USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Eastern Region, Ottawa National Forest

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Silver Branch Vegetation Management Project

Environmental Assessment and Finding of No Significant Impact

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Photo credit (front cover): A view from Ludwig's Rock near FR 3670-B. 2025. Austin Walworth, U.S. Forest Service

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Introduction and Background Information

This environmental assessment (EA) discloses the effects of implementing the proposed activities stated on pages 34-41. This EA also provides the project's Responsible Official the information necessary to determine whether the effects are significant enough to warrant preparation of an environmental impact statement.

This document incorporates by reference all the associated documents developed as part of this analysis (contained in an electronic project file). This includes an Analysis Framework that was developed by the project's Interdisciplinary (ID) team as instructed by the Responsible Official. This framework outlines the analysis parameters for each resource discussed in this document. To decrease redundancy, several of the parameters are not repeated in this EA. Additional project information is available on the Ottawa National Forest's website (https://www.fs.usda.gov/ottawa/) or by request (see contact information on page 2).

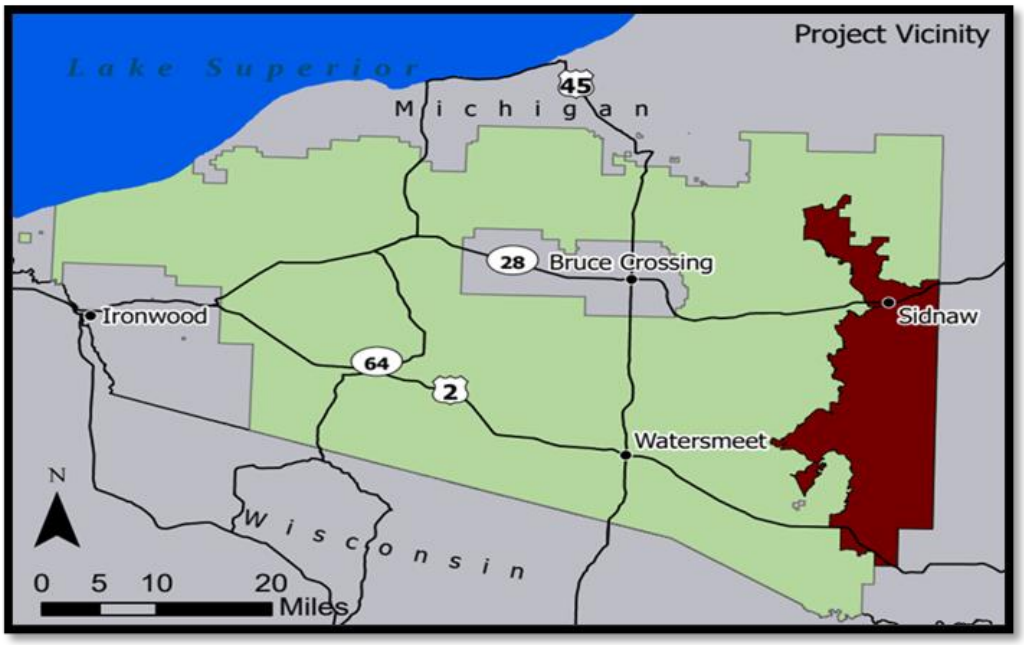
Who is proposing this project? The Ottawa National Forest (Ottawa) is proposing the Silver Branch Vegetation Management Project (SBVMP). This document is intended to share an overview of the proposed project and a summary of the environmental analysis completed. By preparing this environmental assessment, the Ottawa is fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws, regulations, and policies.

The release of this document also initiates an opportunity to provide input on this proposal through a 30-day public comment period (see cover letter for this document). The Responsible Official for this project is Trevor Hahka, Bessemer, Iron River and Watersmeet District Ranger.

What is the purpose of this project? The project would address the resource gaps, or the differences identified, between the existing conditions on the landscape and the range of desired conditions. These conditions are described in the 2006 Ottawa National Forest Land and Resource Management Plan (i.e., Forest Plan, pp. 3-6 to 3-15, 3-21 to 3-26, and 3-71 to 3-81.9) and it's for the Wild and Scenic River System, the Comprehensive River Management Plan (CRMP) (pp. 2-1, 2-7 to 2-8, 2-18 to 2-21, 3-5, and 3-10 to 3-11) in the project area (see Figure 1).

Where is the project area? The project is located on the Iron River, Kenton and Watersmeet Ranger Districts, in Township (T) 43N Range (R) 35W Sections (Sec): 4-9, 16-18, 20, 21; T43N R36W Sec: 1, 2, 11-14; T44N R35W Sec: 1-36; T44N R36W Sec: 1, 2, 4-8, 11-14, 18, 23-27, 34-36; T44N R37W Sec: 1, 12; T45N R35W Sec: 1-36; T45N R36W Sec: 1-33, 35, 36; T45N R37W Sec: 12-15, 22-25; T46N R35W Sec: 1-36; T46N R36W Sec: 1-4, 9-16, 22-28, 32-36; T47N R35W Sec: 1-36; T47N R36W Sec: 1, 2, 10-16, 22-27, 33-36; T48N R35W Sec: 6-8, 18-36; T48N R36W Sec: 1-5, 8-15, 23-26, 36; T49N R35W Sec: 31, 32; T49N R36W Sec: 3, 7-10, 16-22, 26-36; T49N R37W Sec: 13, 24, Baraga, Houghton and Iron counties, Michigan. The project area is located on the east side of the Ottawa, is bisected by Michigan State Highway 28, and is 25 miles north-east of Watersmeet, MI. The SBVMP includes approximately 177,772 acres, of which 127,828 acres are National Forest System lands (Figure 1).

FIGURE 1: PROJECT VICINITY MAP



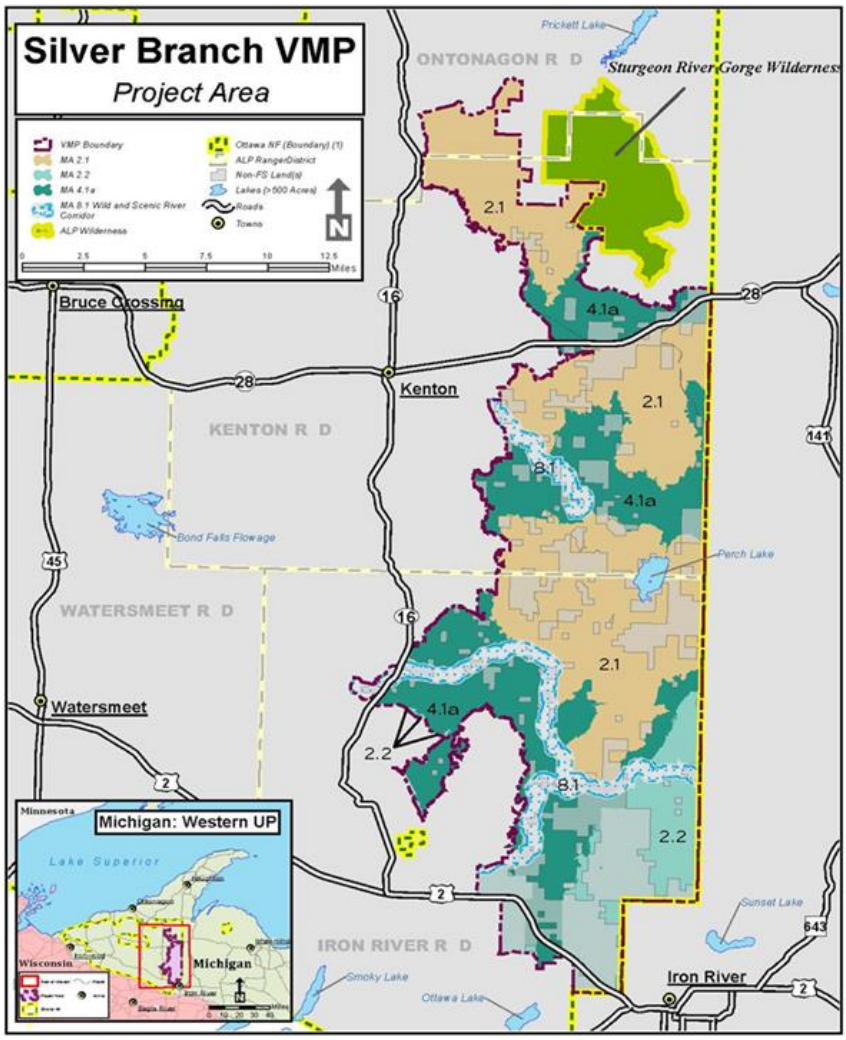
The Forest Plan includes specific directions for managing different land areas within the Ottawa; these areas are delineated as management areas (MAs). The MAs included in the SBVMP are MAs 2.1, 2.2, 4.1a and 8.1 (Figure 2). The desired conditions and management direction for these MAs are outlined in the Ottawa Forest Plan (https://www.fs.usda.gov/main/ottawa/landmanagement/planning).

The East Branch Ontonagon River as well as the North, South, and main branches of the Paint River are all designated Recreational segments of Wild and Scenic Rivers (WSR), and a section of the North Country National Scenic Trail (NCNST) are present. Maps outlining these features, the project area and all associated activities can be found in Appendix B.

Why here and why now? After the ID team evaluated the project area using field surveys, inventory data; review of identified needs, opportunities and Forest Plan direction; they developed proposed actions to move existing conditions on the landscape towards the desired conditions described in the Forest Plan.

The Ottawa released a scoping package in May 2025, which provided Tribes, other agencies and organizations, and the public an opportunity to review and provide comments. Additional data collection has led to some changes to the proposed action, which are incorporated into this analysis. Appendix B, Maps 1 through 7, visually displays the locations of the proposed activities. Numbers, including acreage and mileage, in the tables and locations on the maps are estimated and may be adjusted due to resource protection measures (referred to as Design Criteria - see Appendix A) and conditions on the ground.

FIGURE 2: PROJECT MANAGEMENT AREA MAP



Purpose and Need for the Proposed Action

Need 1 – Vegetation (Timber) Resources

As described in Goal 1 of the Forest Plan (Forest Plan, p. 2-2), there is a need to maintain or enhance the health of the forest communities and to provide for the long-term production of a mix of timber products. Additionally, there is a need to maintain or move toward the desired vegetative composition as described in the Forest Plan (pp. 3-4, 3-23 and 3-29). Desired conditions of improved forest composition, health and diversity is a long-term goal that would not be achieved in all areas with this proposed project alone.

The analysis area for the SBVMP is dominated by northern hardwood stands, composed of species such as sugar maple, yellow-birch, red maple, basswood, and eastern hemlock. Aspen stands, in various age conditions, are also common across the project area. Short-lived conifer stands do occur, particularly in the lowlands, but are generally uncommon throughout the project area. Long-lived conifer stands are present throughout much of the project area.

Existing Conditions (see Table 1):

Aspen/paper birch forest type - Aspen stands within the project area span a range of age and health conditions. While there are portions of both young (approximately 15-30 years old) and middle-aged aspen stands (approximately 30-60 years old), there is a high concentration of older aspen stands (>60 years old) and minimal young aspen stands (<15 years old) within the project area. The over-mature stands should be considered high risk due to age and the presence of white trunk rot. Aspen stands approaching maturity should be managed to lessen the occurrence and amount of biomass lost to white trunk rot before the next analysis period. As aspen reaches maturity, use from wildlife declines. These stands may succeed to more shade tolerant species compositions, with greater components of mixed hardwoods, reducing the ecosystem benefits of these stands.

Northern hardwood forest type – Northern hardwood stands are typically second-growth, a legacy of the cutover of the late 1800s/early 1900s. These stands are frequently in an even-aged or two age class condition and are commonly overstocked. This condition suppresses the development of younger age classes with some stands experiencing near or equal amounts of volume mortality versus volume growth. These stands are typically dominated by sugar maple, a heavily shade tolerant tree species. Aspen inclusions and lone long-lived conifer are present through this forest type. The understory is frequently crowded with a mix of sugar maple regeneration, oftentimes heavily browsed by deer, ironwood regeneration and scattered pockets of balsam fir. Mid-tolerant species occur much less frequently than desired. These species include yellow birch, paper birch, and northern red oak and are present but are not regenerating. There are many stands that are approaching, or are in an overstocked condition, and are generally healthy, but continue to maintain full canopy closure that suppresses a developing understory.

Short-lived conifer forest type – Short-lived conifer stands (balsam fir/black spruce/jack pine) occur within the analysis area. Many short-lived conifer stands are generally in poor health and have considerable amounts of mortality due to past impacts of spruce-fir decline and spruce budworm. With the presence of inclusions of different forest types such as aspen or long-lived conifer, there is the opportunity to improve diversity and resiliency to reduce the risk of insect and disease outbreaks by encouraging these inclusions to remain on the landscape. Jack pine stands and plantations are reaching their biological maturity and are at high risk for conversion to other species if left to experience natural mortality.

Long-lived conifer forest type – Long-lived conifer stands (eastern hemlock, white pine, red pine, northern white cedar) occur within the project area. There are scattered stands of eastern hemlock and eastern white pine, but these species occur most commonly as minor components of hardwood and aspen stands. Many red pine stands and plantations are present throughout the project area and are in an overstocked condition leaving them susceptible to insects, disease, and windthrow. Some stands currently lack understory development and have less adaptive capabilities to naturally regenerate a more diverse understory. The scattered inclusions of eastern hemlock across the project area generally lack established cohorts of younger age classes of hemlock in the understory. These hemlock inclusions may need vegetative treatments to regenerate and establish younger hemlock age classes.

Additional forest type/stand information – Several mature northern red oak stands or stands with heavy northern red oak components also occur within the project area. While these stands contain considerable amounts of oak in the overstory, there is relatively little oak regeneration and limited successful recruitment of oak into upper canopy positions. More often, shade tolerant regeneration, such as sugar maple, dominates the understory and would out compete a future oak component.

In general, this is also true for other mid-tolerant to shade-intolerant hardwood species, such as yellow birch, paper birch and black cherry, which are failing to regenerate and grow into upper canopy positions without improved seedbed conditions.

Red Pine Nearing Rotation Age (50 to 220 years) - A lack of red pine regeneration, a decline in quality and a potential loss of red pine throughout the project area is occurring. There is a need to improve younger age class red pine stands to maintain and improve red pine on the landscape. This would assist in the perpetuation of red pine where red pine is historically present.

TABLE 1. FOREST VEGETATIVE COMPOSITION

Forest Type	Desired Condition (Forest-wide by MA) (%)	Existing Condition (Forest-wide by MA) (%) *
MA 2.1		
Aspen/birch	15-20	11
Northern Hardwoods (Upland Hardwoods and Lowland Hardwoods)	50-70	64

Forest Type	Desired Condition (Forest-wide by MA) (%)	Existing Condition (Forest-wide by MA) (%) *
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer)	10-20	20
Long-lived Conifers (Red Pine, White Pine, White Spruce**, Hemlock)	0-10	5
MA 2.2		
Aspen/birch	5-15	14
Northern Hardwoods (Upland Hardwoods and Lowland Hardwoods)	65-75	69
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer)	10-20	14
Long-lived Conifers (Red Pine, White Pine, White Spruce**, Hemlock)	5-10	5
MA 4.1a		
Aspen/birch	5-15	26
Northern Hardwoods (Upland Hardwoods and Lowland Hardwoods)	15-25	22
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer)	20-25	24
Long-lived Conifers (Red Pine, White Pine, White Spruce**, Hemlock)	30-60	28

* Existing Forest-wide Condition source (Ottawa National Forest 2012-2016 Monitoring Evaluation Report, p. 110-116).

** The Forest Plan tracks white spruce management as a long-lived conifer, although it may be discussed with the short-lived conifer species due to mixed stands.

Need 2 – Old Growth

To refine the stands classified as old growth in patterns and arrangements that provide the desired spatial arrangement within the MA, as described in the Forest Plan guideline for old growth management (Forest Plan, pp. 2-23 to 2- 25) and move towards the desired condition.

Existing Conditions:

Old Growth Classifications – Old growth forest is desired to maintain healthy, diverse, and productive ecosystems, as well as provide recreational opportunities (Forest Plan, p. 2-2). The amount of designated old growth within MAs 2.1, 2.2, and 4.1a and the desired Forest-wide MA conditions established in the Ottawa (Forest Plan, pp. 3-8, 3-13 and 3-24) can be found in Table 2 below. Most stands within the project area currently classified as old growth meet the desired conditions. However, several stands in MA 4.1a are not in an old growth condition or are not exhibiting traits that can promote future, ecological old growth, as described in the Forest Plan (p. 2-24) and there are stands within MA 2.1 that do meet that criteria. There would be an opportunity to modify some classifications to better align stands to meet Forest Plan direction.

Fire in old growth - Prescribed fire is a tool used for managing a wide range of habitat and forest types, and within this project, this includes some stands classified as old growth. The areas selected for this activity were chosen because the existing conditions could be improved for most species in these stands (Forest Plan, p. 2-24).

Table 2 displays the existing and desired conditions for old growth in these MAs.

TABLE 2. OLD GROWTH CONDITIONS

Management Area	Desired Condition – Forest-wide by MA (%)	Existing Condition -Forest-wide by MA (%)	Existing Project Area Condition (%)*
MA 2.1	8-10	7.8	7.2
MA 2.2	8-10	9.5	3.6
MA 4.1a	4-7	7.6	7.2

* The Project Area old growth percentages are shown for reference only; percentages are managed at the Forest-wide landscape scale of each MA.

Need 3 - Wildlife Resources

There is a need to maintain or promote conditions on the Ottawa to provide healthy, quality habitat for ecological communities and the conservation, restoration and recovery of species of viability concern as outlined in the Forest Plan (pp. 2-2, 2-4, 2-9, 3-4, 3-23 and 3-29). Habitat improvement also promotes diverse quality recreation experiences within the capability of sustainable ecosystems as well as the health and composition of forest communities and provide for the long-term production of a mix of timber products (Forest Plan, pp. 2-4, 2-6, 3-4, 3-23 and 3-29). There is also a requirement to honor the US Government's Trust responsibility and treaty obligations with Native American Tribes within a government-to-government relationship.

Existing Conditions:

Wild Rice Restoration - Numerous efforts to seed other water bodies have been ongoing over the last 20 years or more, many of these sites have not been successful. While wild rice has been restored in some portions of its native range, including Minnesota and Wisconsin, Michigan remains an area of low density.

Both Kunze and Perch Lake have been surveyed by Lac Vieux Desert Tribal members and Forest Service staff with the most recent surveys completed in 2023. Both water bodies have continued to show suitable habitat for wild rice growth and viability.

Morrison Creek Hunter Walking Trail (HWT) – This 1.92-mile HWT is comprised of one loop and three spurs. This trail provides hunter access to aspen habitat and the wildlife communities it supports. Several sections of trail are narrow (3 feet) and have uneven terrain making for difficult walking. Two temporary openings are present. There are eight aspen stands, however four stands are over 100 years old and are in danger of transitioning to other forest types.

Aspen and Paper Birch Restoration – Many existing aspen/birch stands have begun senescing and transitioning to other forest communities, especially northern hardwoods. Currently, 10% of stands are less than 15 years old, 6% are between 16-30 years old, 41% are between 30-60 years old and 43% are over 60 years old. The landscape lacks a diversity of age classes that benefit game and forest sensitive species and also produces a sustained yield of and aspen/birch forest products.

Eastern Hemlock Regeneration and Conifer Connectivity – There is a need to enhance the long-lived conifer species (eastern hemlock, white cedar, eastern white pine) and improve conifer connectivity (all species). Currently, the eastern hemlock resource faces several threats, such as competition from hardwood species, natural regeneration challenges, and anticipated future impacts from the hemlock woolly adelgid, an invasive, exotic insect that feeds upon hemlock vascular tissue leading to mortality. Across the project area, there is a lack of conifer cover and connectivity that provide travel corridors between boreal and old growth habitats. By increasing diversity in species composition and structure, forest stands and forests at large can become more resilient.

Kirtland's Warbler Habitat Improvements – The Kirtland's warbler (*Setophaga kirtlandii*) is a species that needs continuous habitat management to remain off the endangered species list. The current habitat outlook predicts a drop in available suitable habitat across the core breeding range and, as a result, Kirtland's warblers would be searching for habitat at its range end, like the Ottawa for future breeding sites. Kirtland's warblers are almost exclusively a jack pine specialist within its core range. However, this species has been known to utilize red pine stands directly adjacent to jack pine stands when both stands are the same age outside of its core breeding range.

Project surveys by wildlife staff have found many jack pine stands at or beyond rotational cutting age are not regenerating and are being replaced by more shade-tolerant, deciduous species (e.g., maple). If this transition is allowed to continue, many of those jack pine stands that provide Kirtland's warbler habitat and overall forest diversity would be lost. At least 50% of the jack pine acres in the SBVMP are 60 years old or older, far beyond what is optimal for Kirtland's warbler habitat (5-23 years old).

Wildlife Opening Creation and Maintenance – Openings, permanent and temporary, across the forest benefit pollinators, bats, breeding and fledgling birds, and other wildlife species. These species need open, sunny areas that contain diverse forage and invertebrate food sources. There is a lack of openings, especially larger openings (>5 acres) throughout the Forest. At least 50% of the areas classified as "open" have grown in due to lack of maintenance and can no longer be considered open habitat. This project would regain and improve these sites by re-opening them, maintain current open sites from encroaching vegetation, and/or create variable sized gaps to meet wildlife needs and Forest Plan objectives. There may also be an opportunity to identify and reclassify open areas that are prone to remain open yet are typed as forested.

Habitat Structural Improvements in Wild and Scenic River Corridors (WSRC) - Some red pine plantations and hardwood stands within the East Branch of the Ontonagon River WSRC, and all three WSRC segments of the Paint River watershed are in an overstocked condition leaving them susceptible to degradation from insect, disease and windthrow. Some stands currently lack understory development and would be potential candidates to underplant other species and improve adaptive capabilities.

There is a lack of young, aspen-dominated forest to provide deciduous forage for deer within the wintering complex and therefore a lack of forage resources for the Federally endangered Gray Wolf. In addition, most of the current aspen stands are at risk of loss due to natural succession and would cease to provide connectivity and foraging resources for early successional species that support the Recreational Outstandingly Remarkable Values (ORVs).

Need 4 – Fire and Fuels Reduction

There is a need to consider using all wildland fire suppression methods, including fire use (naturally occurring and prescribed) and mechanical fuels treatments to enhance ecosystem resiliency and function, lower hazardous fuel levels, protect public and

private resources and values, and provide for public and firefighter safety (Forest Plan, p. 2-11).

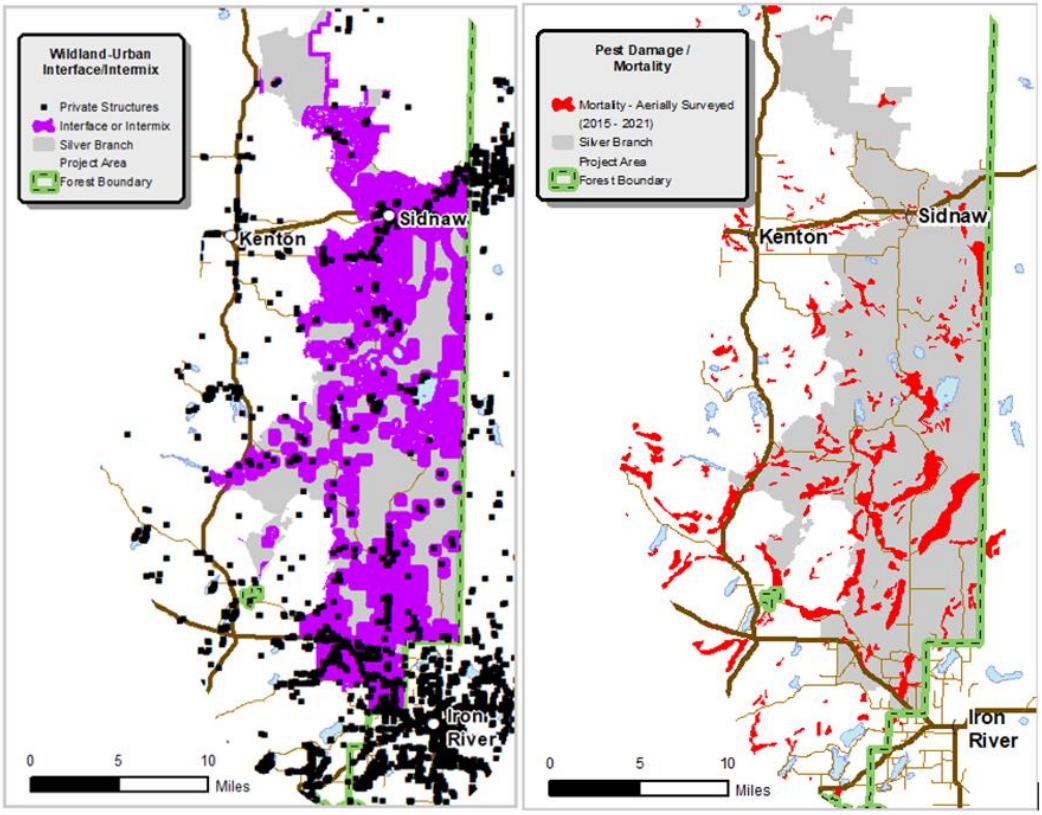
Existing Conditions:

Hazardous fuels – Appendix A, Maps 22-24 display the Wildland-Urban Interface (WUI) or Intermix within the project area, which encompasses about 66% of the project area (see Figure 3). The WUI is defined as an area where infrastructure (e.g., power and gas corridors, railroad lines, communication sites, road corridors designated as escape routes, and structures/property) reside within 0.5 miles of undeveloped, natural areas. The WUI/Intermix also includes structures, such as homes and buildings, located in areas where vegetation occupies more than 50% of the terrestrial area. There is a potential for the accrual of hazardous surface fuels after a timber harvest due to limbs, tops, and dead material within a stand after harvesting. This potentially heightens wildfire risk in stands that contain spruce and fir that have been affected by the spruce budworm and in areas with a heavy conifer component. Further, naturally occurring mortality events from pest damage, windthrow, and other natural disturbances increase the potential for stand-replacing fire events.

Portions of the project area have experienced severe die-off of spruce and balsam fir forest types due to spruce budworm infestation. Approximately 35% of balsam fir/spruce communities are visibly impacted, with damage spreading annually (see Figure 3). In some stands, as much as 90-100% of balsam fir and spruce are dead, with potential for even heavier future fuel loading as trees continue to defoliate and fall down. The resulting fuel build-up in these stands presents a heightened wildfire risk (of both fire occurrence and intensity) within the WUI.

Lack of fire to enable natural processes and promote resiliency - Suppression of fire in upland and mesic systems, ranging from decades to the pre-European settlement era, has reduced structural and species diversity and caused less regeneration of disturbance-adapted species such as paper birch and oak. Hardwood encroachment occurs in the historical mixed-pine systems, limiting suitable conditions for natural regeneration of pine. Periodic low-intensity fire is necessary to maintain these communities.

FIGURE 3. PEST DAMAGE/MORTALITY AND WILDLAND URBAN INTERFACE MAPS



Many fire-adapted ecosystems within the project area are classified as a Fire Regime Condition Class (FRCC) 2 or 3, which indicates that the ecological departures from historical conditions/disturbances are moderate or high, respectively. Of the total non-developed lands within the project area, 42% are in Condition Class 3 and 20% are in Condition Class 2. Fire exclusion, logging, and disease have led to increases in the density of surface fuels, encroachment of shade-tolerant tree species, and a loss of shade-intolerant tree species. Lack of fire on the landscape decreases the resilience of the ecosystem and increases the risk of catastrophic damage from wildfire. There is a moderate (Class 2) or high risk (Class 3) of losing key ecosystem components.

Need 5 – Aquatic Resources

There is a need for lakes, streams, rivers, other water bodies, and wetlands function appropriately and provide high quality habitat for plants and animals, high water quality, as well as recreational opportunities (Forest Plan, p. 2-3).

Existing Conditions:

Aquatic Organism Passage (AOP): During field review and road-stream crossing inventory associated with SBVMP, several crossings were identified which impede or block aquatic organism passage under varying flow conditions. While other potential road crossing AOP barriers likely exist in the project area, three crossings that are not Forest Service (FS) jurisdiction for maintenance were identified as barriers and proposed for future AOP crossing replacement projects because they occur on cold-

water trout streams, which are a priority for habitat connectivity restoration. These include Morrison Creek at Road 3480, Bush Creek at Gibbs City Road, and North Branch Paint River at Gibbs City Road. Golden Creek on FR 2197, which currently lacks a crossing structure but has a road prism, which constricts the channel and floodplain, was also identified as a priority AOP project to protect or enhance aquatic organism passage or address ongoing or foreseeable water quality issues associated with unauthorized vehicle fording or temporary crossing development.

Aquatic Habitat Improvement: Limited aquatic habitat complexity and pool formation created by large woody debris that forms fish cover, spawning and rearing habitat and forage production for brook trout, brown trout, and other resident aquatic species exists within sections of several streams including Paint River, North Branch Paint River, South Branch Paint River, Perch River, Bush Creek, Silver Creek, Golden Creek, and Sidnaw Creek. There is also limited aquatic habitat complexity associated with near-shore and submerged large woody debris that benefits warm-water fisheries comprised of varied combinations of walleye, largemouth and smallmouth bass, northern pike, panfish, forage fish and other aquatic species within several lakes including Perch Lake, Winslow Lake, Lake Sainte Kathryn, Marten Lake, Hager Lake, and Hannah-Webb Lake.

Sauna Creek: Sauna Creek is a tributary to the Perch River within the Sturgeon River Basin. An illegal ford of Sauna Creek (approximately 1.5 miles upstream of the confluence with the Perch River) on FR 1280 (closed to motorized use) is causing channel widening and sedimentation. It increases the risks of channel erosion, road-stream capture during high flows, and downstream impacts to this cold-transitional stream, which likely supports brook trout seasonally or perennially with patchy distribution depending on ground water influence on water temperatures.

Need 6 – Travel Management

There is a need to provide a safe, efficient, and effective transportation system that supports both public and administrative uses (Forest Plan, p. 2-12). For management planning purposes, it is necessary to determine the minimum transportation system needed and to maintain the average road density between 3-4 miles per square mile for MAs 2.1, 2.2, and 4.1a (Forest Plan, pp. 2-23 to 2- 25). The Forest Plan does not provide an average road density for MA 8.1.

Existing Conditions:

Access for Management Needs - Based on field inventory, some existing road conditions would need to be improved to facilitate vegetation management or other resource activities, while other areas lack access. Numerous roads were found during field inventory that are not part of the transportation system. Some of these unclassified roads offer routes that could improve access for administrative and/or public access needs, and some unclassified routes are not needed and would be decommissioned.

Resource Concerns - Field inventory also revealed road-related resource damage causing adverse impacts to water quality, fish and wildlife habitat or other forest

resources. Many roads assessed for the transportation plan revealed road related resource damage associated with undersized or non-functional culverts, washouts, drainages with no culverts, rutting and areas where the road lies within or is impacted by beaver dam flooding and wetlands.

Need 7 – Recreation

There is a need to promote diverse and quality recreation experiences within the capability of sustainable ecosystems, and consistent with the niche of the Ottawa, while minimizing the impacts to natural resources (Forest Plan, p. 2-4).

Existing Conditions:

The Ottawa's Motor Vehicle Use Map (MVUM) – The MVUM displays the roads and trails open to motorized use, and the type of vehicles (e.g., Off-Highway Vehicles (OHVs) only, highway legal vehicles only or both). In some areas, it is necessary to remove designated access to address resource concerns, such as rutting, erosion, and damage to vegetation. There are also opportunities to maintain and improve recreation opportunities, including offering additional roads, trails, and local route connections (e.g., loops for OHVs) in locations that can sustain motorized use for an improved motorized recreational experience.

Perch Lake Campground Improvements – Perch Lake campground is a popular recreation site for both overnight campers and day users. This campground lacks an entrance gate, which is necessary should the need arise to close the campground during summer season or during the winter (closed) season. In conjunction with the gate, a parking area would need to be established to facilitate winter use and to provide a turnaround.

Ludwig's Rock Overlook – Ludwig's Rock is a popular overlook for dispersed recreation offering a high vantage point to view the surrounding area. The site is currently accessible from a user-created trail off Trail (T) 3670B, accessed via unclassified decommissioned routes 0412547, T 3764, and T 3580. This user-created trail is rough and steep and the other associated roads are wet and rutted. This use is causing resource damage to vegetation and soil (e.g. erosion).

Recreation Area Stand Improvements – Recreation sites throughout the project area need vegetation management to meet safety and visual quality objectives. As trees die, they commonly remain standing for years and can become a falling hazard. Within many of our recreation sites, as trees die, regeneration of new trees can be sparse, depending on the seed bank. In areas with limited natural regeneration, there is a need to plant new trees to perpetuate the vegetative component that is desired by users.

All recreation areas within the project area would potentially receive improvements depending on the state of the vegetation and the need to improve safety and visual quality. Notable sites include Camp Nesbit, Camp Gibb's and the Paint River Forks, Lake Ste. Kathryn, and Perch Lake Campgrounds.

Echo Lake Dispersed Camping – Currently, vehicles are accessing a dispersed camp site between Echo Lake and FR 1501-B. The use this area gets from paddlers, dispersed campers, and hunters has led to resource damage (i.e., rutting and erosion). Additionally, the lack of space does not allow for more than two vehicles or two groups wishing to disperse camp in the area without potentially causing additional damage.

Estes Lake Watercraft Access – Estes Lake was removed from regular maintenance in 2016 due to its low use in comparison to other recreation sites. However, this area still receives consistent, albeit low-moderate, use. The site remains the primary access point for launching boats, and as such, resource damage in the form of rutting and erosion has developed.

Lake Ste. Kathryn Recreation Improvements – The stairs and retaining wall at the day use area of the Lake Ste. Kathryn Campground need replacement as they have deteriorated with age. Erosion is present where the current structures have failed to function as designed. Some lakeside camping sites provide lake access, and these need replacement.

North Country Trail (NCT) Improvements – Currently there are many wet areas along the NCT between FR 1500 and T 1366 caused by poor trail drainage, increased heavy precipitation events, soil type, terrain and beaver activity. These factors lead to erosion and trail braiding where users create trails to avoid mud/wet areas. While the NCT is designed to be a challenge, overall user satisfaction is decreased when forced to avoid areas flooded with water. There are currently 40 identified locations that could use some form of drainage structure, boardwalk, puncheon, turnpike, or reroute. Additional sites may be added if found during implementation.

Paint River System Boat Launch Sites – Four access sites along the Paint River system need improvements. Each site has been identified as receiving frequent use and has resource damage (erosion, infrastructure degradation) associated with that use.

North Branch Paint River/Forest Highway 16: This area is the starting point for the North Branch Paint River Canoe Route. There is no designated access trail to the river, simply a user created trail leading down the water's edge. As such, vegetation impedes easy use for carry-in access and erosion and user safety is a concern.

Paint River Forks: The current wood launch and stairs are beginning to deteriorate, leading to unsafe walking conditions and erosion.

Block House: The current location for carry-in access is in one of the decommissioned campsites from the former Block House campground. The campground is still heavily used for dispersed camping, which is welcome, but does create access confusion for paddlers as they attempt to park and find the trail to the launch area. The riverbank that is used for launching canoes remains stable but is steeper than other launch sites on the Paint River.

Access along Winslow Lake Road: This site is not a designated recreation site; however, heavy use is evident. Currently there is a small parking area and an overgrown user-created trail accessing the river.

Penegor Lake Access Improvement – Penegor Lake is accessed through a decommissioned 0.03-mile trail from a parking area on FR 1500. This trail has developed low, muddy areas caused by a lack of drainage. There is a need for a trail structure at this site to provide more sustainable access and eliminate trail damage (widening, braiding, post holing).

Snowmobile Trail 15 Reroute – Snowmobile trails, like Trail 15, have commonly been routed through wet areas due to the lack of snowmobile impact once frozen. However, with the later onset of winter this has led to a delay in the opening of trail #15 because the wet area southwest of Marten Lake is not consistently freezing by the onset of snowmobile season on December 1st. There is a need to provide an alternate route to support this recreation activity.

Need 8 – Mineral Resources

To consider environmentally-sound development of common variety mineral resources (e.g., gravel) (Forest Plan, p. 2-10). To maintain a safe and effective transportation system, there is a need to have an adequate supply of gravel for roads. Evaluating the current gravel resources would provide information to identify the potential future gravel needs, to maintain a safe and effective transportation system (Forest Plan, pp. 2-23 to 2-25).

Existing Conditions:

Coontail and Hager Lake gravel pits are within the project boundary and are nearing their cleared limits. Data indicates that there is potentially enough gravel available to expand the footprint of the pits.

Proposed Action

The Forest proposes to address the purpose and need by conducting a combination of vegetation treatments and transportation management. Specifically, the Forest is proposing commercial and non-commercial thinning activities and reforestation. Road management activities associated with vegetation treatments are also proposed, including road maintenance, temporary road construction, road reconstruction, improvements, and closures.

As stated in the Introduction, the Proposed Action has been modified. The Proposed Action now includes (1) additional information from ID team field data collection; (2) new design criteria needed to implement the proposed actions within the project area that

were not included in the master design criteria list; and (3) changes based on feedback and requests received during the scoping proposal.

Proposed Vegetation Management Actions and Expected Outcomes

The activities in Table 3 are proposed to advance conditions towards, or maintain conditions within, the desired conditions outlined in the Forest Plan (Appendix B, Maps 2 and 8).

TABLE 3. PROPOSED VEGETATION MANAGEMENT ACTIONS

Activity	Acres (MAs 2.1, 2.2, 4.1a)
Clearcut Harvest – An even-aged regeneration harvest removing all or most trees developing a new age class in one entry (often used in aspen and mixed short-lived conifer forest types). This proposal includes entries into stands reaching maturity later into the project's lifespan.	1,589
Clearcut Harvest with Leave Trees - An even-aged regeneration harvest similar to a clearcut harvest, but focused on leaving trees that provide seed sources and wildlife habitat. This proposal includes entries into stands reaching maturity later into the project's lifespan.	23,954
Selection Harvest – An uneven-aged regeneration harvest where individual or groups of trees of varying size classes are removed throughout the stand. This creates small openings promoting growth and providing space for natural regeneration (often used in northern hardwood forest types). This proposal includes both individual tree selection and group selection methods and allows for a second entry into the same stands, to occur approximately 15 years after the first harvest.	46,074
Sanitation Harvest – An intermediate harvest removing trees to improve stand health by stopping or reducing the actual or anticipated spread of insects and disease.	27
Thinning – Trees are removed to provide improved growing conditions for the remaining trees (often used in red pine stands). Some stands may require a second harvest entry, to occur 10-15 years after the first harvest to ensure the desired density is maintained.	8,022
Improvement Harvest – A harvest used to improve stand quality and species composition and to alleviate overstocked growing conditions. Stands treated with improvement harvests would be scheduled for another round of treatment in a second entry.	59
Red Pine Overstory - Red pine is a native species with reduced ability to regenerate naturally. This harvest method creates a new	3,728

Activity	Acres (MAs 2.1, 2.2, 4.1a)
age class of red pine to improve health and vigor of the red pine forest type.	
Total	94,863

Expected Outcomes:

Aspen/paper birch - In MAs 2.2 and 4.1a, aspen/paper birch forest types fall within the desired condition but are in danger of declining due to natural succession. In MA 2.1, aspen/paper birch forest types are below the desired range. There is a need to emphasize even-aged regeneration harvests of mature and over-mature aspen to ensure that the aspen type is maintained on the landscape. Aspen and birch stands would naturally transition to other forest communities, especially northern hardwood types, without treatment. To maintain the Forest-wide goal of 109,000 acres of aspen with the objective of maintaining at least 12,000 acres of aspen/birch in the 0 to10-year age class, treating the aspen/birch stands within this project area within the next 20 years should be a priority.

Northern hardwood - Northern hardwoods and mixed hardwoods would be managed to build structural complexity, diversify the age class distribution, address forest health concerns (e.g., emerald ash borer, oak wilt) and promote diversity in species composition. When managing for regeneration and stand health, tactics to mitigate the spread and try and prevent new infections would be employed. The management prescriptions for MAs 2.1, 2.2 and 4.1a (Forest Plan, C-6) would be used to guide vegetative treatments in the project area. Management Areas 2.1, 2.2 and 4.1a call for a mix of uneven-aged and even-aged management systems. Where uneven-aged management is to be practiced, both individual tree selection and group selection methods would be utilized to interrupt the continuous canopy, promote regeneration of new age classes and encourage the development of older age classes. Another goal would be the regeneration and recruitment of diverse tree species, including shade intolerant and mid-tolerant species, like northern red oak, black cherry and yellow birch. In hardwood stands not ready for regeneration via either even-aged or uneven-aged means, intermediate thinning and improvement cuts would be utilized to improve species composition, stem quality and the growth and development of the residual stand.

Short-lived conifer – Short-lived conifer within MAs 2.1, 2.2 and 4.1a fall within desired condition ranges at the Forest wide level. Where possible, opportunities to maintain and enhance the short-lived conifer resource would be taken.

Long-lived conifer - Long-lived conifers are within their desired range at the Forest-wide level for both MAs 2.1 and 2.2. However, long-lived conifers are below the desired range in MA 4.1a. There is a need to maintain and enhance the stands that do exist and seek potential opportunities to increase long-lived conifers in MA 4.1a. Existing long-lived conifer stands occurring on suitable sites would be managed to maintain health, productivity and the general long-lived conifer forest type. Opportunities to enhance the

eastern hemlock component within the project would be sought out. Establishing red pine plantations and fill-in plantings of long-lived conifer, such as eastern white pine and eastern hemlock, would also be utilized.

Forest type composition – It is expected that the proposed treatments listed in Table 3 would maintain or make progress toward the Forest Plan desired conditions for MAs 2.1, 2.2 and 4.1a. In conjunction with the proposed treatments, site preparation activities including manual or mechanical treatments, or prescribed fire would be implemented to ensure regeneration and improve the health of the forest within all stands of the EA. Desired conditions, such as forest composition, health, and diversity, are a long-term goal that may not be achieved with this proposed action alone.

Red pine overstory - Overstory removal and subsequent site preparation, including but not limited to prescribed burning, mastication, or roller chopping to retain red pine for the long-term benefit of the forest would occur. After overstory management and site preparation, the establishment of a new generation would be achieved through planting young red pine. The creation or regeneration of a new age class of red pine would improve health and vigor of the red pine forest type because these new stands would improve age class diversity across the landscape.

Proposed Old Growth Actions and Expected Outcomes

The activities in Table 4 are proposed to achieve the desired condition (Appendix B, Map 7).

TABLE 4. PROPOSED OLD GROWTH ACTIONS

Activity	MA 2.1 (Acres)	MA 2.2 (Acres)	MA 4.1a (Acres)
Retain areas currently classified that meet Forest Plan characteristics.	4,132	373	2,748
Classify stands where conditions do meet the criteria in the Forest Plan	71	0	0
Declassify stands where conditions do not meet the criteria in the Forest Plan.	0	0	73
Prescribed Fire - Utilize prescribed fire in old growth stands comprised of species adapted to fire	0*	0*	129

*Anticipated acres but could change as a result of additional information.

Expected Outcomes:

Retain old growth stands – These stands would remain unchanged.

Classify old growth stands - Old growth provides late-successional habitat components, including diversity of tree age classes, structural complexity, and downed

woody material. There are stands within MA 4.1a containing old growth characteristics that have not been previously classified as old growth, and these stands would be re-classified as old growth.

Declassify old growth stands – There are stands within MA 2.1 proposed for declassification that do not fully meet the criteria for old growth as defined in the Forest Plan. Removing these stands from classification would help meet the Forest Plan's desired percentage of old growth for MA 2.1.

Prescribed fire in old growth stands - Introducing fire in a select number of old growth stands provides the opportunity to re-introduce a natural disturbance regime that may have occurred historically on the landscape. Fire can increase species and structural diversity in the stand, thereby increasing old growth characteristics. Prior to prescribed burning, some overstory trees would be manually cleared around their base (as recurring fire would have done). This would preserve mature-tree diversity within the stands. Prescribed fire is only proposed for old growth in MA 4.1a.

Proposed Wildlife Actions and Expected Outcomes

The activities in Table 5 are proposed to achieve the desired condition (Appendix B, Map 7).

Table 5. Proposed Wildlife Actions

Project	Proposed Activity
Wild Rice Restoration	- Assess, test-seed for 3 years, monitor and manage for success - Kunze Lake (up to 2 acres) and Perch Lake (up to 20 acres) would receive seed
Morrison Creek Hunter Walking Trail	- Manage vegetation to benefit wildlife (~300 acres) - Construct ~1 mile of new trail to turn dead-end trails into two loops - Reconstruct ~0.6 miles of existing trail - Create 2 permanent wildlife openings
Aspen and Paper Birch Restoration	- Manage (clearcut with reserves) mature aspen/birch stands to provide for a variety of age classes - Use prescribed fire as a tool to ensure robust regeneration of these species

Project	Proposed Activity
Eastern Hemlock Regeneration and Conifer Connectivity	- Locate and release hemlock and other long-lived conifers through single-tree selection harvest, prescribed fire, and/or scarification - Promote hemlock and long-lived conifer regeneration through mechanical ground scarification (such as salmon blading) and/or planting - Install fencing if necessary
Kirtland's Warbler Habitat Improvements	- Use prescribed fire to manage selected stands of jack pine and/or red pine - Mechanical site preparation to encourage natural regeneration - Where natural regeneration is lacking, planting would occur - Where conditions allow and suitable stands are present, create habitat complexes that consist of red pine and jack pine stands
Habitat Structural Improvements in WSRC-	- Red pine regeneration of ~644 acres - Aspen Regeneration of ~2,763 acres - Hardwood regeneration of ~1,018 acres
Wildlife Opening Creation and Maintenance	- Create and expand permanent openings where appropriate and sustainable through vegetation treatments, mechanical treatments and prescribed fire - Reclassify existing stands that are openings but classified as vegetated

Expected Outcomes:

Wild Rice Restoration - Seeding may result in the establishment of wild rice in Kunze and Perch Lakes.

The action would include three parts: 1) Additional assessment of potential lakes and rivers for suitability and best seeding locations; 2) test-seeding through a minimum commitment of three consecutive years following the *Great Lakes Indian Fish and Wildlife Commission Wild Rice Seeding Guidelines;* and 3) monitoring and adaptive

management of sites to determine seeding success and adjusting seeding locations as needed.

Further evaluate Kunze Lake, and Perch Lake for possible additional seeding. If appropriate sites are identified, seeding of wild rice would follow the standard of approximately 50 pounds per acre. Seeding would be done through hand broadcasting.

Morrison Creek Hunter Walking Trail – The proposed actions would result in enhanced wildlife habitat and recreation experience. Access on the existing trail loop would be improved and two additional walking loops created. Two temporary openings would be expanded and managed as permanent wildlife openings. Aspen stands would be regenerated to retain and improve wildlife habitat.

Aspen and Paper Birch Restoration – Through a combination of commercial (i.e. timber sales), non-commercial techniques, and prescribed burning, this project proposes to manage vegetation in the project area to progress conditions toward those described in the Forest Plan. These actions would keep aspen/birch stands on the landscape and increase the diversity of age classes of these stands to the benefit of wildlife species.

Eastern Hemlock Regeneration and Conifer Connectivity – Through targeted actions, including release and regeneration of hemlock and other long-lived conifers, this project would move MAs 2.1, 2.2, and 4.1a towards the desired conditions for these species and increase overall conifer connectivity to benefit wildlife.

Kirtland's Warbler Habitat Improvements – Upon implementation of the proposed actions, additional Kirtland's warbler habitat would be created in MA 4.1a. There would be improved jack pine and red pine regeneration, and fire would be returned to this fire-adapted landscape.

Habitat Structural Improvements in WSRC-

Red Pine stands: Utilize variable density thinning, group selection, prescribed fire, and plantings to enhance the structural complexity and species composition in plantation red pine stands.

Aspen stands: Harvest/salvage aspen within the WSRC through commercial and non-commercial activities to enhance winter deer complexes, increase connectivity, and support recreational based ORVs associated with hunting and wildlife viewing.

Hardwood stands: Regenerate existing northern hardwoods stands with either uneven-aged or even-aged management methods to increase within-stand diversity and structural complexity.

Wildlife Opening Creation and Maintenance – This project would maintain, create, or re-classify open areas throughout the project area. Maintaining, enhancing, and/or expanding open habitat on suitable sites would maintain and restore habitat diversity, and viability for plant and animal communities. Hand tools, mechanical treatment,

prescribed fire and/or plantings would be used to achieve maintenance, enhancement and/or expansion of open habitat. Expanding and/or maintaining the number of acres of open upland and lowland habitat within the project area would move toward the desired conditions for MAs 2.1, 2.2 and 4.1a. Select log landings and turn-arounds may be maintained and enhanced with seed or planted.

Proposed Fire and Hazardous Fuels Actions and Expected Outcomes

The activities in Tables 6 are proposed to achieve the desired conditions (Appendix B, Map 8).

TABLE 6. PROPOSED FIRE AND HAZARDOUS FUELS ACTIONS

Activity	MA 2.1	MA 2.2	MA 4.1a
WUI hazardous fuels edge treatments (within 200 feet of private property)	Up to 732 acres	Up to 234 acres	Up to 1,507 acres
Prescribed burning – the deliberate use of controlled fire in specific areas under specific conditions (multiple entries may be needed): • Broadcast burning to reduce wide-spread fuel loading or enhance resiliency or maintain wildlife openings. • Pile burning to reduce scattered concentrations of heavy fuel loads. • Mechanical fuels reduction (in lieu of burning)	Approximately 3,492 acres	Approximately 1,224 acres	Approximately 16,486 acres

Expected Outcomes:

WUI Hazardous Fuels Reduction - Hazardous fuels reduction methods are an efficient way to remove heavy fuels and slash resulting from timber harvest operations. Fuel loads would be reduced in portions of identified stands (Appendix A, Maps 22-24) that are within 200 feet of private property. These stands were identified based on several factors, including conifer type and being located within the WUI. Treatments to reduce potential wildfire spread would include piling and burning of hazardous fuels material or mechanical treatments (i.e., chipping, mastication, limbing, felling of snags, removal of unmerchantable ladder fuels, etc.). Within some of the proposed stands, vegetation treatments (i.e., timber harvest) may be adequate to sufficiently reduce the wildfire risk, thus no further fuels treatment would be needed to meet this objective.

Broadcast Burn - Prescribed fire would be used as a tool to reduce hazardous fuels and re-establish natural processes and resiliency. For hazardous fuels reduction, burn treatments would primarily be applied in conifer species (red pine, white pine, jack pine, spruce, balsam fir) to address heavy loads of needle cast, downed fuels and ladder fuels. To increase resiliency and re-establishing natural processes, fire-adapted species such as northern red oak, paper birch and aspen/open areas could also be included in the burn treatment. In most cases, applying fire would serve both purposes.

Low- to moderate-intensity prescribed burning would occur in the identified stands after proposed vegetation treatments/harvests are complete. More than one entry (burn) may be required to accomplish the objectives and lower the FRCC to 1 or 2. Where multiple harvest entries occur over time, fire may be needed after each harvest to reduce logging slash. Timing of burns would be based on Silviculture guidance. Portions of the proposed stands that already represent FRCC Class 1 conditions may be excluded from the burn treatment. A pre-burn treatment, such as felling, piling, chipping or removal of unmerchantable ladder fuels may be applied to keep the ensuing burn at low-intensity. The need for pre-treatment would be assessed at time of implementation. A mechanical fuels reduction treatment may be applied in lieu of burning when containment lines are not available, when burn windows are not available, or when stand health could be at risk due to young age or condition. A mechanical fuels reduction treatment may be applied in lieu of burning when containment lines are not available, when burn windows are not available, or when stand health could be at risk due to young age or condition.

Burning can maintain mature stands, restart the successional pathways of diseased or harvested stands, and provide the site conditions to grow species having cultural or wildlife habitat value, including, but not limited to, paper birch, oak and jack pine. A carefully controlled prescribed fire provides ecological benefits such as improving plant species diversity and wildlife habitat (increased browse, berry crops, acorn production, grasses, etc.). Prescribed fire can also decrease the future probability of high-intensity wildfires which cause higher smoke emissions and carbon release and are a higher risk to public/property/values-at-risk due to containment difficulties.

Proposed Aquatic Resources Actions and Expected Outcomes

The activities in Tables 7 are proposed to achieve the desired conditions (Appendix B, Map 7).

TABLE 7. PROPOSED AQUATIC RESOURCES ACTIONS

Activity	Locations
Aquatic Organism Passage – Install or replace structures at road-stream crossings to retain or restore aquatic habitat, free-flowing condition and aquatic organism passage	Morrison Creek at Road 3480, Bush Creek at Gibbs City Road, North Branch Paint River at Gibbs City Road, Golden Creek at FR 2197
Aquatic Habitat Improvement - Primarily involves adding large woody debris to the system	Rivers: Paint River, North Branch Paint River, South Branch Paint River, Perch River, Bush Creek, Silver Creek, Golden Creek, and Sidnaw Creek Lakes: Perch Lake, Winslow Lake, Lake Sainte Kathryn, Marten Lake, Hager Lake, and Hannah-Webb Lake
Sauna Creek – Construct road-stream crossing to eliminate illegal ford and improve water quality	Sauna Creek at FR 1280

Expected Outcomes:

Aquatic Organism Passage: This project would restore aquatic organism passage at barriers created by road stream crossings. Impediments to free-flowing conditions would be removed and natural processes would be restored. Implementation of this work would result in 23.1 miles of cold-water stream habitat being reconnected.

Aquatic Habitat Improvement: There are a variety of beneficial impacts associated with these projects, such as streambank and shoreline stability and roughness to improve resistance to erosion and benefit water quality. Stream large wood supplements can also induce scour pool formation, increase flow interaction between shallow groundwater and surface water, and potentially benefit cold water temperatures. These improvements would provide increased habitat and cover for fish, increasing productivity and providing benefits to angling recreation. Submerged aquatic habitat in lakes, while less impactful to shoreline erosion and water quality, does provide increased habitat for invertebrates, forage fish and game fish. Project implementation would enhance approximately 31.4 miles of stream/river habitat, 7.0 miles of lake shoreline/littoral area, and 100 acres of lake habitat.

Sauna Creek: Improved water quality in this cold-transitional temperature brook trout stream would ensure aquatic organism passage is maintained by installing an

appropriately sized structure to simulate stream conditions through the road stream crossing. A source of erosion and sedimentation would be removed, natural processes would be restored, and a structure to allow non-damaging Off-Highway Vehicle (OHV) crossing would be constructed. Implementation of this work would result in 0.5 miles of cold-water stream connectivity being protected upstream and up to 1.5 miles of stream water quality improved downstream.

Proposed Travel Management Actions and Expected Outcomes

The activities in Tables 8 are proposed to achieve the desired conditions (Appendix B, Maps 2 and 4).

TABLE 8. PROPOSED TRAVEL MANAGEMENT ACTIONS

Activity	Miles (MA 2.1)	Miles (MA 2.2)	Miles (MA 4.1a)	Miles (MA 8.1)
New road construction	8.2	2.1	3	0
Road reconstruction/maintenance	253.3	37	156.2	19.7
Road decommissioning	66.4	8.8	17.8	2.3
Temporary roads	TBD	TBD	TBD	TBD

Expected Outcomes:

New road construction - This proposed activity includes the creation of new system roads. This may include clearing trees, grubbing stumps, installing culverts, adding gravel for road stabilization, and ditching and shaping roads. Approximate construction locations are identified on Appendix B, Maps 13-15. Actual locations would be based on field review at the time of implementation. Roads would be constructed to access management activities in areas that minimize impacts to resources.

Road reconstruction/maintenance - This proposed activity would correct road-related concerns and damage occurring to other resources. This may include clearing brush and trees, limited road widening and gravel placement, installing and/or repairing culverts, and the ditching and shaping of roads. These improvements would also occur on unclassified routes that would be added to the transportation system.

Road Decommissioning - Road decommissioning typically includes blocking the entrance of roads to prohibit motorized vehicle access and removal from the Motor Vehicle Use Map (MVUM). In addition to blocking motorized travel, this may include

other active rehabilitation activities (e.g. native vegetation reseeding, scarification, removal of stream crossing structures) that result in slope stabilization or reestablishment of natural drainages across unneeded roads. Passive rehabilitation (e.g. natural revegetation) is routinely associated with road decommissioning. Some routes identified to decommission are not needed or are not being used and have revegetated naturally. Decommissioning of system roads and unclassified roads that are in poor locations and cause resource damage would provide a more efficient and safe transportation system for the short- and long-term. Decommissioned roads would not be available for public motorized use.

Temporary road construction - This activity is typically used to access stands proposed for clearcut harvests. Roads would be constructed only as required where existing closed or decommissioned roads that are still usable do not provide adequate access. Temporary road construction may include leveling the soil after clearing and grubbing. Ditches and drainage structures are used only where needed to protect the resources. Temporary roads would be decommissioned following use.

Proposed Motor Vehicle Use and Recreation and Expected Outcomes

The activities in Tables 9 and 10 are proposed to achieve the desired conditions (Appendix B, Maps 3, 6 and 7).

TABLE 9. PROPOSED MOTOR VEHICLE USE ACTIONS

Activity	Existing 2022 MVUM Miles				Proposed Future MVUM Miles			
MA	2.1	2.2	4.1a	8.1	2.1	2.2	4.1a	8.1
Designate roads **open to all vehicles** (OHVs and highway legal)	59	3	60	9	71	6	62	10
Designate roads **open to highway legal vehicles only**	23	3	9	2	12	1	6	2
Designate routes **open to OHVs only**	155	17	62	4	91	13	55	5

*Trails open only to motor vehicles less than 65 inches in width at the widest point and utilize off-road low-pressure tires.

TABLE 10. PROPOSED RECREATION ACTIONS

Project	Proposed Activity
Perch Lake Campground Improvements	- Install a gate near the entrance to the campground - Construct a parking area outside the gate to allow for additional parking and a turnaround
Ludwig's Rock Overlook	- Road improvements to T3764, T3580, and T3670-B - Relocate or reconstruct user created trail, add to the MVUM - Delineate parking near apex
Recreation Area Stand Improvements	- Remove snags and unhealthy trees - Plant trees where natural regeneration is unsuccessful - Would occur in all recreation areas in need of safety or visual quality improvements
Echo Lake Dispersed Camping	- Road improvements to FR 1501-B - Widening and hardening of FR 1501-B terminus - Placement of delineation devices between parking and dispersed site
Estes Lake Watercraft Access	- Improvements to parking area, including widening, hardening, delineation, and remedying rutting and erosion - Install erosion control measures to improve carry-in access - Remediation of illegal user-created OHV trail
Lake Ste. Kathryn Campground Improvements	- Replace stairs along lakeside campsites and the day use area - Replace retaining wall at day use area - Rehabilitate current erosion issues and install erosion prevention measures as needed
North Country Trail Improvements	- In partnership with the North Country Trail Association (NCTA), install puncheon, board walk, and/or turnpike at 40 identified sites - Reroute/construct trail where water mitigation measures are not feasible

Project	Proposed Activity
Paint River System Boat Launch Sites	- Improvements to parking, trails and launch sites at four locations: North Branch Paint River/Forest Highway 16, Block House, Paint River Forks, and Winslow Lake Road access point
Penegor Lake Access Improvement	- Install trail infrastructure (runners along current trail and add a gravel surface)
Snowmobile Trail 15 Reroute	- Construct/Reconstruct T 2159 and north-south connector adjacent to Iron-Ponozzo Road

Expected Outcomes:

Public motorized use –Routes open to all motorized use would increase by 18 miles, routes open to highway legal vehicles would decrease by 16 miles, and routes open to OHVs only would decrease by 74 miles. These changes would address resource concerns (i.e., erosion caused by steep terrain and soil type) while maintaining a quality recreation experience.

In MA 8.1 there would be an increase of 0.7 miles of road open to all vehicles and 1.4 miles of road open to OHVs only. A portion of this MA is designated semi-primitive, non-motorized and a portion is roaded natural; however, there is a need to increase access to address the rising number of user-created trails and to provide additional recreational access and to adequately protect resources while providing a safe and efficient transportation system.

Perch Lake Campground Improvements – This project would provide OHV connectivity with FR 2142-B and the surrounding area. Installation of a gate near the entrance to the campground would provide the ability to close the campground if a need should arise during the summer and during the winter closure. The parking area associated with the gate would provide winter users a place to park and walk in. The creation of the gate and parking area would require some tree and stump removal.

Ludwig's Rock Overlook – The Ottawa would improve this area by addressing resource concerns that heavy illegal use and traffic have caused and would provide visitors a safe, resource conscious way to take in views from one of the only elevated vantage points in this area. If implemented, T 3764, T 3580, and T 3670-B would receive road improvements to eliminate resource damage. The user created trail that leads to the overlook would be added to the MVUM and the trail would either be reconstructed or be relocated on better terrain. Barriers (e.g., boulder placement or similar measure) would delineate a parking area near the apex to eliminate unauthorized vehicle use on the overlook itself.

Recreation Area Stand Improvements – Remove any snags, unhealthy trees, or high-risk species (e.g., jack pine, spruce) through mechanical or hand techniques. After removal, planting of desirable species (e.g., northern red oak, red pine, white pine) to

promote long lives species within the campground would occur. Additional or alternative species would be determined at time of implementation with consultation of recreation staff.

Echo Lake Dispersed Camping – The terminus of FR 1501-B would be widened and hardened to increase the parking area to allow for additional parking/dispersed recreation. Reconstruction of FR 1501-B may occur to address persistent rutting and erosion issues. To provide for safety, restrictive devices (i.e., boulders/berm) would delineate the parking area from the dispersed camping area.

Estes Lake Watercraft Access – This site would be reconstructed and maintained as a carry-in canoe access site. Restoration of resource damage (ruts, washouts, eroded areas) would occur, access improved (stairs or other means of carry-in access), and erosion control measures would be installed. The parking area would be delineated through either hardening the current parking area or by placing boulders to increase awareness of appropriate parking. The elimination and restoration of an illegal OHV trail would also occur.

Lake Ste. Kathryn Recreation Improvements – Improved visitor safety and erosion mitigation would occur by replacing the stairs and retaining walls that lead to the water at the day use area and lakeside campsites. Additional erosion control measures may need to be taken such replacing rip rap and vegetation barriers at the time of implementation.

North Country Trail Improvements – Trail re-routes, puncheon, board walk, and/or turnpike would be constructed at the 40 identified sites (additional sites could be identified). This work would be completed in partnership with the North Country Trail Association that maintains the trail.

Paint River System Boat Launch Sites – The construction or reconstruction of canoe landings would be in accordance with any applicable regulations to provide safe access away from potential river hazards. Seasonal flow levels, element exposure, launch site stability, riparian habitat and erosion vulnerability would be considered during implementation at all sites. Maintenance of these sites would come from volunteers or partner groups.

North Branch Paint River/Forest Highway 16: Improve landing by creating maintained access to the river and by installing rock steps flanked with rip rap to provide erosion.

Block House: Improve landing by creating maintained access to the river by installing rock steps flanked with rip rap to provide erosion control. Additionally, a boulder barrier would be installed to delineate vehicle parking and dispersed recreation.

Paint River Forks: Improve landing by creating maintained access to the river and replacing current wood stairs with other means of access (rock steps, Flexamat, or other suitable structure) flanked with rip rap to provide erosion control.

Access along Winslow Lake Road: Improve landing by creating maintained access to the river and by installing rock steps flanked with rip rap to provide erosion control. Promoting canoe access and dispersed camping at this location could add a fourth stop on this water trail.

Penegor Lake Access Improvement – Improvements to the trail would include the installation of wooden runners along the trails edge and the addition of gravel to alleviate pooling of water and mud.

Snowmobile Trail 15 Reroute – This project would reroute the section of Trail 15 currently located between T 2129 and FR 2127. T 2129 would be used to travel west to a reconstructed trail adjacent to Iron-Ponozzo Road. The reconstructed trail would travel north-south and connect with FR 2127 to avoid wet areas of concern.

Proposed Mineral Resources Actions and Expected Outcomes

The activities in Table 11 are proposed to achieve the desired conditions (Appendix B, Map 7).

TABLE 11. PROPOSED MINERAL RESOURCES ACTIONS

Location	Acres of Expansion
Coontail Gravel Pit	7
Hager Lake Gravel Pit	7

Expected Outcomes:

Gravel Pit Expansion – Expanding Hager Lake and Coontail gravel pits by 7 acres each would potentially meet the purpose and need to have an adequate supply of gravel to maintain a safe and effective transportation system. Gravel resources located within the project area would provide an efficient means of improving system roads for public and administrative uses.

Design Criteria

The project design criteria are incorporated into the proposed action to ensure land management plan compliance. They are presented in two sections in Appendix A.

The first section of Appendix A outlines the ID team's *Site-specific Design Criteria* that apply to only the SBVMP. This site-specific list outlines instructions on how the project is designed to maintain effective management operations, while ensuring resource and species protection. This includes instructions for management to protect riparian features (soil, water, plant and wildlife habitat) within the project area. As outlined in the old growth section, riparian corridors can provide crucial connected corridors across the landscape. The riparian design criteria are intended to protect aquatic habitat from fragmentation, sedimentation, vegetation removal in riparian areas, and equipment rutting/erosion that can adversely impact water quality, aquatic species and their habitats.

The second part of Appendix A consists of a master list of common design criteria that are relevant to other similar projects on the Ottawa. This master list, or *Forest-wide Design Criteria* document, has been developed using information from vegetation management projects authorized within the last 5 years and serves as Ottawa's baseline of protective measures that are consistent with the Forest Plan and applicable

laws, regulations and policies. It is reviewed periodically and revised based on new information and best available science. These design criteria would apply to the entirety of the project, unless otherwise specified.

Project Maps

A complete set of project maps can be found in Appendix B. These twenty-four maps display existing conditions and the proposed actions described within this EA.

Alternatives to the Proposed Action

No Action – The No Action alternative provides a baseline for estimating the effects of other alternatives. For this project, the no action alternative is described in the potentially affected environment as allowed by 40 CFR 1502.14.

If implemented, no actions would be taken. Identified stands would continue to age and undergo composition shift. No wildlife habitat improvements associated with this project would be made. There would be no changes to the old growth classifications. No designated motorized access modifications or recreation site improvements would occur.

Alternatives Considered but Eliminated from Detailed Study

2025 Proposed Action Identified in Scoping - The 2025 Proposed Action is based upon the activities described in the scoping document dated May 15, 2025. As written, the 2025 Proposed Action did not respond to the changes made by the ID team in response to comments received, new information and the correction and/or clarification of minor discrepancies.

An iterative process is an incremental way of improving proposed land management actions and alternatives through engagement with stakeholders and the public. The intent is to encourage collaboration throughout the analysis and decision-making process. Ongoing collaboration may often result in modification of a proposed action or alternative(s), resulting in a better proposal and ultimately a better decision. Such changes may not necessarily require the development of a new alternative if they can be accommodated through modification of an existing alternative (Forest Service Handbook 1909.15, Section 14). In 2008, the NEPA regulations at 36 CFR 220 were revised to incorporate Forest Service Handbook direction. This change provided flexibility for incorporating an iterative NEPA process as outlined in 36 CFR 220.7(b) (i) and (iii). This process allows us to focus on a set of reasonable alternatives, which have been collaboratively designed with public input.

The ID team used the iterative process as part of the review of scoping comments received, and recommended any changes to the proposed action for the Responsible Official's consideration. Analysis prepared by the ID team focused on potential impacts of the proposed activities and findings required by law, regulation, or policy.

Environmental Impacts
How would our management actions affect the environment?

Consistency with relevant laws, regulations, policies, and Ottawa Forest Plan direction ensures that the Proposed Action does not exceed thresholds for significance. The supporting analysis and rationale for consistency are provided to reach a Finding of No Significant Impact (FONSI).

Issues Considered for Analysis

The Responsible Official and ID team reviewed all comments received. No issues causing the development of another action alternative were identified. As previously stated, the iterative process was used to modify the 2023 Proposed Action that was disclosed in scoping to incorporate new information and respond to commenter feedback and requests. The Proposed Action in this document reflects this information (see pp. 10-21).

Potentially Affected Environment

Air Quality – The area in and around the SBVMP is currently subject to air pollutants from internal combustion engines (e.g. vehicles, snowmobiles, outboard motors, and chain saws) and industrial sources (e.g. sawmills or power plants). Because of the low level of emissions by these sources and/or dispersion of these emissions by wind over long distances, pollutants from these sources typically do not attain high enough concentrations to exceed the parts per million ($PM_{2.5}$) standard as measured at the Seney, Michigan, or Negaunee, Michigan, monitoring sites (the two closest monitoring sites located 128 miles and 53 miles, respectively, from the project area).

Aquatic Resources – Aquatic habitats in the SBVMP refer to rivers, streams, lakes and wetlands (including bogs, swamps, floodplains, ash drains and poorly to partly poorly drained soil complexes) found within the delineated project area. There are numerous wetlands across the entire project area, with 42,717 acres total and 31,784 acres on FS lands only. These habitats are distributed among three main watersheds, including the Sturgeon River Watershed (149 miles) in the northeast and eastern portion of the project area and the Ontonagon River Watershed (37 miles) in the northwest, draining to Lake Superior. The southern portion of the project area lies in the Brule River Watershed (149 miles), ultimately draining to Lake Michigan.

There are 58 named streams within the project area, and numerous mapped unnamed streams, comprising a total of 336.7 stream miles. The numerous mapped unnamed streams in the project area total 147 miles.

The Michigan Department of Natural Resources (MDNR) has designated streams and rivers by water temperature regime and general fish assemblage potential (MDNR 2025, Brenden, Wang and Seelbach 2008). Classifications include Cold (July average <63.5°F) and Cold-Transitional (July average <67.1°F) streams and rivers, predominately occupied by cold water species like native brook trout and mottled

sculpin, and non-native rainbow and brown trout. Warm and Warm-Transitional classified streams and rivers are generally comprised of warm-water species like bass, panfish, and common non-game species like creek chub, long nose dace and white sucker.

The majority of temperature-classified stream miles on FS lands are classified as cold or cold-transitional with a total of 141.2 miles. Conversely, only 15.6 stream miles were classified as warm or warm transitional streams and rivers, with 88.6 miles not classified as either warm or cold. Of the 58 named streams in the project area, portions of 39 of them are classified as cold or cold-transitional, along with multiple unnamed tributaries.

There are 82 mapped, named lakes, totaling approximately 2,733 acres within the SBVMP. The Ontonagon Watershed has the highest number of named lakes while the Sturgeon River Watershed has the greatest area, attributed to the presence of Perch Lake, the largest lake in the project area at 1,038 acres. There are also numerous mapped, but unnamed waterbodies, that are primarily small ponds. The 440 total unnamed lakes generally range in size from 1 to 2 acres each, totaling 712 acres. Fish species are varied and reflect species found throughout the region. Common game species are smallmouth and largemouth bass, walleye, northern pike, yellow perch, black crappie, pumpkinseed, brown bullhead and bluegill. Common non-game species include white sucker, golden shiner, common shiner, central mudminnow, creek chub, and a variety of dace. Two designated trout lakes in the project area are routinely stocked with brook trout (Penegor Lake and Lake on Three) and rainbow trout (Lake on Three). One species not commonly found throughout the region, arctic grayling, was stocked in Penegor Lake by the MDNR in 2023-24 to provide a public opportunity to fish for grayling, while stream reintroduction efforts are ongoing in other parts of the state.

There are 10 total aquatic species on the Ottawa National Forest Regional Foresters Sensitive Species (RFSS) list. The list includes two fish species, lake sturgeon and redside dace, both not known to reside within the project area. Other RFSS aquatic species which may be present in the project area are invertebrates including the creek heelsplitter and several dragonfly species.

Beaver can be found in most of the smaller, low gradient streams within the project area where they have benefits to aquatic resources as well as adverse impacts to quality cold water species habitats (See the Analysis Framework).

Many existing roads within the project area were constructed during an era when culverts often were undersized and more prone to degradation, failure, or impacts to aquatic habitat. Some of the roads have washed out around the culverts as a result and some are at risk of washing out. Roads can also be poorly located in some areas, and result in disturbance, erosion or altered flow paths when in close proximity (≤100-feet) to aquatic habitats or wetlands. Maintenance of roads located in wetlands, in close proximity to aquatic features, or which bisect streams/rivers at crossing can result in sedimentation, vegetation removal, and altered flow paths. This road network necessitated numerous road crossings of streams and concentrated wetlands flows. The existing road network is comprised of other jurisdiction routes located on FS or

Non-FS lands which are not maintained by the FS, FS system roads which are managed as part of a road network with varying maintenance levels and authorized motorized uses, and unclassified routes which range from apparent and drive able to overgrown/revegetated and barely discernible. Unclassified routes which cross streams may or may not have residual culverts or other crossing improvements. When present, they are generally in disrepair/degraded or undersized and which serve as impediments to aquatic organism passage (AOP). Within the project area, currently there are 83.2 miles of existing roads located in wetlands, 254.1 miles of road located in close proximity (≤ 100-feet), and an estimated 282 road-stream crossings for mapped intermittent and perennial streams.

Many roads within the Ottawa are also used for OHV travel, particularly when closed to highway legal vehicles. When use on roads is heavy enough, the route never fully re-vegetates, which would hold soil and road surface material in place from storm runoff. Routes without good vegetative cover on their surfaces are susceptible to causing sedimentation when located near and across aquatic features. All routes in these locations that are open to OHVs only would have this potential, depending on use level.

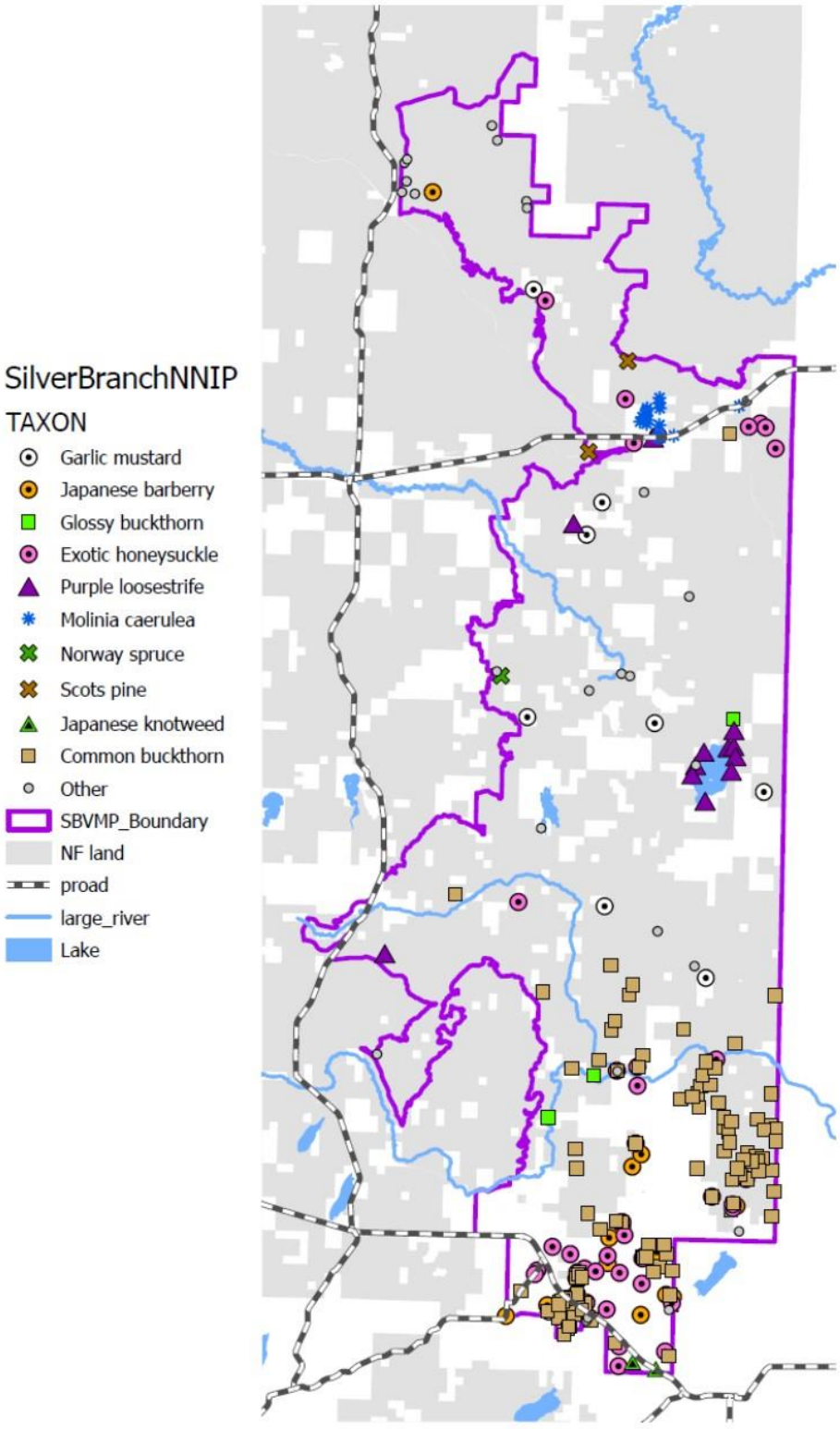
Some roads have experienced excessive erosion and consequential sedimentation to adjacent aquatic features. Notedly, there is an established ford of Sauna creek near FR 1280 that has ongoing OHV use with road and aquatic resource damage.

Botany – Non-native invasive species – The Ottawa tracks and manages non-native invasive plants, including designated noxious weeds and state-prohibited and restricted invasive species. The project area includes 330 documented exotic plant locations (Figure 4). Some of those are low-priority species that are common in Michigan and Wisconsin. However, the known sites include several priority invasive plants such as Japanese barberry, exotic honeysuckle, common buckthorn, glossy buckthorn, purple loosestrife, garlic mustard, purple moor grass, Japanese knotweed, bishop's goutweed, wild chervil, crown vetch, Scots pine, and Norway spruce. The invasive plants of greatest concern include 17 sites of Japanese barberry (16.2 acres), 44 sites of exotic honeysuckle (51.0 acres), 99 sites of common buckthorn (215.3 acres), twelve sites of purple loosestrife (16.9 acres), and nine sites of glossy buckthorn (25.4 acres). As seen in Figure 4, the south end of the project area, closer to the community of Iron River, has the most invasive plants. Some of the known priority invasive plant sites have been treated and will be treated in the coming years, such as purple loosestrife and Japanese barberry, as authorized by the Ottawa NF Non-Native Invasive Plant Control Project (USDA Forest Service 2005). Unfortunately, exotic honeysuckle, common buckthorn, and glossy buckthorn are too abundant to control. They and other exotic plants will continue spreading in the project area from growth, wind, water, animals, vehicles, and people.

Invasive animals known to occur in the project area include emerald ash borer and exotic earthworms. Emerald ash borer was confirmed in the project area in 2024. Like the rest of the landscape, most ash trees are expected to die in the coming years. Also, like most of northern Michigan, Wisconsin, and Minnesota, the soils of the project area contain exotic earthworms. Exotic earthworms are permanently changing soil profiles,

consuming the organic horizon (decomposing leaf litter) as they move through the Northwoods (Hale et al. 2006). Effects of exotic earthworms in the Ottawa are discussed in the Final Environmental Impact Statement (2006) for the Ottawa National Forest Land and Resource Management Plan. Rusty crayfish are known for four waterbodies in the project area.

Figure 4. Known non-native invasive plants



Botany – Sensitive Plants - No habitat for federally listed, threatened or endangered plants is believed to occur on the Ottawa and no federally listed or proposed, threatened

or endangered plants were observed in field surveys. However, the plant community types and soils indicate that potential habitat is present for most of the Sensitive plants documented on the Ottawa. Based on Ecological Land Type Phase (ELTP) mapping, and using Natural Communities defined by the Michigan Natural Features Inventory (Cohen et al. 2015), the project area is approximately 61% mesic northern forest, 12% dry-mesic northern forest, 10% rich conifer swamp, 3% poor conifer swamp, 3% northern hardwood swamp, 9% mix of habitats, 2% water, and 0.03% gravel pit. Other natural community types include poor fern, bog, northern shrub thicket, submergent marsh, emergent marsh, northern wet meadow, and granite or volcanic cliff.

The project area contains several known populations of rare plants. Regional Forester Sensitive plants known within the project area include *Botrychium michiganense*, *Calamagrostis stricta* ssp. *inexpansa*, *Calypso bulbosa*, *Juglans cinerea*, *Panax quinquefolius*, *Piptatheropsis canadensis*, *Vaccinium cespitosum*, and *Viola novae-angliae*. Other State-listed rare plants include *Artemisia ludoviciana*, *Dryopteris fragrans*, and *Omalotheca sylvatica*. All Ottawa National Forest RFSS species are addressed in the Biological Evaluation and are not likely to be impacted by the proposed activities due to their locations away from proposed activities or having protective buffers (see design criteria).

Because the vulnerable habitat was checked and known sites would be protected with the design criteria buffers, we do not expect to contribute to a loss of viability to the species on the Forest, nor cause a trend toward federal listing.

Recreation – The SBVMP is a roaded natural environment and includes four developed campgrounds, two organizational camps and associated trails, as well as many dispersed opportunities. There are several branches of Wild and Scenic Rivers (Ontonagon and Paint river systems) that have Outstanding Remarkable Values for paddlers and provide fishing and wildlife viewing opportunities. Additionally, there are numerous lakes with carry-in access and 5 lakes with boat launches.

The project area contains motorized and non-motorized trails systems. The OC trail is an OHV route that provides connection to the community of Iron River and Sidnaw to other trail systems in the western UP and Northern Wisconsin. In the winter months snowmobile trails #2 and #15 also serve as a connection for Iron River to the rest of the region. Non-motorized trails within the project area consist of the North Country Trail, which is a continuous trail that extends from North Dakota to Vermont and the Deer Marsh Interpretive Trail which highlights the marsh ecosystem at the headwaters of the East Branch of the Ontonagon River.

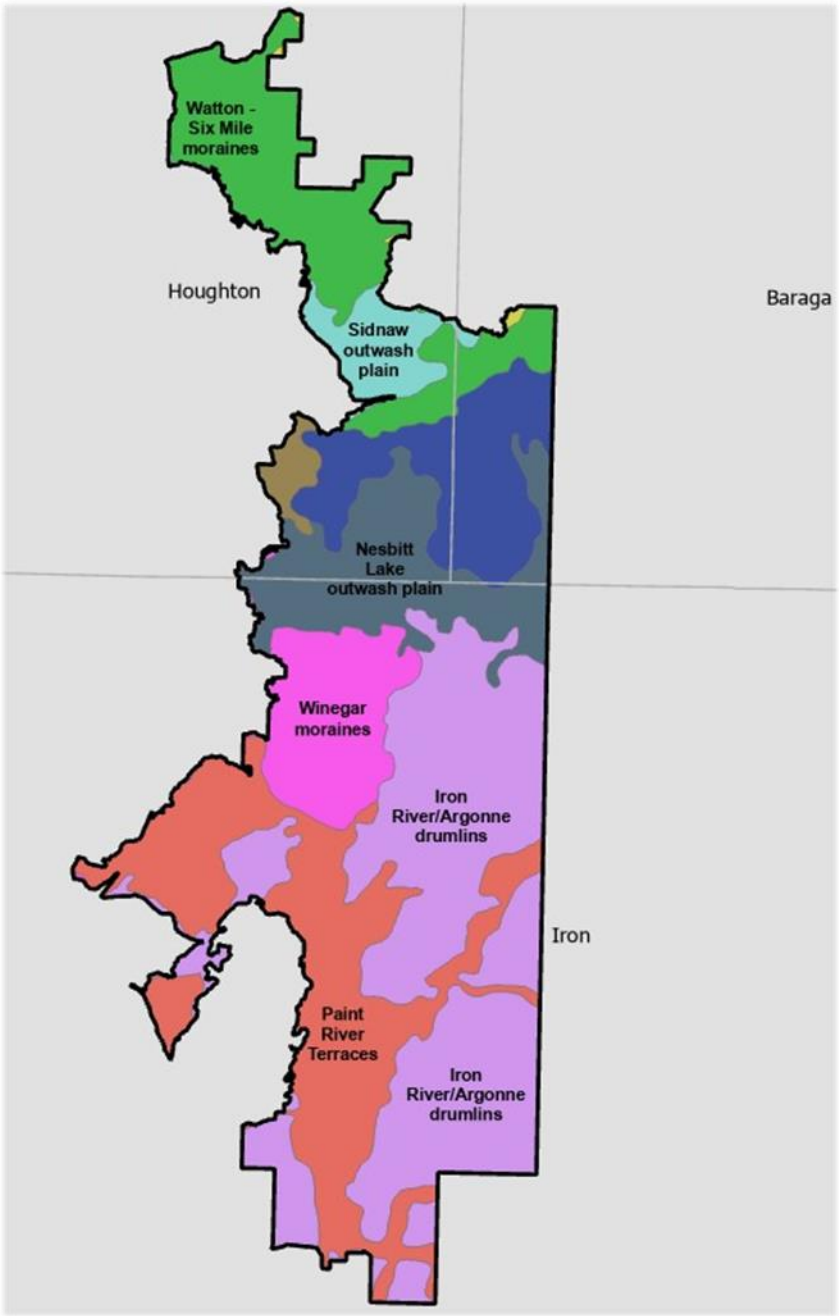
Popular recreation activities include motorized (OHV, snowmobile, and highway legal vehicles) and non-motorized (hiking) trail use as documented by the National Visitor Use Monitoring survey conducted in 2017. This survey listed hiking/walking, viewing natural features, and driving for pleasure as the top 3 activities enjoyed on the Ottawa National Forest.

Scenic Resources – The Visual Quality Objectives (VQOs) identified in the Forest Plan Appendix G, describe the degree of alteration that may occur to the visual resource on lands within the Ottawa's management areas. The VQO system includes 5 classes (preservation, retention, partial retention, modification, and maximum modification) and considers the variety class, distance zone, and sensitivity level of the area. Within the project area VQOs include retention, partial retention, modification and maximum modification.

Soils – Several LTAs comprise the Silver Branch project area and will influence the management activities proposed. The project area is comprised of nine LTAs (Jordan, 2000). Moving from north to south within the project area boundary:

- Watton-Six Mile moraine (LTA 212 Sn12) is a rolling, dissected terminal moraine complex with loamy soils over calcareous, clay loam till. Dominant surface textures are silt loam;
- Sidnaw outwash plain (LTA 212 Sn11) is a gently sloping outwash plain with sandy soils over sandy outwash, with dominant surface textures of loamy sand;
- Sturgeon River Gorge (LTA 212 Sn07) contains very steep, unstable river valley walls and floodplains where seepages, landslides and mass wasting are common. This is a complex, dissected ridge and ravine landscape with variable surface textures;
- Net Lake till plain (LTA 212 Jc14) is a rolling, bedrock-controlled, stony till plain with loamy soils over loamy and sandy till. It has numerous rock outcrops and glacial erratics. Cobbly silt loam is a common surface texture;
- Ontonagon lake plain (LTA 212 Jo01) is a nearly level lake plain with dissected ravines and has loamy soils over calcareous, clayey till and lacustrine deposits. Silt loam surface textures are most prevalent;
- Nesbitt Lake outwash plain (LTA 212 Jc24) is an undulating outwash plain with sandy soils over stratified, gravelly outwash. Loamy sand and sand surface textures are most common;
- Winegar moraines (LTA 212 Jc02) is a rolling, collapsed and water-worked terminal moraine with loamy soils over sandy loam till. Numerous depressions, many of which contain lakes or wetlands, characterize this LTA. Fine sandy loam and loamy sand surface textures are most common;
- Iron River/Argonne drumlins (LTA Xc01) consists of a till plain characterized by hilly, drumloid ridges and valleys. It is dominated by silty soils over sandy loam and loamy sand till;
- Paint River terraces (LTA Xc11) consists of river valley terraces and recent floodplains, with loamy soils over gravelly, sandy outwash.

Figure 5. Silver Branch Project Area LTAs shown with Counties:



The landforms present dictate that the project area has notable amounts of nutrient poor droughty and sandy upland habitat types, as well as shallow to bedrock soils which are an important productivity consideration.

Vegetation (Timber/Silviculture) – The SBVMP area includes MAs 2.1, 2.2, 4.1, and 8.1. MAs 2.1 (62,351 acres) and 2.2 (11,073 acres) are guided to emphasize late-successional community types within a roaded natural motorized recreational

environment. MA 4.1a (46,146 acres) is guided to emphasize middle- to late-successional coniferous community types within a roaded natural motorized recreational environment. MA 8.1 is guided to emphasize maintaining and/or enhancing the character of the existing river environment. Further description of MAs 2.1, 2.2, 4.1a and 8.1 and their associated desired conditions can be found in Chapter 3 of the Forest Plan.

Forest Types are general categorizations of tree species with similar biological characteristics with each type consisting of several individual tree species. The Forest Plan describes the desired condition for vegetation composition within management areas by grouping the major forest types found on the Forest into four main categories: aspen/paper birch, long-lived conifers, short-lived conifers, and northern hardwoods. The existing forest types within the SBVMP area are described in the Purpose and Need Section of this document.

Wildlife – There is suitable habitat present within the project area for most of the sensitive wildlife documented or suspected to occur on the Ottawa. The Biological Assessment, Biological Evaluation, and Specialist Report provide a more detailed description of the potentially affected environment for individual species.

Consideration of No Action: What would happen if we take no action?

Without treatment, forest health will continue on successional pathways, with anticipated declines to some forest types. This is especially true for species experiencing insect and disease issues, or that will most likely be affected over the project lifespan by insects and diseases known to be spreading. Forest health concerns range from native pest such as spruce budworm, pine bark beetle, white pine weevil to invasive pest like hemlock wooly adelgid, emerald ash borer, Asian long-horn beetle, and oak wilt.

Wildlife opening creation and maintenance, aspen/birch and wild rice restoration, hemlock and conifer connectivity, Wild and Scenic River corridor and Kirtland's warbler habitat improvements would not be implemented; therefore, opportunities would be lost to improve wildlife habitat and recreation experiences associated with wildlife. Forest conditions would continue to succeed into mature maple over time resulting in the loss of diversity, important habitat components and preferred habitat for some TES, RFSS and other bird and wildlife species.

Recreation area improvements, fishing and boating access site creation and North Country Trail restoration would not be implemented, therefore, fishing, camping, and hiking opportunities associated with this project would not see access and safety improvements and sites would continue to degrade.

Fuels reduction would not occur, and hazardous fuels would continue to accumulate. Habitats and species that benefit from restoring fire to ecosystems would not receive restoration actions.

Any changes in forest type species composition due to conversion would not cause substantial changes to the existing classified old growth condition as defined by the Forest Plan for each MA. Some acres not meeting the stand characteristics defined in the Forest Plan (p. 2-25) would continue to not meet the desired stand characteristics into the future.

The existing transportation system would remain unchanged, and many road-stream crossings would continue to block aquatic organism passage and degrade water quality. The road system would continue to have routine maintenance on the few higher-level system roads within the project area. No road construction, reconstruction, decommissioning, or additional road closures would occur. Roads in poor locations would remain and would not be rerouted and/or decommissioned. Unauthorized roads would remain in their current condition. These roads are not designated for motorized use but some of them are clearly visible and may appear drivable. Therefore, not addressing these roads leads to ongoing illegal use and resource damage.

The existing condition for motorized vehicle use would remain unchanged. Improved motorized access would not occur and causes of resource damage would not be addressed.

National Forest Management Act (NFMA) - Land Management Plan Consistency

The ID team has reviewed the proposal and incorporated the specific design criteria listed within Appendix A to ensure consistency with applicable Forest Plan direction.

The Ottawa Forest Plan includes specific direction for managing different land areas; these areas are delineated as management areas. The MAs included in the SBVMP are MAs 2.1, 2.2, 4.1a and 8.1. The applicable desired conditions and management direction for these MAs, and proposed actions of this VMP are outlined in the Forest Plan (see Analysis Framework, pp. 1-3). The following summarizes the analysis and conclusions supporting consistency with Ottawa Forest Plan goals, objectives, standards and guidelines.

Botany: Consistent
Cultural/Heritage: Consistent
Endangered/Threatened/Sensitive Species: Consistent
Engineering: Consistent
Fisheries: Consistent
Hydrology: Consistent
Non-native Invasive Species: Consistent
Old Growth: Consistent
Recreation: Consistent
Soils: Consistent
Wildlife: Consistent
Wild and Scenic Rivers: Consistent
Vegetation: Consistent
Visuals: Consistent

Supporting Project Documentation

Table 12. Applicable project file documentation to support NFMA compliance

Supporting Documentation	File Name(s)
Aquatics, Botany, Heritage, Recreation, Visuals, Soils, Silvliculture and Wildlife Specialist Reports	Silver Branch VMP Project File

Other Law, Regulation and Policy Consistency

The following laws, regulations, or policies pertinent to this project include:

Clean Air Act

The Ottawa National Forest itself has no Class I areas. A Class I area is defined as a geographic area designated for the most stringent degree of protection from future air quality degradation. The Clean Air Act designates as mandatory Class I areas each National Park over 6,000 acres and each national wilderness over 5,000 acres in existence as of August 7, 1977. The Class I airsheds nearest to the Silver Branch project area is centrally located to four Class I airsheds: Rainbow Lakes Wilderness Area (112 miles to the west), Boundary Waters Canoe Area Wilderness (112 miles to the northwest), Isle Royale National Park (78 miles to the north), and Seney Wilderness (112 miles to the east).

Clean Water Act

The Clean Water Act and state water quality standards would be complied with through implementation of project design criteria, including riparian protection measures, to minimize or avoid impacts to aquatic features. The integrity of the project area's water and riparian features would be maintained as a result of the application of general Forest Plan Standards and Guidelines (pages 2-2 to 2-9), Michigan's Best Management Practices, as well as site-specific protective design criteria. The project's riparian design criteria would provide additional site-specific measures to ensure riparian areas retain their ecological function. Both adverse and beneficial impacts were identified from the proposed action, and overall they would not result in water quality parameters being impacted to the point of impairment and water quality is expected to remain within its current state.

Supporting Project Documentation

Table 14. Applicable project file documentation to support Clean Air Act and Water Act compliance

Supporting Documentation	File Name(s) / Link
Air Quality Specialist Report	Silver Branch VMP Project File
Aquatics Specialist Report	Silver Branch VMP Project File

Endangered Species Act - Threatened, Endangered, Proposed and Candidate Species and Critical Habitat

Table 15. Federally threatened, endangered, proposed or candidate species and critical habitat effect determinations

Species/Habitat	Brief Rationale (additional information available in the Biological Assessment in the project)
Lynx canadensis (Canada lynx) **Status:** Threatened **Suitable Habitat Present:** Yes	Extirpated from area. No detection in extensive forest surveys conducted 2000-2017. Last tracks observed in Western Upper Peninsula (Iron County) in 1996. Last specimen obtained in 1966. **Determination:** NE
Myotis septentrionalis (Northern long-eared bat) **Status:** Endangered **Suitable Habitat Present:** Yes	No known maternal roost trees would be destroyed as part of implementation, if found appropriate roost conservation measures would be enacted. No trees would be cut within 500 feet of known hibernacula. We would also adhere to two-mile secondary buffers around hibernacula with associated conservation measures including seasonal restrictions. A determination of LAA is appropriate due to the net loss of potential roost trees and slight risk of direct effects for northern long-eared bats if present **Determination:** LAA
Perimyotis subflavus (Tri-colored bat) **Status:** Proposed Endangered **Suitable Habitat Present:** Yes	Tri-colored bats are rarely encountered in Michigan, however detections were made of a single individual inside winter hibernacula in 2013 and again in 2021 on the Ottawa. There is a portion of the Forest and project area that falls within this species Area of Influence as determined by USFWS. Although there is minimal chance this species would be encountered and direct impacts would ensue, it is not discountable. **Determination:** LAA

Species/Habitat	Brief Rationale (additional information available in the Biological Assessment in the project)
Canis lupus (Gray wolf) **Status:** Endangered **Suitable Habitat Present:** Yes	Wolves have very large home ranges, are habitat generalists, and adaptable. Wolves can travel great distances and use different areas of their territories when disturbance exceeds tolerance. Disturbances are expected to be temporary. **Determination:** NLAA
Calidris canutus rufa (Red knot) **Status:** Threatened **Suitable Habitat Present:** No	Suitable habitat not present in project area. **Determination:** NE
Danaus plexippus (Monarch butterfly) **Status:** Proposed/RFSS **Suitable Habitat Present:** Yes	Suitable habitat is available throughout the Ottawa and surrounding lands. Proposed wildlife habitat projects would improve pollinator habitat. The monarch is considered a candidate species for federal listing but has no current legal requirements and is therefore analyzed in the Biological Evaluation (BE) as a Regional Forester Sensitive Species (RFSS). **Determination:** MII

***NE** – no effect; **NLAA** – may affect, not likely to adversely affect; **LAA** – may affect, likely to adversely affect; and **MII** - may impact individuals.

Supporting Project Documentation

Table 16. Applicable project file documentation to support Endangered Species Act compliance

Supporting Documentation	File Name(s) / Link
Biological Assessment	Silver Branch VMP Project File
Tier 2 USFS Biological Assessment for Individual Projects: Northern Long-Eared Bat & Tri-colored bat Consultation	Silver Branch VMP Project File
Tier 2 USFWS Project-Specific Consultation and Consistency Review: Northern Long-Eared Bat & Tri-colored bat Incidental Take Statement	Silver Branch VMP Project File
Technical Assistance (TA)/Verification Letter: Gray Wolf	Silver Branch VMP Project File

Supporting Documentation	File Name(s) / Link
Species List: Michigan Ecological Field Office	Silver Branch VMP Project File

Sensitive Species (FSM 2670)

A complete list of Regional Forester Sensitive Species (RFSS), specialist impact determinations and rationale can be found in the Biological Evaluation.

Relative to Regional Forester's Sensitive Species, biological evaluations (BE) must arrive at one of four possible determinations: 1) "no impacts", NI (where no effect is expected); 2) "beneficial effects", BEN (where effects are expected to be beneficial); 3) "may impact individuals but is not likely to cause a trend to federal listing or loss of viability", MII (where effects are expected to be insignificant (unmeasurable), or discountable (extremely unlikely); or 4) "likely to result in a trend to federal listing or loss of viability", LRT (where effects are expected to be detrimental and substantial).

There are 65 plants and animals currently designated Regional Forester Sensitive Species (RFSS) on the Ottawa. The Biological Evaluation includes another two rare plants recently discovered on the Ottawa. A complete list, specialist impact determinations, and rationale can be found in the Biological Evaluation. The Biological Evaluation for the SBVMP found that no action would have no impact on 54 species and may impact individuals of 11 species. The proposed action would have no impact on 27 species, may impact individuals of 18 animal species, 17 vascular plant species, and would benefit three species (golden-winged warbler, Kirtland's warbler, and Nabokov's Blue butterfly).

Supporting Project Documentation

Table 17. Applicable project file documentation to support agency sensitive species compliance

Supporting Documentation	File Name(s) / Link
Aquatics Specialist Report	Silver Branch VMP Project File
Biological Evaluation	Silver Branch VMP Project File
Wildlife Specialist Report	Silver Branch VMP Project File

Special Management Areas

Table 18. Special management area compliance determinations

Management Area Type	Applicable Law/Regulation to Demonstrate Compliance With	Rationale for Compliance
Wild and Scenic Rivers (East Branch Ontonagon River; North, South, and Main stem Paint River)	Wild and Scenic Rivers Act (16 USC 1271-1287)	The WSR Act would be complied with and ORVs would be protected or enhanced for the East Branch Ontonagon River (Fish and Wildlife), North Branch Paint (Recreation and Fish), South Branch Paint (Recreation, Fish and Wildlife) and Main Stem Paint River (Recreation) through implementation of proposed actions, adherence to guidelines and through the development and implementation of proposed design criteria.

National Historic Preservation Act – Section 106 Review

No historic properties affected - 36 CFR 800.4(d)(1). Section 106 Review has been completed for the project area and no National Register eligible cultural sites were found.

Comments

There are 209 cultural resource sites recorded in the project area that require protection measures. Protection would be provided through the application of design criteria (Appendix A).

Supporting Project Documentation

Table 20. Applicable project file documentation to support National Historic Preservation Act compliance

Supporting Documentation	File Name(s) / Link
Cultural Resources Specialist Report	Silver Branch VMP Project Folder
State Historic Preservation Office Concurrence	Silver Branch VMP Project Folder

Government to Government Consultation (EO 13175)

The Responsible Official identified the following regarding Government-to-Government consultation:

Government to Government Tribal consultation completed

Comments

Formal consultation letters were sent to the Tribal Historic Preservation Officers for the Keweenaw Bay Indian Community (KBIC) and Lac Vieux Desert Band of Lake Superior Chippewa Indians (LVD) signed on May 15, 2025. Two additional meetings occurred at a staff-to-staff level to specifically discuss the Silver Branch VMP (May 1, 2024, and November 12, 2025).

Supporting Project Documentation

Table 21. Applicable project file documentation to support Government to Government consultation compliance

Supporting Documentation	File Location
KBIC Consultation Letter	Silver Branch VMP Project Folder
LVD Consultation Letter	Silver Branch VMP Project Folder
Consultation Meeting Notes (May 1, 2024)	Silver Branch VMP Project Folder
Consultation Meeting Notes (November 12, 2025)	Silver Branch VMP Project Folder

Relevant Executive Orders

The Responsible Official determined the proposal complies with the following Executive Orders, which were deemed relevant based on the nature of the proposal.

EO 11988, Floodplain Management – requires determination of action occurring in a floodplain, using HUD floodplain map or more detailed map if available; and

EO 11990, Protection of Wetlands – avoid actions within wetlands unless there are no practical alternatives, and the action includes all practicable means to minimize harm to wetlands.

The Proposed Action is consistent with EOs 11988 and 11990 because the design criteria, including riparian protection measures, minimize or avoid impacts to project area floodplains and wetlands. The proposed activities enhance floodplain function by removing stream culverts in decommissioned roads. Road reconstruction that replaces crossing structures would increase conveyance of flood flows, which would benefit floodplains within the project area. The proposed activities enhance wetlands by improving wetland flow and storage capacity through road reconstruction.

EO 13112 and EO 13751, Invasive Species - prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause.

The required actions are met by activities conducted by the Ottawa NNIP Program and design criteria recommended for the project, and effects disclosed within the EA. The expected continued spread of NNIP is disclosed in the Ottawa Forest Plan Environmental Impact Statement.

EO 13186, Migratory Birds and Migratory Bird Treaty Act – identify actions that may have a measurable negative effect on migratory bird populations.

Implementation of this Act on Federal lands was further clarified by Executive Order 13186 of January 2001 (66 FR 3853). The Forest Service entered into a Memorandum of Agreement (MOU) (FS Agreement # 08-MU-1113-2400-264) with the US Fish and Wildlife Service, which was extended until December 2017 to promote the conservation of migratory birds on National Forest System lands (see section D. 3. a-d, pages 6-7). Although the MOU has expired, the Forest Service still manages in accordance with the expired MOU that implements the Executive Order. The Proposed Action would abide by the direction contained in these documents to the extent practicable. No activities included in the Proposed Action would intentionally take migratory birds. Although some of the actions may incidentally result in impacts to migratory birds, this project would avoid measurable negative effects at the population level of migratory bird species. In compliance with the Forest Plan and to the extent practical, we have designed projects to minimize such incidental impacts, while still enabling implementation of the proposed activities. This project would therefore meet the direction contained in the Executive Order.

EO 14072, Strengthening the nation's forests, communities, and local economies - requires the restoration and conservation of mature and old growth forests.

The proposed actions would balance forest age classes across the project area. 73 acres in MA 4.1a would be declassified and 71 acres in MA 2.1 would be classified. The overall percentage of old growth would remain within the desired condition range in MAs 2.2 and 4.1a, while moving towards the desired in MA 2.1.

Agencies, Organizations and Persons Consulted

The Responsible Official contacted or consulted with those listed below during the preparation of the environmental assessment in compliance with requirements to involve the public, relevant agencies, organizations, and governments.

The scoping letter explaining the purpose and need for action, as well as the location and description of the initial set of Proposed Actions, was sent to all individuals/entities within ¼ mile of the project boundary and/or those who have requested information on projects within this geography or of a similar nature. The scoping documents were also posted on the Ottawa's web page.

A legal notice was published in the *Houghton Mining Gazette* newspaper on May 15, 2025, for the scoping letter. The legal notice initiated the start of a 30-day public notification.

Agencies

Michigan Department of Natural Resources, Duncan and Laird Townships, Baraga County, Iron County and Houghton County Road Commissions.

Native American Governments and Tribal Organizations

Bad River Band of Lake Superior Chippewa Indians, Bay Mills Indian Community, Citizen Potawatomi Nation, Fond du Lac Band of Lake Superior Chippewa, Forest County Potawatomi Community, Ho-Chunk Nation, Keweenaw Bay Indian Community, Lac du Flambeau Band of Lake Superior Chippewa Indians, Lac Vieux Desert Band of Lake Superior Chippewa Indians, Menominee Indian Tribe of Wisconsin, Mille Lacs Band of Ojibwe Indians, Oneida Nation, Prairie Band Potawatomi Nation, Red Cliff Band of Lake Superior Chippewa Indians, Sokaogon Chippewa Community, St. Croix Chippewa Indians of Wisconsin, Stockbridge-Munsee Band of Mohican Indians, Great Lakes Indian Fish and Wildlife Commission, and Wisconsin Tribal Conservation Advisory Council.

Individuals and Organizations/Businesses

The 481 individuals/organizations/businesses contacted during the scoping period included those on the Forest-wide mailing list, landowners within the project area and individuals that requested more information. A complete list can be found within the project record.

Table 22. Applicable project file documentation to support NEPA compliance

Supporting Documentation	File Location
Silver Branch VMP Scoping Flyer	Silver Branch VMP Project Folder
Silver Branch VMP Scoping Letter	Silver Branch VMP Project Folder
Silver Branch VMP Mailing List	Silver Branch VMP Project Folder

Finding of No Significant Impact (FONSI)

The Finding of No Significant Impact documents the reasons why an action, not otherwise excluded from documentation in an environmental assessment (EA) or environmental impact statement (EIS) in accordance with 40 CFR §1501.3, would not have a significant effect on the human environment and for which an environmental impact statement therefore would not be prepared. The Finding of No Significant Impact discussion considers all information included in the environmental assessment, as well as documentation in the project file. The implementation plan for this project includes review every 5 years during the proposed implementation timeframe to ensure no changes have occurred that would change the predicted effects. Pertinent specialists have reviewed the proposal and based on their input, the Responsible Official made the following determinations with regards to the potentially affected environment and degree of effects considered for a Finding of No Significant Impact.

Degree of Effect

1. Both short- and long-term effects.

The analysis includes an estimated 30-year implementation timeframe for vegetation management, and longer for some resources. Standard practice requires new information and changed circumstances relating to environmental impacts to be reviewed during project implementation. This typically occurs to document minor changes needed during project implementation, such as a change in the amount of an action due to the implementation of design criteria. An implementation plan would be developed to review project activities every five years to ensure that changes have not occurred that would change the predicted effects analysis.

Aquatic Resources - Risk to aquatic resources would occur every time vegetation is managed. This risk would persist for several years once the activities are completed until vegetation is re-established throughout the cutting units, wildlife openings, and along roadways. The SBVMP includes repeated entries for vegetation management including timber harvest and opening maintenance through 2061. The application of design criteria and no harvest buffers around aquatic habitats avoids or minimizes the potential for short-term impacts to aquatic habitat from all vegetation management projects. Long term benefits of intact riparian buffers, achieved through design criteria and no cut buffers, would be protection of streambank/shoreline stability, limiting erosion, maintaining shade and sources of woody debris inputs into aquatic habitat.

Overall, most adverse impacts to aquatic resources, including aquatic life, riparian areas, wetlands, stream and lake habitat, and water quality would be minor and resultant of short-term impacts during project implementation related to roads and recreation where actions occur in or near aquatic habitat features.

Utilizing design criteria and select proposed projects, the preservation and enhancement of riparian areas, streambanks, shorelines, and other aquatic habitats represent a long-term beneficial effect to fisheries, water quality, and riparian vegetation. Limiting aspen regeneration treatments close to cold-water trout habitat avoids short term impacts to aquatic habitat, and long term is intended to dissuade new or expanded beaver dam development in free-flowing trout habitat.

Road development actions represent the activities with the most potential for impacts to aquatic resources. Road development actions in or near aquatic habitat results in unavoidable short-term impacts related to vegetation removal, stream channel disturbance, and construction induced bursts of sediment and turbid flow. There would be long-term beneficial effects from an overall reduction in roads located in wetlands, roads located near aquatic features, a reduction in road-stream crossings, and a reduction in road-stream crossings which serve as barriers to aquatic organism passage.

Soil Resources – The Silver Branch project spans a 30-year implementation period, with soil recovery potentially extending an additional 25 years beyond that. This long timeframe introduces challenges tied to changing weather patterns, including more

frequent intense rain events and shorter winter operating seasons. Adhering to ELTP-based operating windows is identified as one of the most effective measures to prevent soil impacts, but maintaining this standard over decades will require consistent oversight and adaptability. Coordination among timber, wildlife, fire, and soil resource staff will be critical to ensuring soil productivity is not compromised.

The degree of soil impact from project activities would depend heavily on the consistent application of the included project design criteria and Best Management Practices (BMPs). Recovery times vary by site and disturbance intensity, and repeated entries without sufficient recovery intervals could push soil impacts beyond tolerable bounds. Below-ground processes, particularly those affected by fire and timber harvest, remain less well understood, adding uncertainty to long-term outcomes. Intensive harvest on nutrient-poor soils is of particular concern, as the progressive effects are not fully known.

To mitigate these risks, proactive measures such as reducing impacts in sensitive areas, employing skilled operators, and ensuring oversight by experienced personnel are emphasized. The integration of BMPs, careful sale layout, and communication across disciplines would be expected to limit the duration, distribution, and severity of soil disturbance to acceptable levels based on current knowledge.

Despite the uncertainties, the project also includes positive trends supporting soil protection. Some road system improvements and adjustments to motorized use designations are expected to reduce soil impacts, contributing to the long-term maintenance of soil productivity. With diligent implementation and ecosystem-responsive planning, the project's soil impacts can be managed within sustainable limits.

Fire/Fuels - Any time fire is used as a tool on the landscape; an approved burn plan must be in place. Although this plan includes actions for differing scenarios, an escape could occur. An unplanned ignition outside a burn's control line would be extinguished as soon as possible. Although the likelihood of an escape is very low, it could have several negative effects. The largest would be the loss of a structure and/or damage to private property. The negative effect of an escape to the public perception of the use of prescribed fire and the fire program on the Ottawa could also occur. Other negative effects could include the loss of merchantable timber on both Forest Service and private lands. Not all the effects of an escape would be negative. Even fire in an unintended location may have some of the same positive effects behind the intention of the planned prescribed burn, but as stated, priority would be placed on extinguishing any escape.

Invasive Species – The project area has many invasive plants and animals that are causing environmental impacts. Emerald ash borer will kill most of the ash trees in the project area. Invasive plants such as exotic honeysuckle, common buckthorn, and glossy buckthorn contribute to a decline in native species diversity, perhaps including young trees. The proposed timber harvest and road work would contribute to the spread of invasive plants. However, the impacts of invasive species will occur under both the action and no-action alternatives and are consistent with the impacts disclosed

in the Forest Plan EIS (pp. 3-86 to 3-97). Design criteria are used to limit the potential for increased NNIP spread, and some higher-priority invasive plant infestations will be treated by the Forest Service. None of the proposed actions are expected to affect the long-term spread of invasive animals; their abundance and distribution will be similar regardless if the Proposed Action occurs or not.

Sensitive Plants - As discussed in the Biological Evaluation, the proposed actions would have no effect on 20 species of vascular plant and 3 species of lichen. The proposed actions may impact individuals of 17 species of vascular plant but are not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing. The greatest risk to rare plants is from the proposed timber harvest, site preparation, and road work. However, most of the project area was surveyed for rare plants and known and newly-discovered populations of rare plants would be protected with no-activity buffers as needed (see design criteria). The possibility of impacting some individuals of RFSS species is not considered a significant impact, as the project actions overall will not contribute to a decline in the species on the Forest.

Recreation and Scenic Resources - The results of harvesting along with the implementation of design criteria within the recreation sites would result in a short-term effect to certain recreation users. Snowmobile trails and non-motorized trails would likely experience temporary reroutes, however, these impacts would be lessened by working with interest groups to ensure that trail continuity, while modified, would remain. Short term audio and visual impacts would be expected. Audio impacts are limited to the time of active management. Visual impacts from harvest activities would be minimized through design criteria, would become less evident over time and are considered short-term (less than 5 years). The long-term effect would result in larger and healthier forests and regeneration within the project area to enhance the recreational experience.

Changes to the to the MVUM would occur based on user health and safety and resource damage to the trail. Short-term inconveniences stemming from decommissioning of roads and establishment of new routes would be offset in the long term by providing a safer and more resource friendly transportation system, as well as creating some new access opportunities.

Wildlife – Short-term effects are the most immediate but also most temporary effects to individual animals. Temporary displacement due to noise and human presence is the most common short-term effect for almost all animal species. Displacement due to habitat alteration is also temporary (0 – 10 years) with length of displacement depending on the stand type and management, but forest regeneration is a driving factor for chosen actions thus these changes are intended to be time-limited. There is some short-term risk for direct mortality especially during periods when rearing young but these effects of potential individual or small group mortality does not threaten any population of animal species. The SBVMP project includes repeated entries for vegetation management including timber harvest and opening maintenance through 2026 to 2061. Long-term effects of these projects tend to be beneficial as it ensures that habitat continues to evolve through cyclic age classes and encourages dense

stands of regeneration that provide foraging, nesting, denning and escape habitat. These actions also reduce forest pests and disease that can potentially degrade quality of large areas of habitat if left unchecked. See the Biological Assessment, Biological Evaluation, and Wildlife Specialist Report for species specific analyses of effects.

2. Both beneficial and adverse effects.

Aquatic Resources - The beneficial effects of the project are primarily related to the reduction of roads in wetlands from 83.2 miles to 43.4 miles, following decommissioning, a reduction in roads near aquatic habitat, from 254 miles to 139 miles, a 45% reduction. The number of road stream crossings would be reduced because of road decommissioning, from approximately 282 to 175 crossing of mapped perennial and intermittent streams. Beneficially, the number of culverts that would be improved for function and AOP through reconstruction is approximately 43, including those proposed for reconstruction and those specifically identified as AOP projects. Adverse effects related to road development actions would persist for those poorly functioning, undersized or impeding AOP that are not reconstructed or removed via decommissioning; short term adverse impacts are also unavoidable during instream work associated with road-stream crossing maintenance, removal or reconstruction. Adverse effects would also persist from those roads which remain in wetlands or in close proximity to aquatic habitats.

Beneficial effects result from both beaver discouraging and beaver enhancing vegetation management. There is risk of adverse impacts associated with vegetation management actions, particularly as it relates to access roads and trails, but the application of design criteria and no harvest buffers around aquatic habitats avoids or minimizes the potential for adverse impacts to aquatic habitat from all vegetation management projects. Beneficial effects result from design criteria applied to vegetation management, because stream banks and shorelines are inherently protected with no-cut buffers and indirect impacts such as sedimentation via runoff are minimized by vegetated buffers and other best management practices intended to limit wetland soil disturbance. Streamside shade trees are preserved by no-harvest buffers, and no degradation of streambank or shoreline stability would occur as a result of vegetation management projects.

Beneficial effects would also result from proposed aquatic habitat enhancement projects, with limited potential for adverse effects to aquatic resources as trees sourced from nearby riparian areas would be selected to conserve shade-overstory vegetation and prioritize maintenance of long-lived conifers.

Soil Resources - The SBVMP encompasses a wide range of activities—ground-based heavy equipment use, prescribed fire and hazardous fuels treatments, roadwork, motorized public access adjustments, mineral resource development, and connected actions—all of which carry implications for soil resources. Collectively, these actions attempt to balance management objectives with soil protection through the application of design criteria, Michigan Best Management Practices (BMPs), and Forest Service oversight, though risks remain in sensitive areas and under repeated disturbance.

Heavy equipment operations present risk of compaction, rutting, and displacement, with repeated entries potentially compounding long-term impacts on soil structure, nutrient cycling, and microbial activity. Prescribed fire offers ecological benefits in fire-adapted landscapes, but peatlands remain vulnerable to carbon and methane release, and repeated burns in wildlife openings may impact soil microbiology. Roadwork includes 13 miles of new construction that permanently removes productive soils, but road decommissioning provides opportunities for recovery, while reconstruction and maintenance can improve long-term stability despite short-term erosion risks.

Motorized public access adjustments reduce off-highway vehicle (OHV) use on vulnerable soils, closing or restricting routes most prone to erosion and sedimentation, though some expansion of vehicle access may increase localized risks. Mineral resource development through gravel pit expansion supports infrastructure but permanently removes 14 acres from the productive soil base. Connected actions such as timber stand improvement, recreational site upgrades, aquatic habitat projects, and wild rice restoration generally have minimal or mitigated impacts, with some providing localized soil stability benefits, though new trail construction will result in permanent soil conversion.

Overall, the project's design criteria and BMPs are expected to mitigate adverse effects, ensuring that most soil impacts are temporary, localized, and recoverable. Permanent losses from new roads, gravel pit expansion, and trail construction, along with uncertainties in peatlands and areas subject to repeated disturbance, highlight the need for strict adherence to safeguards and careful oversight to sustain long-term soil productivity and ecosystem resilience.

Fire/Fuels - The vegetation management activities would affect the hazardous fuels loads in several ways. They would reduce (or remove) the crown spacing and stand density. Ladder fuels may be somewhat reduced by the nature of logging operations and removal of trees. However, the logging processes would increase the fuel loading on the forest floor when unmerchantable limbs and branches are left after harvest. The unnatural load of hazardous fuels left on the forest floor can cause increased wildfire intensity and an increased rate of fire spread. Further, the opening of the canopy, while reducing crown-fire potential, increases the temperature of the forest floor and allows more wind movement which also dries out the forest floor. In conifer stands, that surface-fuel increase may offset the canopy/ladder improvements, yielding no net improvement to the FRCC. This is especially true in conifer-mix stands where harvest slash adds to existing pest-damaged debris, leaving a stand significantly altered from its historical conditions. Thus, an accompanying fuels reduction treatment (post-harvest) is proposed in these areas to make progress s toward the Forest Plan goal of maintaining stands in FRCC I or FRCC II.

Silviculture – The proposed action would provide beneficial environmental effects, specifically by maintaining the early successional forest type and contributing to the Forest-wide goals and objectives of maintaining all age classes on the landscape. The declassification of old growth (73 acres) would not negatively impact the Forest because the changes stem from the removal of stands that were found to not meet the old growth characteristics defined in the Forest Plan; therefore, it does not represent a loss

of old growth characteristics. Moreover, 71 acres of additional old growth habitat were identified and classified in MA 2.1, moving towards the desired condition of that MA.

Wildlife – The proposed vegetation management would be beneficial for wildlife in general by enhancing diverse and healthier habitats across the landscape of the SBVMP area. Wildlife thrives best when there is a mosaic of age classes, stand types, and healthy grassland and wetland habitats that provide more opportunities for foraging, denning, nesting and escape cover. Adverse effects are mostly temporary displacement of individuals although there is some risk for harming individual animals especially during seasons when young are most vulnerable. Increased human presence through improved road systems and recreational enhancements can also cause displacement or increase hunting pressure on some species, however, there is ample area for escape and diversified managed habitat would increase the opportunities for improved reproduction as well as forage and escape cover to balance the risk. Conservation measures and design criteria are in place to limit the risk for harm to wildlife.

Fire/Fuels - The vegetation management activities would affect the hazardous fuels loads in several ways. They would reduce (or remove) the crown spacing and stand density. Ladder fuels may be somewhat reduced by the nature of logging operations and removal of trees. However, the logging processes would increase the fuel loading on the forest floor when unmerchantable limbs and branches are left after harvest. The unnatural load of hazardous fuels left on the forest floor can cause increased wildfire intensity and an increased rate of fire spread. Further, the opening of the canopy, while reducing crown-fire potential, increases the temperature of the forest floor and allows more wind movement which also dries out the forest floor. In conifer stands, that surface-fuels increase may offset the canopy/ladder improvements, yielding no net improvement to the FRCC. This is especially true in conifer-mix stands where harvest slash adds to existing pest-damaged debris, leaving a stand significantly altered from its historical conditions. Thus, an accompanying fuels reduction treatment (post-harvest) is proposed in these areas to make progress s toward the Forest Plan goal of maintaining stands in FRCC I or FRCC II.

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3. Effects on public health and safety.

Recreation - Trees that pose a threat to public safety and those that could become a hazard due to age or damage would be removed from developed recreation sites (Norway, Perch, Lake Ste. Kathryn, Paint River and other developed sites). Improvements to Paint River access sites would improve safety at egress and ingress

points. MVUM changes would provide a safer transportation system by eliminating access on roads that cannot be maintained to standard.

Transportation – Road maintenance and improvements would provide a safer transportation system by ensuring all roads are maintained to the Forest Plan standards. Common improvements would be brush clearing to increase sight distance and placement of additional gravel to reduce driving hazards (rutting, erosion).

4. Effects that would violate Federal, State, Tribal or local law protecting the environment.

There are no effects of the proposed action that would violate Federal, State, Tribal or local law, provided the design criteria are implemented as proposed. The Proposed Action is based upon Forest Plan direction, which aligns with appropriate laws, regulations and policies.

The implementation plan includes additional reviews take place throughout time for activities authorized but not completed. During these reviews, specialists determine if any changes have occurred in administrative or external realms that would affect determinations made in the analysis. This process maintains our ability to ensure that effects of implementation in the future do not violate applicable laws, regulations and policies.

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