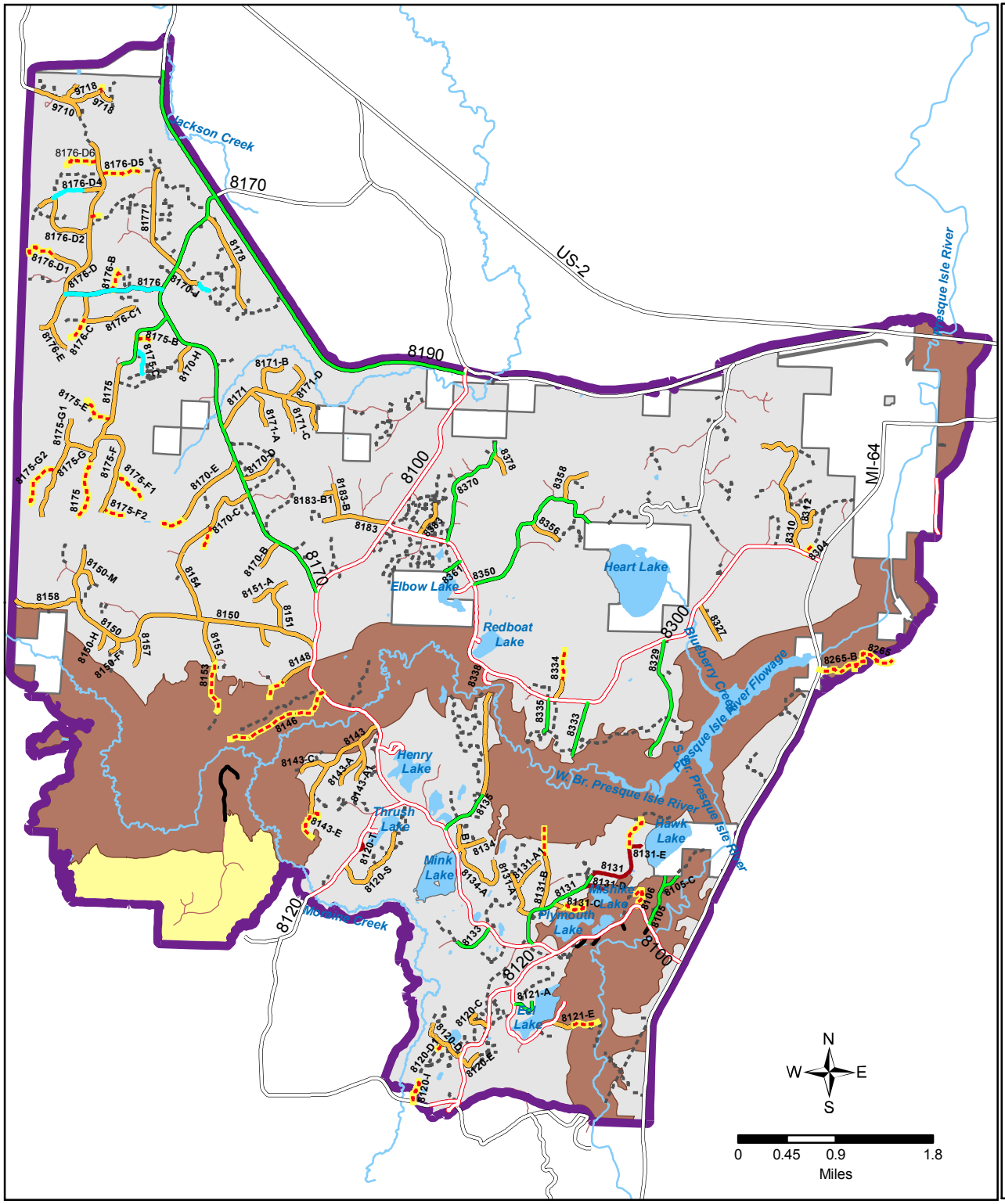
Table 5. Project File References

Location of Excerpt in Revised EA		**Location of the supporting information in the project file**
Section/Discussion	*Pages*	
Resource Topic: Old Growth		
1.4 Purpose and Need	7	Internal Correspondence, Emails 14 [p. 2] and 37 [p. 1] Internal Correspondence, ID Team Notes folder, Documents 21 and 26 [pp. 2-3]
1.6 Issues	15	Internal Correspondence, Email 14 [p. 2] Internal Correspondence, ID Team Notes folder, Documents 21 and 26
2.2 Alternatives	17	2012 EA, Public Comments, June 2, 2012 Comment 2013 EA, Public Comments, April 26, 2013 Comment Internal Correspondence, Email 37 [p. 1]
3.5 Old Growth	55-56	Internal Correspondence Email 14 [p. 2]
Resource Topic: Cumulative Effects		
3.4 Timber	52-53	Specialist Input, Timber, Silviculture Report [pp. 16-19]
3.5 Old Growth	57-58	Specialist Input, Wildlife, Wildlife Specialist Report [p. 7]
3.6 Wildlife	61	Specialist Input, Wildlife, Wildlife Specialist Report [p. 4]
3.7 Soils	64-65	Specialist Input, Soils, Soil Specialist Report [p. 5]
3.8 (Non-Native Invasive Plants (NNIP	67	Specialist Input, Botany, NNIP Specialist Report [pp. 8-10]
3.9 Visuals	70	2012 EA, Analysis Framework, Visual Resource [pp. 21-24]
3.10 Timber	72	Specialist Input, Timber, Silviculture Report [pp. 16-19]
3.10 NNIPs	72	Specialist Input, Botany, NNIP Specialist Report [pp. 8-10]
3.10 Rare Plants	72-73	Specialist Input, Biological Evaluation [pp. 84-86]
3.10 Plant MIS	73	Specialist Input, Botany, Management Indicator Species Specialist Report [p. 3]
3.10 Wildlife MIS	73	Specialist Input, Wildlife Management Indicator Species Specialist Report [pp. 6-7]
3.10 Wildlife RFSS and TES	73-74	Specialist Input, Biological Evaluation [pp. 15, 16, 19, 20, 25, 27, 31, 33, 35-38, 40-42, 44-48, and 54-57]
3.10 Aquatic, Fisheries and Riparian	74	Specialist Input, Aquatic Analysis [pp. 1-5 and 8]
3.10 Aquatic RFSS	74	Specialist Input, Biological Evaluation [pp. 51-52]

Location of Excerpt in Revised EA		**Location of the supporting information in the project file**
Section/Discussion	*Pages*	
Resource Topic: Cumulative Effects		
3.10 Aquatic MIS	74	Specialist Input, Aquatic Management Indicator Species Specialist Report [pp. 3-4]
3.10 Soils	75	Specialist Input, Soil Specialist Report Issue 1c [pp. 4, 8 and 10] and Soil Specialist Report Issue 4b [pp. 5-6]
3.10 Recreation	76	2012 EA, Analysis Framework, Recreation [pp. 24-25]; and Revised EA [pp. 41-42 and 48]
3.10 Visuals	76	2012 EA, Analysis Framework, Visual Resource [pp. 21-24]

Appendix 4. Selected Action Maps


Redboat RMP
Selected Action
Timber Harvest and
Road Development
Map 1
Project Boundary
Timber Harvest
Aspen Regeneration
Group Selection
Improvement Harvest
Overstory Removal
Salvage
Selection Harvest
Shelterwood
Structural Improvement
Thinning
Temporary Openings Larger than 40 acres for Aspen Regeneration
Road Development
Maintenance
Reconstruction
Construction
Temporary Construction
Other Road
WSR Corridor Boundary
Compartment
National Forest System Land
Non-National Forest System Land
Lake
Stream
Jackson Creek
Dunham Rd
US-2
Little Presque Isle River
Presque Isle River
8170
8190
8100
8300
8120
MI-64
Heart Lake
Elbow Lake
Redboat Lake
Henry Lake
Thrush Lake
Mink Lake
Hawk Lake
Mishike Lake
Smouth Lake
Eel Lake
Blueberry Creek
Presque Isle River Flowage
W. Br. Presque Isle River
Moraine Creek
Miles
0 0.5 1 2
N
W E
S
Compiled by the Ottawa NF on 5/21/2013 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.
REM map1
Lake Superior
Bergland District
Ontonagon District
Kenton District
Bessemer District
Watersmeet District
Bergland
Lake Gogebic
Ironwood
Bessemer
Wakefield
Marenisco
Bond Falls
Watersmeet
Michigan
Wisconsin
Redboat Project Area
Ottawa NF District
Main Roads
Cities
Miles
0 5 10 20



Redboat RMP
Selected Action
MVUM and Road Decommissioning
Map 2

Changes to MVUM

- Open to OHVs Only, 50" or less in width with Seasonal Restrictions
- Open to All Motorized Vehicles, with Seasonal Restrictions
- Remove from MVUM and remain off future MVUM

Decommission

- Decommission Forest System Road
- Decommission Unauthorized Road

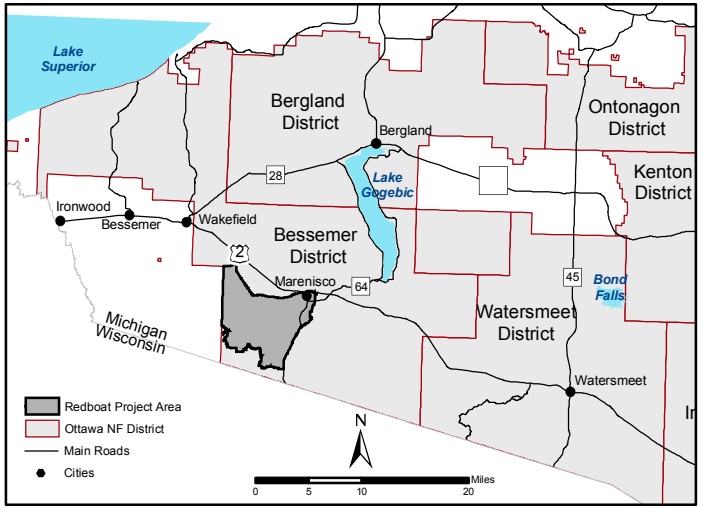
Existing 2011 MVUM No Change to Use

- Open to Highway Legal Vehicles Only
- Open to OHVs Only, 50" or less in width with Seasonal Restrictions
- Open to All Motorized Vehicles with Seasonal Restrictions

MA

- 2.1
- 6.2
- 8.1

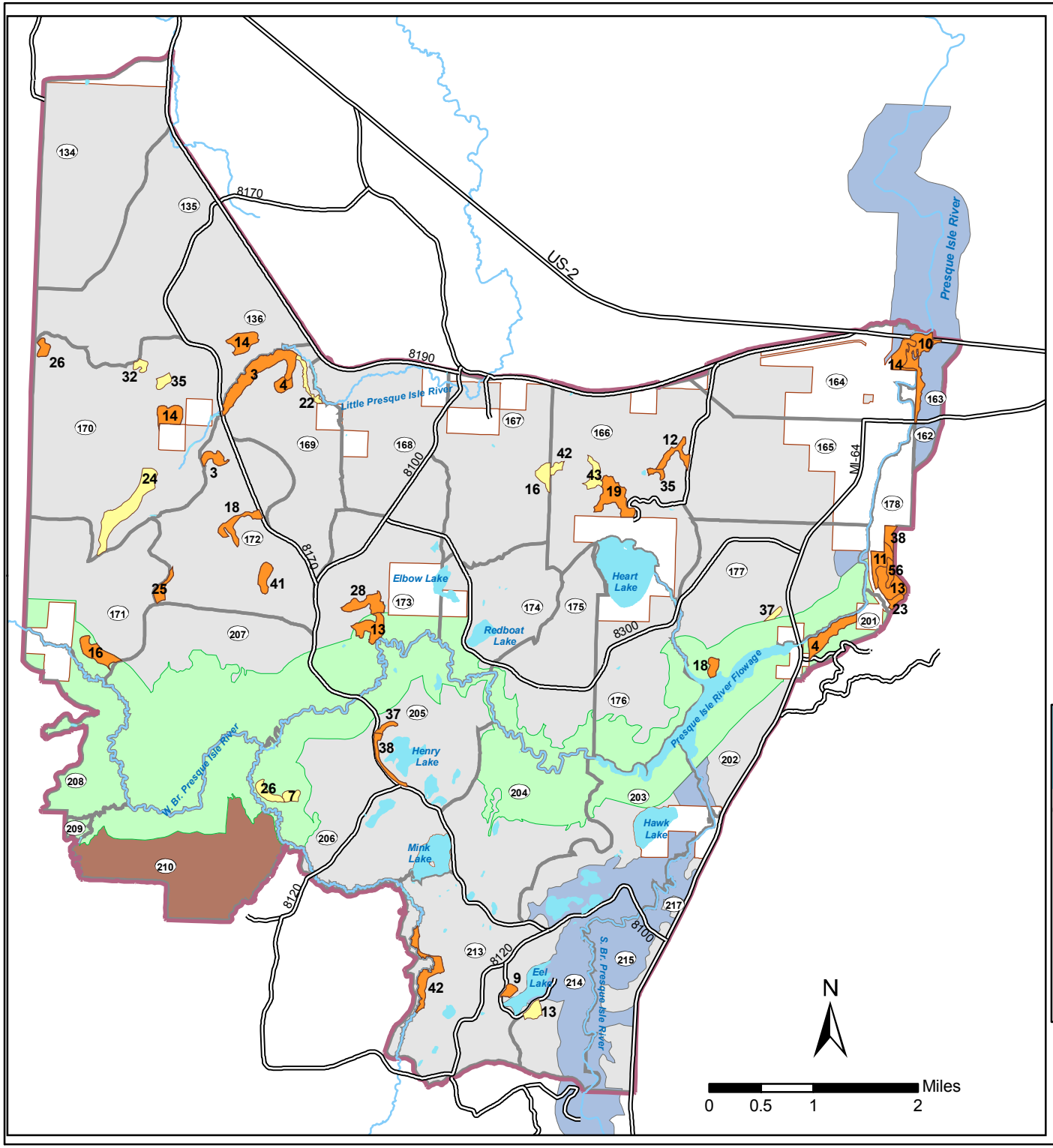
- Project Boundary
- Non-National Forest System Land
- Lake
- Stream
- Other Forest System Road
- Other Road



Compiled by the Ottawa NF on 5/29/2013 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.

REM Map 2

Redboat RMP
Selected Action
Old Growth
Map 3



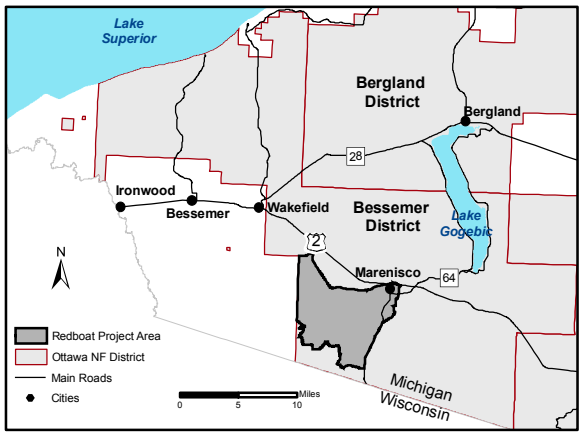
Project Boundary

Old Growth
- Declassify Old Growth
- Retain Classified Old Growth

WSR Designation
MA 8.1
- Recreational
- Scenic

Other MA's
- 2.1
- 6.2

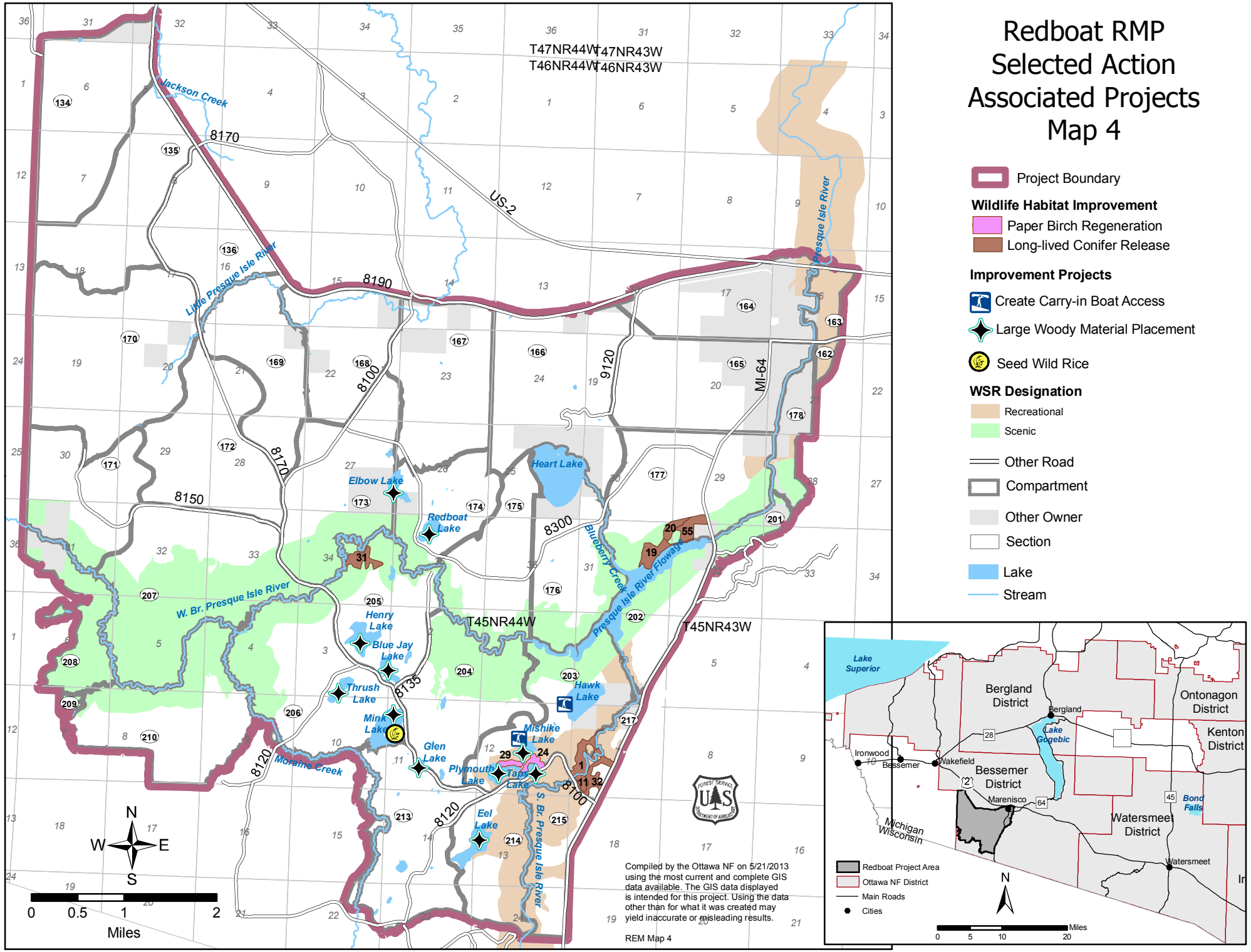
- Other Road
- Compartment
- Other Owner
- Lake
- Stream



Compiled by the Ottawa NF on 5/29/2013 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.

REM Map 3

Redboat RMP Selected Action Associated Projects Map 4



Project Boundary

Wildlife Habitat Improvement
- Paper Birch Regeneration
- Long-lived Conifer Release

Improvement Projects
- Create Carry-in Boat Access
- Large Woody Material Placement
- Seed Wild Rice

WSR Designation
- Recreational
- Scenic

- Other Road
- Compartment
- Other Owner
- Section
- Lake
- Stream