



United States
Department of
Agriculture

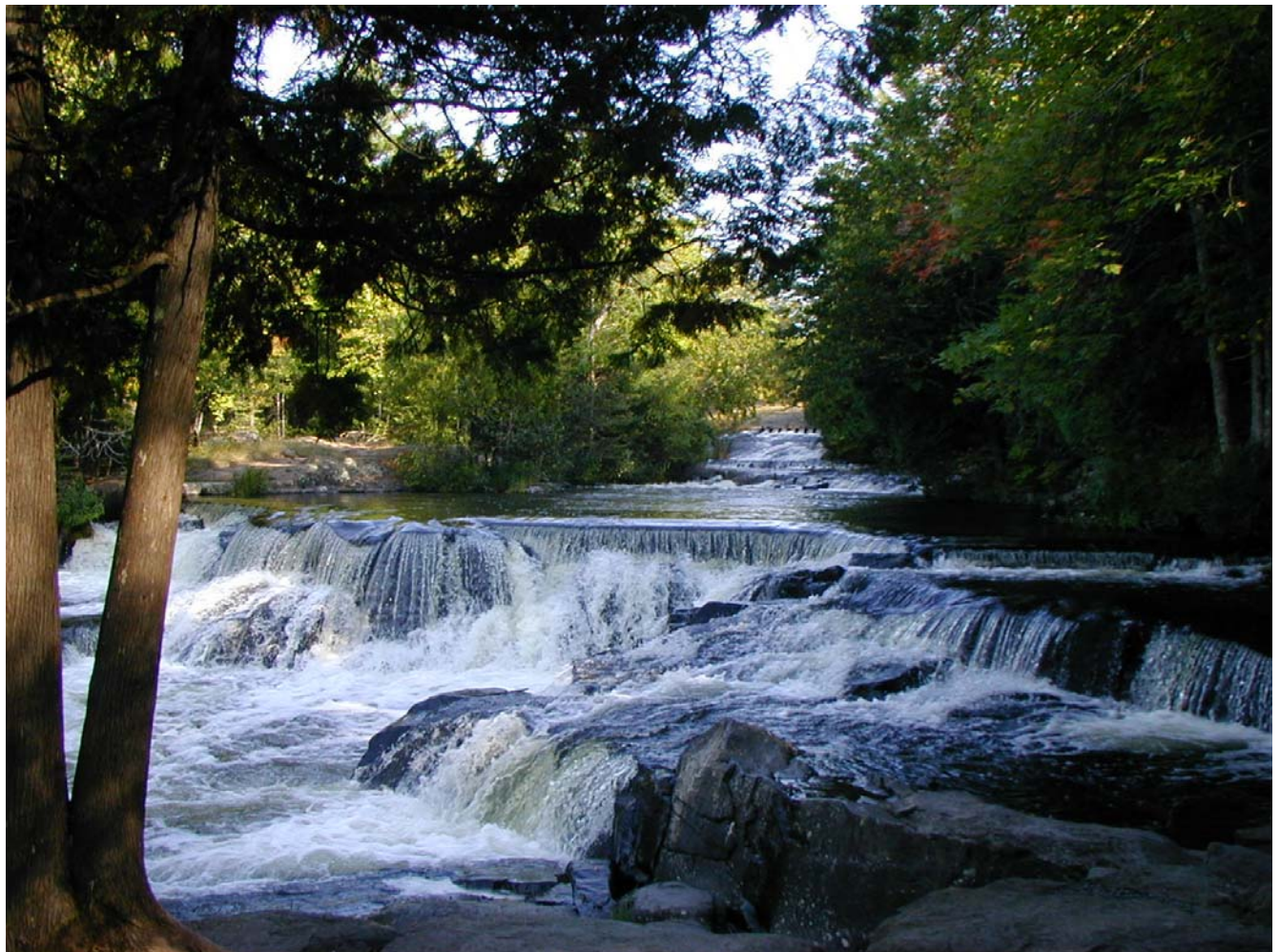
Forest Service
Eastern Region



July 2007

Ottawa National Forest

Wild and Scenic River Comprehensive River Management Plan



Ottawa National Forest

Wild and Scenic Rivers Comprehensive River Management Plan

Chapter 1, Introduction	1-1
Chapter 2, River Values	2-1
Chapter 3, Management Direction	3-1
Chapter 4, Implementation Activities	4-1
Chapter 5, Monitoring and Evaluation Guide	5-1

Ottawa National Forest

Wild and Scenic Rivers

Comprehensive River Management Plan

Chapter 1 – Introduction

CHAPTER 1 – INTRODUCTION.....	1-1
WILD AND SCENIC RIVER LEGISLATION	1-1
<i>Black River</i>	1-3
<i>Ontonagon River</i>	1-3
<i>Paint River</i>	1-4
<i>Presque Isle River</i>	1-4
<i>Sturgeon River</i>	1-5
<i>Yellow Dog</i>	1-5
AGENCY JURISDICTION.....	1-5
<i>U.S. Forest Service</i>	1-5
<i>Bureau of Land Management (BLM)</i>	1-6
<i>U.S. Coast Guard</i>	1-6
<i>U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers</i>	1-6
<i>U.S. Fish and Wildlife Service</i>	1-6
<i>Federal Energy Regulatory Commission</i>	1-7
<i>Tribal Relations</i>	1-7
<i>State of Michigan</i>	1-7
<i>Gogebic, Ontonagon, Houghton, Iron, Marquette, and Baraga County and Township Planning Departments</i>	1-8
PLANNING PROCESS	1-8
HOW THIS DOCUMENT IS ORGANIZED.....	1-8

Chapter 1 – Introduction

The Michigan Scenic Rivers Act of 1991 (P.L. 102-249) added segments of 14 Michigan rivers to the National Wild and Scenic Rivers System. Six of those rivers flow through the Ottawa National Forest (ONF). Included are segments of the Black River; West Branch, Cisco Branch, Middle Branch, and East Branch Ontonagon River; Main Stem, North Branch, and South Branch Paint River; Main Stem, West Branch, South Branch, and East Branch Presque Isle River; Sturgeon River; and Yellow Dog River.

The National Wild and Scenic Rivers Act of 1968 (P.L. 90-542) requires the agency responsible for administration of designated rivers to develop comprehensive river management plans (CRMP) that provide for the protection and enhancement of the rivers' water quality, free-flowing condition and their "outstandingly remarkable values" for the benefit and enjoyment of present and future generations. The USDA Forest Service, under the direction of the Secretary of Agriculture, is the agency responsible for the administration of congressionally designated Wild and Scenic Rivers on the ONF. The local official responsible for management is the Ottawa National Forest Supervisor.

The purpose of this management plan is to provide for a comprehensive approach to managing, protecting, and enhancing the free-flowing natural character of the rivers, their water quality, and their associated outstandingly remarkable values. This plan describes desired conditions for the river corridors and provides management direction in the form of standards and guidelines, identification of some projects that may be implemented, and monitoring guidelines.

Wild and Scenic River Legislation

In 1968, Congress passed the National Wild and Scenic Rivers Act, establishing a nationwide system of outstanding free-flowing rivers. The primary purpose of the Act is to balance river development with river protection and conservation. The Act specifically protects rivers from future hydroelectric power development and requires administering agencies to protect and enhance those values for which the river was designated.

As defined by the Act, a National Wild and Scenic River (WSR) must be maintained in a free-flowing condition and must have its water quality protected. In addition, the river must have at least one outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar value. Outstandingly remarkable values (ORVs) are those values that are river related, that owe their existence or location to the river, and that are rare, unique, or exemplary in character. Rivers may be added to the system by an Act of Congress or by order of the Secretary of the Interior upon official request by a State.

Some of the underlying principles of the Act are to:

- Keep selected rivers or river segments in free-flowing condition and to recognize their importance to our natural and cultural heritage;
- Protect water quality in designated rivers;
- Include all types of free-flowing rivers in the system, whether in very remote areas or flowing through developed areas;
- Designate rivers because of their existing attributes and uses, including a river's natural, recreational, and cultural values; and
- Recognize the need to provide for partnerships among landowners, Federal agencies, and local, State and tribal governments in determining the future use of the river area and managing its resources.

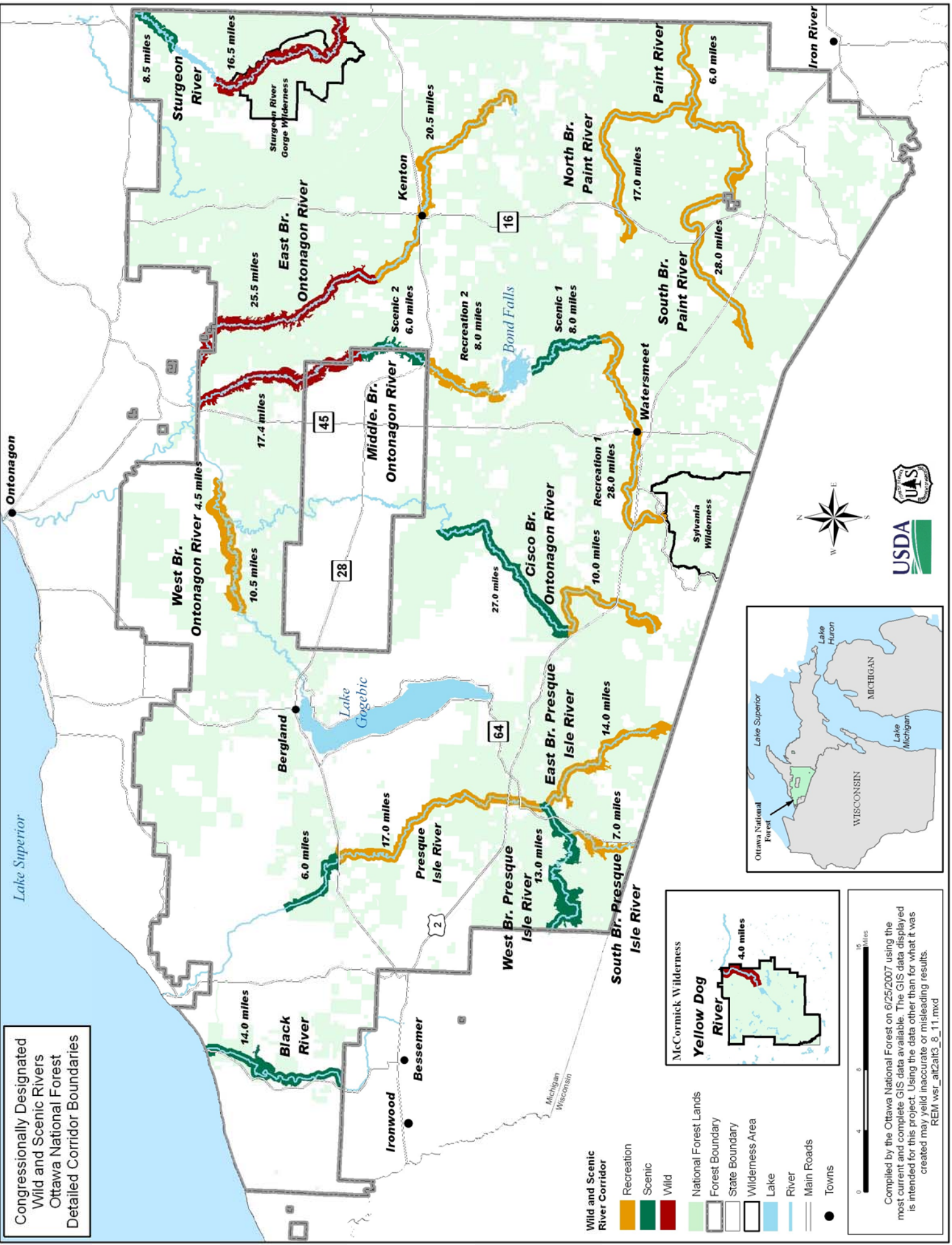
The WSR Act requires that the agency charged with administration of each designated river establish a detailed river corridor boundary that encompasses the identified river-related values, while not exceeding an average of 320 acres of land per river mile. A decision on final river corridor boundaries will be made through the environmental assessment process that forms the basis for this CRMP. See Figure 1 for locations of river corridor boundaries.

Additionally, the Act requires designated rivers be classified as wild, scenic or recreational, depending on the level of development and access present along the river at the time of designation¹. Wild river segments are the most natural appearing and the least accessible. Little or no developments, such as roads or campgrounds, are present. Scenic river segments have shorelines that are largely undeveloped with few access points. More types of land uses and developments are compatible with management goals on a scenic river than on a wild river. On river segments with a recreational classification, the shoreline is more developed and roads may parallel the river. There may be some development along its banks, and some existing impoundments or diversions.

The Michigan Scenic Rivers Act established classifications for the designated portions of the Black, Ontonagon, Presque Isle, Paint, Sturgeon, and Yellow Dog Rivers based upon the levels of development present in 1991. Congressionally designated river segments and their classifications are described as follows:²

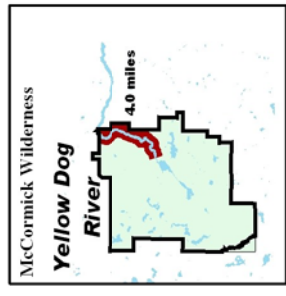
¹ River segments with "scenic" or "recreational" classifications do not necessarily have identified ORVs of scenery or recreation. River classifications and identification of ORVs are usually determined by a federal agency through a pre-designation study. The classification of each segment is often included in the amendatory act with a detailed description of the ORVs developed in the CRMP.

² River miles within each designated WSR segment shown below are measured using GIS mapping technology and are rounded to the nearest mile. These updated river mileage calculations differ slightly from those listed in PL 102-249, however, the beginning and end points of designated segments remain the same.



Congressionally Designated
Wild and Scenic Rivers
Ottawa National Forest
Detailed Corridor Boundaries

- Wild and Scenic River Corridor
 - Recreation
 - Scenic
 - Wild
- National Forest Lands
- Forest Boundary
- State Boundary
- Wilderness Area
- Lake
- River
- Main Roads
- Towns



Compiled by the Ottawa National Forest on 6/25/2007 using the most current and complete GIS data available. The GIS data displayed is intended for this project. Using the data other than for what it was created may yield inaccurate or misleading results.
REM_wsr_atl2alt3_8_11.mxd



Black River

The 14-mile segment from the Ottawa National Forest boundary to Lake Superior, as a Scenic River.

Ontonagon River

Segments of certain tributaries, totaling 170 miles as follows:

- (A) The 52-mile segment of the East Branch Ontonagon from its origin at Spring Lake to the Ottawa National Forest boundary in the following classifications:
 - (i) The 29-mile segment from its origin at Spring Lake to its confluence with an unnamed stream in Section 30, Township 48 North, Range 37 West, as a Recreational River; and
 - (ii) The 23-mile segment from its confluence with an unnamed stream in Section 30, Township 48 North, Range 37 West, to the Ottawa National Forest Boundary, as a Wild River.
- (B) The 67-mile segment of the Middle Branch Ontonagon, from its origin at Crooked Lake to the northern boundary of the Ottawa National Forest in the following classifications:
 - (i) The 23-mile segment from its origin at Crooked Lake to Burned Dam, as a Recreational River;
 - (ii) The 9-mile segment from Burned Dam to Bond Falls Flowage as a Scenic River;
 - (iii) The 8-mile segment from Bond Falls Flowage to Agate Falls, as a Recreational River;
 - (iv) The 7-mile segment from Agate Falls to Trout Creek, as a Scenic River; and
 - (v) The 20-mile segment from Trout Creek to the northern boundary of the Ottawa National Forest, as a Wild River.
- (C) The 33-mile segment of the Cisco Branch Ontonagon from its origin at Cisco Lake Dam to its confluence with Ten-Mile Creek south of Ewen in the following classifications:
 - (i) The 14-mile segment from the origin of the Cisco Branch Ontonagon River at Cisco Lake Dam to the County Road 527 crossing, as a Recreational River; and
 - (ii) The 19-mile segment from the County Road 527 crossing to the confluence of the Cisco Branch and Ten-Mile Creek, as a Scenic River.

- (D) The 18-mile segment of the West Branch Ontonagon from its confluence with Cascade Falls to Victoria Reservoir, in the following classifications:³
- (i) The 13-mile segment from its confluence with Cascade Falls to its confluence with the South Branch Ontonagon, as a Recreational River; and
 - (ii) The 5-mile segment from its confluence with the South Branch Ontonagon to Victoria Reservoir, as a Recreational River.

Paint River

Segments of the mainstream and certain tributaries totaling 52 miles in the following classifications:

- (A) The 6-mile segment of the mainstream from the confluence of the North and South Branches of the Paint to the Ottawa National Forest boundary, as a Recreational river;
- (B) The 17-mile segment of the North Branch Paint from its origin at Mallard Lake to its confluence with the South Branch Paint, as a Recreational River; and
- (C) The 29-mile segment of the South Branch Paint from its origin at Paint River Springs to its confluence with the North Branch Paint, as a Recreational River.

Presque Isle River

Segments of the mainstream and certain tributaries totaling 72 miles as follows:

- (A) The 28-mile segment of the mainstream from the confluence of the East and West Branches of the Presque Isle to Minnewawa Falls in the following classifications:
 - (i) The 22-mile segment from the confluence of the East and West Branches of the Presque Isle to Michigan State Highway 28, as a Recreational River; and
 - (ii) The 6-mile segment from Michigan State Highway 28 to Minnewawa Falls, as a Scenic River.
- (B) The 19-mile segment of the East Branch Presque Isle within the Ottawa National Forest, as a Recreational River;
- (C) The 7-mile segment of the South Branch Presque Isle within the Ottawa National Forest, as a Recreational River; and
- (D) The 18-mile segment of the West Branch Presque Isle within the Ottawa National Forest, as a Scenic river.

³ The two Recreational segments of the West Branch Ontonagon are addressed as one in the CRMP.

Sturgeon River

The 28-mile segment from its entry into the Ottawa National Forest to the northern boundary of the Ottawa National Forest in the following classifications:

- (A) The 20-mile segment from its entry into the Ottawa National Forest to Prickett Lake, as a Wild River (portions of this segment are within the Sturgeon River Gorge Wilderness and will be managed consistent with those wilderness values); and
- (B) The 8-mile segment from the outlet of Prickett Lake Dam to the northern boundary of the Ottawa National Forest, as a Scenic river.

Yellow Dog

The 4-mile segment from its origin at the outlet of Bulldog Lake Dam to the boundary of the Ottawa National Forest, as a Wild river (this entire segment is within the McCormick Wilderness and will be managed consistent with those wilderness values).

Agency Jurisdiction

The Wild and Scenic Rivers Act requires that a CRMP be prepared by the Agency with primary jurisdiction over the river's resources. In addition, other government agencies at many levels have jurisdiction over various resources within the designated wild and scenic river corridors. The river management plan has been developed in consideration of goals of other agencies with jurisdiction over the resources of the Black River, Ontonagon River, Paint River, Presque Isle River, Sturgeon River, and Yellow Dog River. These jurisdictions are described below.

U.S. Forest Service

The Ottawa National Forest (ONF) has management responsibility for National Forest System lands within the designated Wild and Scenic River corridors, which constitutes the majority of lands within the corridors. Forest Service management of lands is accomplished through a two-level planning process. The first level of planning is programmatic and is represented by the Forest Plan and its amending documents, such as this EA and CRMP. The Forest Plan provides direction for management programs, practices, uses and protection measures on National Forest System lands. Direction from the Forest Plan that currently guides management within the designated Wild and Scenic River corridors is found in Management Area (MA) 8.1 of the Ottawa Land and Resource Management Plan.

The second level of planning is at the project level. Individual project plans implemented within the designated river corridors will be analyzed for potential site-specific environmental impacts and for compliance with desired conditions

and management standards and guidelines set in the amended Forest Plan through the CRMP.

In addition, the Ottawa National Forest has the responsibility for determining the acceptability of any water resources project (defined as being a project within the bed and banks of the river) in the designated rivers, regardless of land ownership.

Bureau of Land Management (BLM)

The BLM has jurisdiction over federally owned minerals in the Scenic and Recreational river corridors. Federal minerals in the Wild segments are withdrawn by the WSR Act.

U.S. Coast Guard

The United States Coast Guard maintains the Black River Harbor as a "Harbor of Refuge" for boats on Lake Superior. This includes maintenance of directional lights and the breakwaters at the harbor entrance. It also involves periodic dredging of the main channel of the harbor from the entrance to just upstream of the boat launch (approximately ¼ mile), done in cooperation with the Army Corps of Engineers.

U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers

The Environmental Protection Agency (EPA) develops and enforces regulations that implement environmental laws enacted by Congress, including those associated with the Federal Water Pollution Control Act, commonly called the Clean Water Act (CWA). The EPA has the authority to implement pollution control programs. The CWA governs the discharge of dredged or fill material into "waters of the United States."

EPA has the lead for establishing the environmental guidelines/criteria that must be met to receive a permit under CWA. The U. S. Army Corps of Engineers (ACOE) is the permitting authority. Regulation of dredged material disposal within waters of the United States is a shared responsibility of EPA and the ACOE. Permits are subject to EPA review and "veto" if EPA's environmental guidelines are not met. In Michigan, the ACOE has delegated the permitting authority to the State of Michigan.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) enforces Federal wildlife laws, protects endangered species, manages migratory birds, restores nationally significant fisheries, and conserves and restores wildlife habitat such as wetlands. It also oversees the Federal Aid program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to State fish and wildlife agencies.

For the ONF, USFWS management and enforcement activities directly affect management and uses. The USFWS role and authority under the Endangered Species Act requires that the ONF enter into informal or formal consultation with the USFWS to gain concurrence on anticipated effects to federally listed or proposed species and to designated critical habitat known to occur on the Ottawa National Forest.

The USFWS also conducts sea lamprey control programs on the ONF and other rivers in the Lake Superior drainage. This non-native invasive fish was first reported in Lake Superior in 1938 and significantly reduced native lake trout and other fish populations. This program is ongoing, with treatments occurring on a regular, but not necessarily a yearly basis. Any stream that produces a large population of sea lamprey can be targeted for treatment.

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of natural gas, oil, and electricity. FERC also regulates natural gas and hydropower projects. The FERC-regulated projects on the Ottawa that are within the watersheds of designated Wild and Scenic Rivers are Prickett and Bond Falls. Bond Falls is the largest, and includes developments on four reservoirs (Bond Falls Flowage, Lake Gogebic, Cisco Chain of Lakes, and Victoria Reservoir). Both these projects were relicensed by FERC for 40-year license terms – Prickett in 1995, and Bond Falls in 2003. The CRMP in no way abrogates these license agreements.

Tribal Relations

The ONF honors the U.S. Government trust responsibility and treaty obligations towards Native American tribes within a government to government relationship. This relationship is outlined in a Memorandum of Understanding (MOU) between the sovereign and federally recognized tribes of Lake Superior Chippewa Indians and the Forest Service. The MOU establishes consistent standards by which the Forest Service and the Tribes interact across NFS lands within areas ceded in the treaties of 1836, 1837 and 1842.

Nothing in this river management plan or in its implementation is intended to modify, abrogate, or otherwise adversely affect tribal reserved or treaty guaranteed rights applicable within the river corridors.

State of Michigan

The **State Historic Preservation Officer** (SHPO) is a State office with a Federal mandate. Under Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR 800, Federal agencies are required to consult with SHPOs regarding the eligibility of historic and cultural properties for nomination to the National Register of Historic Places,

and on determinations of effect from Federal undertakings and management decisions.

The **Michigan Department of Environmental Quality** (MDEQ) is responsible for protecting public health and the environment by administering the State's environmental quality laws and delegated Federal programs (CWA) to prevent, control and abate pollution of air, water and land resources.

The **Michigan Department of Natural Resources** (MDNR) is responsible for managing and protecting Michigan's fish and wildlife resources. The agency sets game animal harvest levels, hunting and fishing seasons and limits on catch and possession of game animals. The MDNR manages populations of wildlife while the Forest Service manages the wildlife habitat on National Forest lands.

Gogebic, Ontonagon, Houghton, Iron, Marquette, and Baraga County and Township Planning Departments

The authority to regulate and control land use and development activities on private lands within the designated river corridors rests with local agencies such as townships and counties. The Forest Service does not have the authority to zone or regulate uses on these private lands.

Planning Process

This draft Comprehensive River Management Plan was developed from the Ottawa Wild and Scenic Rivers Comprehensive River Management Plan Environmental Assessment (EA). The EA evaluates a range of three alternative management scenarios for the designated rivers of the ONF. The EA weighs the environmental consequences of each management scenario. Based on this analysis, along with input from the public and a variety of agencies and tribal governments, the management direction in this plan was identified as the Preferred Alternative in the Decision Notice.

This draft CRMP prescribes desired conditions for the river-related values of the designated rivers, along with the necessary management standards and guidelines designed to maintain or move resource conditions toward those desired conditions. The draft plan also includes a list of actions that may be undertaken within WSR corridors, and a monitoring framework. Implementation of any of the identified management actions will require future site-specific NEPA analysis.

How This Document is Organized

Chapter 1 provides an introduction to the river management plan and describes each of the designated river segments that this plan applies to.

Chapter 2 summarizes the outstandingly remarkable values for each river segment.

Chapter 3 contains specific management direction for the river corridors including desired conditions, standards, and guidelines.

Chapter 4 lists specific management actions that may be implemented within the river corridors.

Chapter 5 describes a monitoring program designed to evaluate the effectiveness of management actions taken in the river corridors for the purpose of protecting and enhancing river-related values.

Ottawa National Forest

Wild and Scenic Rivers Comprehensive River Management Plan

Chapter 2 – River Values

CHAPTER 2 – RIVER VALUES.....	2-1
FREE-FLOW AND WATER QUALITY	2-1
OUTSTANDINGLY REMARKABLE VALUES	2-2
BLACK RIVER - SCENIC SEGMENT ORVs	2-3
<i>Scenery</i>	2-3
<i>Recreation</i>	2-3
<i>Geology</i>	2-4
<i>Fish</i>	2-4
<i>Wildlife</i>	2-5
<i>Heritage (Historic)</i>	2-6
ONTONAGON RIVER, EAST BRANCH – RECREATIONAL SEGMENT ORVs	2-6
<i>Fish</i>	2-6
<i>Wildlife</i>	2-6
ONTONAGON RIVER, EAST BRANCH – WILD SEGMENT ORVs.....	2-7
<i>Scenery</i>	2-7
<i>Geology</i>	2-7
<i>Fish</i>	2-8
<i>Wildlife</i>	2-8
ONTONAGON RIVER, MIDDLE BRANCH – RECREATIONAL SEGMENT 1 ORVs.....	2-8
<i>Recreation</i>	2-8
<i>Fish</i>	2-9
ONTONAGON RIVER, MIDDLE BRANCH – SCENIC SEGMENT 1 ORVs.....	2-9
<i>Recreation</i>	2-9
<i>Fish</i>	2-9
<i>Wildlife</i>	2-10
ONTONAGON RIVER, MIDDLE BRANCH – RECREATIONAL SEGMENT 2 ORVs.....	2-10
<i>Scenery</i>	2-10
<i>Recreation</i>	2-11
<i>Geology</i>	2-11
<i>Fish</i>	2-11
<i>Wildlife</i>	2-12
ONTONAGON RIVER, MIDDLE BRANCH – SCENIC SEGMENT 2 ORVs.....	2-12
<i>Scenery</i>	2-12
<i>Geology</i>	2-13
<i>Fish</i>	2-13
<i>Wildlife</i>	2-13
ONTONAGON RIVER, MIDDLE BRANCH – WILD SEGMENT ORVs	2-13
<i>Scenery</i>	2-13
<i>Geology</i>	2-14
<i>Fish</i>	2-14
<i>Wildlife</i>	2-15
ONTONAGON RIVER, CISCO BRANCH – RECREATIONAL SEGMENT ORVs.....	2-15
<i>Wildlife</i>	2-15

ONTONAGON RIVER, CISCO BRANCH – SCENIC SEGMENT ORVs	2-15
<i>Scenery</i>	2-15
<i>Fish</i>	2-16
<i>Wildlife</i>	2-16
ONTONAGON RIVER, WEST BRANCH – RECREATIONAL SEGMENT ORVs	2-16
<i>Scenery</i>	2-16
<i>Geology</i>	2-17
<i>Fish</i>	2-17
<i>Wildlife</i>	2-17
PAINT RIVER, MAIN STEM – RECREATIONAL SEGMENT ORVs	2-18
<i>Recreation</i>	2-18
PAINT RIVER, NORTH BRANCH – RECREATIONAL SEGMENT ORVs	2-18
<i>Recreation</i>	2-18
<i>Fish</i>	2-18
PAINT RIVER, SOUTH BRANCH – RECREATIONAL SEGMENT ORVs	2-19
<i>Recreation</i>	2-19
<i>Fish</i>	2-19
<i>Wildlife</i>	2-19
PRESQUE ISLE RIVER, MAIN STEM – RECREATIONAL SEGMENT ORVs	2-20
<i>Scenery</i>	2-20
<i>Geology</i>	2-20
<i>Wildlife</i>	2-21
PRESQUE ISLE RIVER, MAIN STEM – SCENIC SEGMENT ORVs.....	2-21
<i>Scenery</i>	2-21
<i>Geology</i>	2-21
<i>Wildlife</i>	2-22
PRESQUE ISLE RIVER, EAST BRANCH – RECREATIONAL SEGMENT ORVs.....	2-22
<i>Fish</i>	2-22
<i>Wildlife</i>	2-22
PRESQUE ISLE RIVER, SOUTH BRANCH – RECREATIONAL SEGMENT ORVs	2-23
<i>Wildlife</i>	2-23
PRESQUE ISLE RIVER, WEST BRANCH – SCENIC SEGMENT ORVs.....	2-23
<i>Recreation</i>	2-23
<i>Wildlife</i>	2-23
STURGEON RIVER – WILD SEGMENT ORVs	2-24
<i>Scenery</i>	2-24
<i>Recreation</i>	2-25
<i>Geology</i>	2-25
<i>Fish</i>	2-25
<i>Wildlife</i>	2-26
STURGEON RIVER – SCENIC SEGMENT ORVs	2-26
<i>Scenery</i>	2-26
<i>Geology</i>	2-26
<i>Fish</i>	2-27
<i>Wildlife</i>	2-27
YELLOW DOG RIVER – WILD SEGMENT ORVs	2-27
<i>Scenery</i>	2-27
<i>Geology</i>	2-27
<i>Wildlife</i>	2-28

Chapter 2 – River Values

The Wild and Scenic Rivers Act (Section 1(b)) identifies free-flow, water quality, and “outstandingly remarkable values” as those river values that are to be protected and enhanced. Free-flow and good water quality were identified as present in the Black, Ontonagon, Paint, Presque Isle, Sturgeon, and Yellow Dog Rivers in the initial assessment of eligibility for wild and scenic river designation. Outstandingly remarkable values are defined as values in a river corridor that are directly related to the river and that are rare, unique, or exemplary from a regional or national perspective. While the eligibility assessment noted that there was at least one ORV present on each river, it did not specify which of the rivers’ resources were considered outstandingly remarkable. In 2005 a Resource Assessment was completed to determine which of the river-related resources were considered “outstandingly remarkable values”. Those identified ORVs for each river segment are listed in Table 1.

The Act also requires that Wild and Scenic Rivers must first be administered in such a manner as to protect and enhance the river’s identified values, and second to allow other uses that do not interfere with public use and enjoyment of those river values. Protection and enhancement of the specific ORVs, water quality and free-flowing characteristics of each river segment, is the foundation upon which all management actions and authorizations of uses are based.

Free-Flow and Water Quality

Free-flowing condition in all river segments is influenced by dams, old railroad grades, utility corridor crossings, roads and/or road crossings. All these structures existed at the time of designation, yet the eligibility assessments for the designated reaches of the Black, Ontonagon, Paint, Presque Isle, Sturgeon, and Yellow Dog Rivers found that all segments met the free-flowing criteria, making the rivers eligible for WSR designation (USDA 1989). Section 7(a) of the Wild and Scenic Rivers Act protects WSRs from the harmful effects of water resource development projects. This provision of the Act adequately protects the existing free-flowing nature of each of the designated river reaches, so alternatives were not developed in response to this river value.

Water quality is a river value that is to be protected and enhanced. All of the designated Wild and Scenic rivers of the ONF have good water quality that meets Michigan’s water quality standards that protect designated uses including industrial, agricultural, and public water supply; recreation (partial contact and total body contact); warmwater and coldwater fisheries, other aquatic life, and wildlife; and navigation (MI-DEQ 2006a). All streams and rivers have natural erosion, sediment transport, and deposition processes. Some of the designated Wild and Scenic Rivers pass through landscapes of heavy clay and silt soils with naturally high erosion rates, causing waters that may be turbid or cloudy during

high flow events. The high water quality rating on these rivers takes into account these natural erosion processes.

Outstandingly Remarkable Values

Table 2-1 - Outstandingly Remarkable Values by Designated River Segment

Designated River Segment	Classification	Outstandingly Remarkable Values					
		Scenery	Recreation	Geology	Fish	Wildlife	Heritage (historic)
Black River	Scenic	◇	◇	◇	◇	◇	◇
Ontonagon River							
East Branch	Recreational				◇	◇	
East Branch	Wild	◇		◇	◇	◇	
Middle Branch	Recreational (1)		◇		◇		
Middle Branch	Scenic (1)		◇		◇	◇	
Middle Branch	Recreational (2)	◇	◇	◇	◇	◇	
Middle Branch	Scenic (2)	◇		◇	◇	◇	
Middle Branch	Wild	◇		◇	◇	◇	
Cisco Branch	Recreational					◇	
Cisco Branch	Scenic	◇			◇	◇	
West Branch	Recreational	◇		◇	◇	◇	
Paint River							
Main Stem	Recreational		◇				
North Branch	Recreational		◇		◇		
South Branch	Recreational		◇		◇	◇	
Presque Isle River							
Main Stem	Recreational	◇		◇		◇	
Main Stem	Scenic	◇		◇		◇	
East Branch	Recreational				◇	◇	
South Branch	Recreational					◇	
West Branch	Scenic		◇			◇	

Designated River Segment	Classification	Outstandingly Remarkable Values					
		Scenery	Recreation	Geology	Fish	Wildlife	Heritage (historic)
Sturgeon River	Wild	◇	◇	◇	◇	◇	
	Scenic	◇		◇	◇	◇	
Yellow Dog River	Wild	◇		◇		◇	

The following descriptions of ORVs are considered benchmarks against which all proposals for future management will be measured for meeting the standard of protection and enhancement.

Black River - Scenic Segment ORVs

Scenery

The Black River is distinguished by having exemplary characteristics that define outstandingly remarkable scenic values. It is continuously flowing, with numerous interesting features like falls, cascades, rapids, and pools. Gorges, cuts, and rock forms comprised of a variety of rock types formed from the underlying bedrock are common along the river corridor. The water is characteristically amber-colored from the natural tannins produced in the wetlands. Focal points that are visually striking and memorable include several falls, five of which have major, spectacular cascades and trail access to viewpoints. The surrounding forested landscape includes unique examples of old-growth hemlock and Northern hardwoods with sugar maple the predominant tree species. Yellow birch, red maple, and basswood are other common tree species dispersed within hardwood stands, offering dynamic variations in seasonal color. The recreation facilities that provide access to the falls are moderately developed and the built features are subordinate to the natural setting.

Recreation

Recreational opportunities along the Black River are outstandingly remarkable. The most popular is viewing scenery, particularly the five major waterfalls with developed access. Additional activities include picnicking, camping, fishing, canoeing, kayaking, hiking the North Country National Scenic Trail, and participating in harbor-related boating activities. The river empties into Lake Superior which provides additional recreation opportunities such as swimming, boating and fishing.

The Black River Recreation Area has three major developed recreation sites located near the mouth of the Black River. It includes a forty-unit campground, a day use area, and a harbor, all of which are popular attractions for locals and

visitors alike. Black River Harbor provides one quarter mile of docking space along with boat launching facilities and fuel service. Black River Harbor is unique in that it is the only harbor operated by the U.S. Forest Service in the continental United States.

The area was officially dedicated as the Black River National Scenic Byway in 1992 in recognition of its exceptional beauty and recreational opportunities. The byway parallels the designated segment of the Black River for most of its 14-mile length. There are five developed parking areas along the Scenic Byway that provide access to trails which lead to scenic overlooks at five different waterfalls.

Geology

The Black River has outstandingly remarkable geologic features. Its headwaters flow through generally sandy and loamy, unconsolidated glacial till formed when stagnant parts of the Winegar Lobe of Ice melted in place. The random patterns of hills associated with a terminal moraine are generally absent here, leaving a topography that is gently rolling and undulating. There are several areas where underlying hard bedrock is exposed, creating many smaller waterfalls and rapids.

The northern section of the river consists of steep, dissected river valleys. Through the processes of glacial uplift (isostatic rebound) and river down cutting, the Black River has eroded through a thin deposit of glacial till to the underlying bedrock formations and formed a narrow gorge in this segment. The vertical drop of 500 feet from here to the mouth creates several major waterfalls. The variety of bedrock types and steep gradients produces an almost continuous length of cascades, runs, rapids, and waterfalls, including some of the most spectacular found on the ONF.

The gorge that the river creates passes through high, exposed bedrock outcrops and sedimentary rock formations. Within the valley and streambed are examples of a variety of rock types, numerous interesting erosional and other rock formations. The gorge is very steep-sided and difficult to enter in places and there are many scenic overlooks from the hiking trails along the gorge escarpments. At the mouth of the river, there are large sandbars and coarse alluvium fans deposited by the river that create a scenic and comfortable area to enjoy the Lake Superior shoreline.

Fish

Populations of fish found in the Black River are considered outstandingly remarkable. Migratory populations of coho salmon, Chinook salmon, and steelhead trout utilize the lower (northern) section of Black River. These species are common in this reach during the fall spawning runs. Chinook salmon, stocked by the Michigan Department of Natural Resources (MDNR), along with wild spawned lake trout, coho salmon, and steelhead comprise the bulk of the recreational fishery in the lower section (below Rainbow Falls) of the river.

From Lake Superior to Rainbow Falls, the Black River is a migratory trout stream with the falls acting as a barrier to migrating coho salmon, Chinook salmon, and steelhead trout. Spawning conditions are somewhat limited since only a short segment of this high gradient river is available to salmon and steelhead. This area of the Black River provides potential spawning area for Regional Foresters Sensitive Species (RFSS) lake sturgeon and the native coaster brook trout.

The migration barrier of Rainbow Falls protects upstream native brook trout from displacement by the larger, non-native salmon. Additional native species include longnose dace, blacknose dace, mottled sculpins, white suckers, creek chubs, horny head chubs, and the originally stocked but now naturalized, brown trout. Walleye and northern pike are also seasonally abundant within this reach. Particularly important tributaries for spawning and thermal refugia for brook trout in the upper reaches are Sand Island Creek, Reed Creek, Narrows Creek, and Powder Mill Creek. This results in diverse and productive aquatic habitats above Rainbow Falls

The Black River basin is located in the border region between boreal forests and Northern hardwood forests. This setting is quite diverse, providing outstandingly remarkable habitat for warm-water species in the southern headwaters and cold-water species in the northern section of the river.

Wildlife

The river corridor contains nationally or regionally important wildlife populations. Bald eagles (federally-listed threatened) nest along the Black River near Copper Peak, as well as at the mouth of the river at Black River Harbor. Gray wolves (federally-listed endangered) are commonly seen along the river, especially during the winter since the corridor is a key deer wintering area (in the valley/ridge topography near Lake Superior). Wood turtles (RFSS) reproduce along the river and its tributaries. The number of barred owls along the Black River is among the highest surveyed anywhere on the Forest. The river is a migration route for gray wolves, deer, rough-legged hawks, and numerous neotropical migrant birds. Cavity-nesting ducks, owls, flying squirrels, American martens (ONF management indicator species), chimney swifts, porcupines, and many other cavity nesting/denning species are found here as well. Wildlife populations are considered outstandingly remarkable on the Black River.

The Black River corridor provides outstandingly remarkable wildlife habitats including connective corridors for species of national and regional significance. In particular, the area has an exceptional riparian old growth forest and numerous large cavity trees of white pine, yellow birch, and hemlock. The hemlock stands are some of the most contiguous on the ONF. Large gravel bars provide nesting areas for wood turtles. Numerous riverine and oxbow/wetland habitats, old growth forests, and the wildlife migration corridor functions are all key habitat components.

Heritage (Historic)

Black River Recreation Area is located at the mouth of the Black River and has a history and tradition of mining, logging, hunting and commercial fishing. The mouth of the river served as a harbor for Lake Superior commercial fishing boats, which brought supplies to copper mines south of the lake in the late 1840s.

Historical use of the Black River primarily consisted of early nineteenth century logging and commercial fishing. In the early 1900s, a small fishing village clung to the shores of Lake Superior at the mouth of Black River. In 1928, the villagers moved from their lakeside homes to make way for a new county park at the Harbor. In 1939, the 3601st Company Civilian Conservation Corps (CCC) removed the last physical remains of the old village in the process of constructing a recreational site. Historic structures remaining at the site include: a foot bridge, generator house, Boy Scout building, combination building, marina and dock. Black River Harbor is the only harbor in Michigan's Upper Peninsula where recreation sites were constructed by the 3601st Company CCC in 1938-39. The Black River is a unique and special area within the ONF and its historic resources are considered outstandingly remarkable.

Ontonagon River, East Branch – Recreational Segment ORVs

Fish

This segment is designated a Blue Ribbon Trout Stream by MDNR. Self-sustaining brook and brown trout populations dominate the fish community. Spawning of migratory steelhead trout and coho salmon occurs upstream from State Highway M-28 as far as Lower Dam. The brook trout fishery in Lower Dam Lake is unique in that natural reproduction in the East Branch above the dam supplies adequate numbers of brook trout (no longer stocked) to the popular fishery. Diverse, self-sustaining populations of both native brook trout and naturalized salmon yield an outstandingly remarkable fishery.

While both spawning gravels and cover are limited in this segment, they are more abundant than in the rest of the East Branch. Riparian forests are immature and contribute little large woody debris to the stream. The East Branch and Jumbo River (a major tributary just downstream from Sparrow-Kenton Wayside) have historically been good producers of migratory steelhead trout.

Wildlife

The riparian corridor of this river section is considered outstandingly remarkable due to its importance to wintering deer and the predators that prey or scavenge on them (e.g. federally-listed gray wolves and bald eagles). In addition, Upper and Lower Dam lakes are important nesting areas for fish-eating birds. Nesting

wood turtles are common, utilizing gravel bars and sandy cutbanks where available.

The river corridor provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa.

Ontonagon River, East Branch – Wild Segment ORVs

Scenery

Scenery in this segment of the East Branch is outstandingly remarkable. The vegetation is composed of a wide variety of tree species, brush, and wetlands in a gradually widening and deepening valley. For the most part, the river is meandering with many tight bends and some cut off oxbow ponds. The river then flows through glacial uplift, cutting down and forming a deep (100- 200 feet) gorge-like, broad river valley. Also within this segment are areas of exposed sandstone cliffs, steep walled side slopes, and boulders and numerous small rapids in the river bottom.

Tree types along the stream are aspen, spruce, balsam, paper birch, jack pine, and species that regenerated after extensive logging in the late 1800s and early 1900s. Stunted and crooked box elder, which generally is not present in this region, is commonly seen along the riverbanks. This, plus the variety of trees contrasted with many interesting standing snags remaining from the Dutch elm disease epidemic of the 1980s, creates high contrast and visual diversity.

Below the confluence with Onion Creek are several natural overlooks along the river, most of which are associated with mass failures (landslides) where the river has eroded the clay banks. The river is commonly clouded and colored by sediments from the clayey soils and mass failures, especially after heavy rains and during spring runoff. Normally, this would be a detractor, but in this case, it is so much a part of this interesting erosive landscape that it is a visual symbol of the highly active, dynamic geological setting.

Geology

Through glacial uplift and river down cutting, this outstandingly remarkable segment of the East Branch has formed a deep (up to 200 feet), naturally unstable, steep-sided and broad river valley as it flows north through layered fine silty, sandy and clayey glacial lake sediments formed 9,000 to 10,000 years ago. This spectacular valley makes much of this river segment difficult to access. There is one small feature within the corridor on Onion Creek known as Onion Falls where the river cascades over sedimentary sandstone layers and through boulder-strewn rapids for a short distance.

The river channel through this valley intensely meanders and periodically alters its course. This creates textbook examples of fluvial landforms, relic channels, oxbow lakes, and ancient river terraces. Also within this segment are areas of exposed sandstone bedrock, boulders in the river bottom and valley wall side slopes, and numerous smaller rapids.

The active process of valley formation continues to be evident to this day. The steep-sided valley walls are actively eroding, with numerous examples of mass wasting, major landslides, and slumping occurring frequently wherever the river channel touches and undercuts the adjacent valley walls. What is perhaps the largest landslide in the State occurred on the East Branch just north of the Forest boundary in the spring of 2003. This landslide completely blocked the river channel and a new channel segment was subsequently formed.

Fish

Steelhead trout and coho salmon are largely “passing through” this segment of river during their spawning runs, primarily because of the lack of suitable spawning gravels.

However, suitable spawning habitat for the lake sturgeon (RFSS), particularly in the shale bottom areas, is present. Although sturgeon spawning has not been documented here, this bottom type is similar to that used successfully by spawning sturgeon on the Sturgeon River. For this reason, it is considered potential sturgeon habitat and outstandingly remarkable.

Wildlife

The East Branch river corridor, north of Kenton, is part of a major deer wintering area (Middle Branch Deer Yard). Federally-listed gray wolves and bald eagles are present, at least in the winter, to capitalize on this food source. Wood turtles nest here.

Much of this segment is relatively remote, contributing to the outstandingly remarkable wildlife habitat present. Gravel bars and suitable cutbanks are used by nesting wood turtles. The river corridor provides important connectivity functions across the landscape for numerous riparian and migratory wildlife species. In addition, the riparian forests within this corridor are very productive wildlife habitats, important to many taxa.

Ontonagon River, Middle Branch – Recreational Segment 1 ORVs

Recreation

This section of river provides popular canoeing and kayaking opportunities, which includes some shallows and some Class III rapids. It is known to have good trout fishing, and is listed as a Michigan Blue Ribbon Trout Stream.

Outfitting/guiding services are available on portions of this river segment, and primarily occur between State Highway 45 and Burned Dam. It is one of only a few river segments on the Ottawa National Forest which has outfitter/guiding service performed under special use permit from the U.S. Forest Service. Burned Dam Campground, which is within this segment of river, provides a good opportunity to take out a canoe/kayak and/or experience overnight camping in a quite, riverside environment.

Recreationists are drawn to the area to experience the outstandingly remarkable recreation opportunities of the Middle Branch.

Fish

Native brook trout and naturalized brown trout are present here, along with a few resident rainbow trout. Other species include longnose dace, blacknose dace, creek chubs, common shiner, mottled sculpin, white sucker, central mudminnow, smallmouth bass, rock bass, and yellow perch. This river segment is a regionally important producer of resident fish species.

Habitat in this section was rated “good” by MDNR and has been designated a Blue Ribbon Trout Stream. Duck Creek, a tributary, has the capability to produce large trout and the habitat quality is related to groundwater input (cold springs). Duck Creek contributes significantly to the overall quality of this segment by producing big fish. Cold water, moderate gradients, gravel and rubble bottom, abundant macro invertebrate populations, and a good mix of riffles and pools contribute to the “good” habitat rating and to the recognition of fish values as outstandingly remarkable.

Ontonagon River, Middle Branch – Scenic Segment 1 ORVs

Recreation

This segment of the Middle Branch has outstanding whitewater and fly-fishing opportunities, primarily in the spring and early summer. This segment contains a good mixed warm-water and cold-water fishery, as well as canoeing and kayaking opportunities. Some sections are only navigable by experienced paddlers (Mex-i-min-e Falls, Class III rapids). Outfitting and guiding services are available on this segment.

This section of river provides a more remote recreation experience for the user, as there is only one bridge crossing and limited road access for most of its length. People are drawn to the area because of the outstandingly remarkable recreation opportunities and experiences that can be found on this segment.

Fish

This stream segment has a warm water influence resulting in a mixed community of smallmouth bass, walleye, and an occasional muskellunge occurring with the

resident cold-water species. Trout are found here, including an occasional rainbow trout. The diversity of sport fish species in this segment is noteworthy. Few, if any, other locations on the ONF have brook trout, brown trout, rainbow trout, muskellunge, and smallmouth bass in a single stream segment, making this an outstandingly remarkable resource value.

A 1998 MDNR inventory states, "The excellent macro invertebrate community at the Middle Branch Ontonagon River site (Station 15) at USFS road 5250 included 35 taxa, including 11 families of caddisflies and five families of mayflies. This was the most caddisfly taxa ever encountered by this biologist in an Upper Peninsula stream. Station 15 had an excellent habitat rating and was the best large river site in terms of habitat that was sampled in the Ontonagon River watershed. The high diversity of macro invertebrates at this station is reflective of the excellent habitat and high water quality." Just downstream from this site is a known spawning area for walleye coming out of Bond Falls Flowage. As described by the MDNR water quality expert, this may be the most diverse macro invertebrate community on the ONF, and is certainly one of the highest water quality and habitat sites.

Wildlife

Important wildlife populations that are present in this segment include bald eagles and gray wolves (both federally listed at this time), and wood turtles (which reproduce here). The unusually high diversity of benthic invertebrates is outstandingly remarkable as well (discussed previously under Fish).

This segment is relatively fast and has limited floodplain area. Some gravel bars are available for turtle nesting. An additional habitat feature of this segment is the diversity and abundance of benthic invertebrates, as described in the fisheries section earlier. Habitat connectivity functions are of high value here, since there is only one major road crossing (FR 5250) and little development. The upland habitat diversity is typical of the ONF with CCC-era red pine plantations, mature northern hardwoods, hemlock stands, and some wetlands adjacent to the river. Wildlife values are considered outstandingly remarkable.

Ontonagon River, Middle Branch – Recreational Segment 2 ORVs

Scenery

Throughout this segment, the river flows through densely forested, steep river valleys and bottomlands with little evidence of vegetative management. Northern hardwoods with aspen, sugar and red maple are clearly visible from the river, making fall color a primary feature. However, the spectacular combination of rock and water at each end of the segment defines the scenic character for this segment.

From the Bond Falls Flowage, the river drops into a steep-sided, broad river valley, meandering a short distance north where it cascades over chiseled blocks of rock, creating Bond Falls, a fantastic rush of white water known for its year-round beauty. The wide river continues after this falls through the dense forest over numerous cascades and riffles to another set of falls. Agate Falls is a series of cascades 80 feet wide tumbling over black rock stepping blocks and dropping 80 feet into a pool where it clatters over stones and bedrock becoming once again a wide meander. Above Agate Falls, both State Highway M-28 and an old railroad bed cross the river, the road on a fine arch bridge and the railroad bed on a huge, old trestle. The trestle and railroad bed are now used as an off road vehicle and snowmobile trail. The bridges add visual contrast and interest to the river corridor. The few instances of development are moderate and in the case of the roadside park at State Highway M-28 next to the river, constructed to suit the riverside setting.

Recreation

There are two large waterfalls on this river segment (Bond Falls and Agate Falls), neither of which are located on National Forest System lands. Agate Falls is located next to a State of Michigan highway rest area on the south side of Highway M-28 which has a trail that can be used to view Agate Falls. Bond Falls, which is on the north side of Bond Falls Flowage, has accessible trails and overlooks maintained by the State of Michigan. Both falls draw large numbers of visitors to the area.

In addition to the falls, this segment is a popular trout fishery, designated by MDNR as a Blue Ribbon Trout Stream. Recreation opportunities are considered outstandingly remarkable.

Geology

The geology of this segment of river begins to change once leaving Bond Falls Flowage as the river valley deepens and widens. Major erosional features occur wherever the river meanders into and undercuts the stream valley wall.

The Middle Branch generally drops steeply within this segment. The river flows through a deep (up to 300 feet), steeply incised, and broad river valley that has cut down through fine silty, clayey and fine sandy glacial lake sediments. Notably, two waterfalls define this segment; Bond Falls to the south, composed of basaltic rocks, and Agate Falls to the north, composed of sedimentary rocks. The geologic characteristics of this segment are unique and unusual compared to other rivers in the region and are considered outstandingly remarkable.

Fish

Brook trout and brown trout are present in sufficient numbers to support a Blue Ribbon Trout Stream designation. Other cold-water fish species, such as longnose dace and mottled sculpins, are present in moderate numbers. The self-

sustaining brook and brown trout populations are outstandingly remarkable and attract both local and regional anglers.

Habitat includes a moderately high gradient, as well as a cobble and sand bottom and a regulated flow regime. The riparian area includes mature northern hardwoods and lowland conifers that create favorable conditions for shade, bank stability, and recruitment of large woody debris. While this river segment has a regulated flow out of Bond Falls Flowage, there have been significant improvements in habitat and aquatic species populations as a direct result of improved, more natural flows coming out of the reservoir.

Wildlife

The river corridor contains nationally or regionally important wildlife populations, including wood turtles, gray wolves, American marten, and northern goshawk (RFSS). Many other riparian and migratory wildlife species utilize the corridor as well.

Numerous gravel bars, point bars, and cutbanks exist, providing nesting habitat for wood turtles. The river corridor provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa and contribute to outstandingly remarkable wildlife values.

Ontonagon River, Middle Branch – Scenic Segment 2 ORVs

Scenery

From Agate Falls to the confluence with Trout Creek, the vegetation along this segment is composed of a wide variety of tree species, brush, and wetlands in a gradually widening and deepening valley. For the most part, the river meanders with many tight bends and some cut off oxbow ponds. There are also numerous large mass failure areas (landslides) where banks over 100 feet have eroded.

The majority of tree types along the stream include various age-classes of aspen, spruce, balsam, paper birch, jack pine, and other species that regenerated after the extensive logging activities in the late 1800s and early 1900s. Much of the adjacent topography is very steep.

Moderate development occurs along the river, including cabins constructed on National Forest lands under special use permits. There are a few natural overlooks along the river where the stream can be seen from the rim area, most of which are associated with mass failures. The distinctive landforms, dense hardwood forest, and a broad, meandering watercourse with dramatic, steep edges combine to create outstandingly remarkable scenery.

Geology

This segment of the river continues to flow through a steep sided, broad valley. As the river valley continues to widen and deepen, the soil characteristics change from loamy, to clayey and fine silty. Access to the river becomes more difficult. River meandering and fluvial river bottom landforms become more evident as the river progresses downstream. Soil erosion, landslides, and mass wasting processes also become more evident and active. The active geologic processes present here are considered outstandingly remarkable.

Fish

Fish populations on this river segment are outstandingly remarkable. There is a good walleye fishery and northern pike in this segment. Steelhead trout are seasonal visitors to this reach for spawning, but the year-round brook and brown trout are more common. Trophy-sized brown trout are produced here. The brown trout population probably represents at least some Lake Superior-run trout in combination with resident trout, indicating a diversity of brown trout stocks.

Spawning habitat for steelhead trout and coho salmon is good just downstream from Agate Falls. Moderately high gradients and 1-3 inch "steelhead-sized" gravel (which is relatively rare on the ONF), is abundant. Spring flows are near ideal since most of the water is merely passed down the original channel during the spring at Bond Falls Flowage. Agate Falls marks the upstream limit of the movement of migratory species in the Middle Branch.

Wildlife

The river corridor contains nationally or regionally important wildlife populations, including wood turtles, gray wolves, American marten, and northern goshawk. Many other riparian and migratory wildlife species utilize the corridor as well.

Nesting habitat for wood turtles is ideal in this segment due to the presence of numerous gravel bars, point bars, and cutbanks, and due to the low levels of human use. In addition, the river corridor provides ample coniferous thermal cover for wintering deer and other species, and provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa and contribute to outstandingly remarkable wildlife values.

Ontonagon River, Middle Branch – Wild Segment ORVs

Scenery

From the confluence with Trout Creek, downstream to the northern Forest boundary, the vegetation along this segment is made up of a wide variety of tree

species, brush, and wetlands. The valley gradually deepens and widens, exhibiting even more landforms that are striking, along with a dramatically undulating river course. Channel bars and islands periodically occur in the river and side slopes are very steep. Relief rises to 300 feet and floodplains that accommodate the river's meanders and oxbow ponds are much wider than the interim designated river corridor in places.

The majority of tree types along the stream are aspen, spruce, balsam, paper birch, jack pine, and other species that regenerated after the extensive logging activities in the late 1800s and early 1900s. Sediments from Trout Creek and mass failures commonly cloud the river below Trout Creek, especially after heavy rains and during spring runoff. The periodically clouded water is a visual symbol of this interesting, erosive landscape. Scenic values are outstandingly remarkable.

Geology

Through glacial uplift and river down cutting, this outstandingly remarkable segment of the Middle Branch has formed a deep (up to 300 feet), naturally unstable, steep-sided and broad river valley as it flows north through layered fine silty, sandy and clayey glacial lake sediments formed 9,000 to 10,000 years ago. This spectacular valley makes much of this river segment difficult to access.

The river channel meanders up to 1 ½ miles in places through this valley and periodically alters its course. This creates striking examples of fluvial landforms, relic channels, oxbow lakes, and ancient river terraces. Also within this segment are areas of exposed sandstone bedrock, boulders in the river bottom and valley wall side slopes, and numerous smaller rapids.

The active process of valley formation continues to be evident to this day. The steep-sided valley walls are actively eroding, with numerous examples of mass wasting, major landslides, and slumping occurring frequently wherever the river channel touches and undercuts the adjacent valley walls.

Fish

The outstandingly remarkable fish values in this segment are due to the high quality fish habitat. Migratory trout, salmon, and even brown trout ascend this segment and continue upstream through the Middle Branch Scenic 2 segment as high as Agate Falls. The presence of young fish of each species indicates successful spawning.

Fish habitat is good with deep fast pools and spawning riffles. Numerous small springs feed into the river and cool the water. Because of the inaccessibility of this segment, fishing pressure is low. One major tributary, Trout Creek, is probably the major spawning stream for brook trout found in this segment.

Wildlife

Wildlife values in this river segment are outstandingly remarkable. This segment lies within the Middle Branch Deer Yard, and therefore is important to the deer population in the north-central portion of the ONF. Gray wolves, bald eagles, and other predators occupy the area, using the deer population as a prey base. Wood turtles are present and likely reproduce in this reach.

This segment is believed to be ideal habitat for wood turtles, due to the eroding banks, remoteness, and low human use. In addition, the river corridor provides conifer thermal cover to wintering deer and other species. Connectivity across the landscape for numerous riparian and migratory wildlife species is provided along the forested valley. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa.

Ontonagon River, Cisco Branch – Recreational Segment ORVs

Wildlife

Bald eagles are abundant in this part of the Forest due to the numerous lakes and rivers. This segment supports a white sucker run at the outlet of Cisco Lake that is an important spring food source for bald eagles and other predators. Gray wolves are also common along this segment, with several pack territories encompassing parts of this reach. Other wildlife of interest includes an RFSS dragonfly – the rapids clubtail. Of particular importance is the beaver population, which created and maintains several large impoundments in this reach.

The upper section is frequently de-watered in late summer due to operation of the Cisco Lake Dam. Several large beaver-created impoundments below the dam perform an important water-storage function and augment the low summer flows released from Cisco Lake Dam. The beaver impoundments are protecting many values, including fisheries, aquatic wildlife, and hydrology. The importance of these beaver impoundments makes it essential that the beaver colonies remain active and viable in the reach. These qualities make wildlife values outstandingly remarkable.

Ontonagon River, Cisco Branch – Scenic Segment ORVs

Scenery

This segment, from County Road 527, meanders through a largely forested environment dominated by northern hardwoods. A diversity of tree species includes white pine, hemlock, aspen, swamp conifers, and lowland hardwoods,

especially maple. There are interesting falls, rapids, and races in this segment, most notably Kakabika Falls and Wolverine Falls. Kakabika Falls is secluded and drops 50 feet through a narrow gorge of black rock for a distance of 300 feet. The water is characteristically amber from the natural tannins produced in the wetlands. The river has high special interest in that it varies from steep sides to a broad meandering valley. The outstandingly remarkable character of the river varies through its course as it begins with high velocity white water and gradually slows toward the north to a smooth meander.

Fish

Fish communities present in this segment transition from cool-water species in the upstream area (smallmouth bass, northern pike) to cold-water species (brook trout) downstream. This occurs because of the input of groundwater (that lowers stream temperature) to the downstream area.

Just downstream from Kakabika Falls, a major feeder stream (Tenderfoot Creek) enters and provides colder water and potentially the best brook trout spawning conditions of any of the Cisco Branch tributaries. Further downstream, numerous springs also lower the water temperature and provide suitable habitat for trout in the Cisco Branch. These habitat qualities are considered outstandingly remarkable.

Wildlife

This segment has outstandingly remarkable wildlife populations. This is a winter deer yarding area and gray wolves and bald eagles utilize the abundant deer as prey. Wood turtles are present in the middle and upper portion of this segment. The wide floodplain forests, alder/willow swales, and off-channel wetlands are important breeding areas for amphibians and waterbirds.

Thermal cover and winter browse for deer are important habitat components. Numerous gravel bars and eroding banks provide nesting habitat for wood turtles in the middle portion of this segment. The river corridor provides connectivity across the landscape for numerous riparian and migratory species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa.

Ontonagon River, West Branch – Recreational Segment ORVs

Scenery

This segment of river and its valley follows a path from west to east along a geologic fault line. The river becomes wider in this area and views from the valley of the surrounding higher bluffs are impressive. On the north the valley consists of high, multicolored bedrock escarpments 200 to 300 feet high, rising above aspen, white spruce, balsam fir, hardwoods, and white pine. Lowland

hardwood forests border the river in many areas and the black ash, red maple, and cedar present outstanding fall color. These hardwood stands also contain a substantial component of large hemlock trees. The dynamic variation of widths in this segment adds to its character, and the long series of substantial rapids and small waterfalls before it enters Victoria Reservoir contribute an additional dynamic component to its outstandingly remarkable scenery.

Geology

The geologic characteristics of this segment are outstandingly remarkable. The West Branch Ontonagon in this segment flows along the geologic boundary between exposed bedrock outcrops and glacial lake plain, up to a few miles before the confluence of the South Branch Ontonagon where the landform becomes a steep sided river valley. Here the river channel becomes constricted and the gradient increases. After the confluence, there is an unusually large mid-channel island, and the river valley begins to widen and the river gradient decreases.

The approximate path of the river channel and valley in this area follows the Keweenaw Fault line. This fault was significant in the history of the region in that it is where all of the early copper exploration and mining occurred. The Trap Hills and the Norwich Bluff border the river valley to the north. These consist of high elevation bedrock landscapes and numerous escarpments 200 to 300 feet high, composed of volcanic lava flows and metamorphic rock formations.

From the South Branch confluence downstream to Victoria Reservoir, the river maintains these characteristics, and enters the Reservoir through a long series of substantial rapids and small waterfalls.

Fish

This segment is known for thriving populations of smallmouth bass. Rock bass and darters are associated species. Above the bridge the following fish species are found-- common white suckers, rock bass, mottled sculpins, hornyhead chubs, common shiners, longnose dace, and mudminnows.

Below Norwich Road Bridge, the river has deep holes, considerable gravel riffles, and some rapids which contribute to outstandingly remarkable fish habitat values.

Wildlife

Wood turtles are present and likely reproduce in this reach. In addition, bald eagles, gray wolves, and other species utilize this area.

This segment has outstandingly remarkable habitat values for wood turtles, due to the eroding banks, remoteness, and low human use. In addition, the river corridor provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very

productive wildlife habitats, important to invertebrates and vertebrates of many taxa.

Paint River, Main Stem – Recreational Segment ORVs

Recreation

Recreational values in this segment are outstandingly remarkable and attract novices and families to experience river activities throughout the summer. This segment is a popular canoe route, with a put-in at Paint River Forks Campground canoe launch (just upstream of this segment on the North Branch Paint River) and a take-out five miles downstream at Blockhouse Campground. Blockhouse Campground is also used as a put-in for those canoeing further downstream. Except for some shallows in the first two miles or so from the Paint River Forks, there is adequate flow for canoeing throughout the summer. There is some group use of this segment, but generally, use is low, offering opportunities for solitude while using the river. Trout fishing in this segment is a local attraction, especially early in the season. There are many opportunities to view wildlife within the river corridor.

Paint River, North Branch – Recreational Segment ORVs

Recreation

Much of this segment is a popular canoe route, beginning with a put-in near the bridge on FH-16. Canoeing is limited to high water in the spring or following heavy rains. Portaging is required around rapids, dams and bridges. Canoeists can take-out at Paint River Forks Campground, just before the confluence with the South Branch Paint River. Access below FH-16 is fair, consisting of access points where county roads cross or run near the river. Trout fishing can be good early in the season. Wide, flat stretches of the river provide the “feel” of a western river and provide fly-fishing experiences for a wide range of skill levels. There are opportunities to view wildlife, and deer, bear, and grouse hunting occur within the river corridor. Users experience solitude due to the relatively low recreational use. Recreation opportunities are considered outstandingly remarkable and users experience relative solitude along this segment.

Fish

Like the Main Stem of the Paint River, this segment is considered a “seasonal” trout fishery, available to trout only during the cool spring and fall months. Much of the year, rock bass and smallmouth bass are the primary fish species. The relatively low numbers of trout tends to produce larger fish where deep holes and overhead cover is available creating outstandingly remarkable fish values. The RFSS mussel, the creek heelsplitter, has been found in this segment.

This branch of the river has better quality aquatic habitat than the Main Stem, but experiences relatively high summer temperatures. This is due to low groundwater input and numerous headwater natural lakes and impoundments. Some of the tributaries, particularly 33-Creek and Golden Creek, provide cool thermal refugia and superior spawning substrate. Without these tributaries, trout would be rare in this segment.

Paint River, South Branch – Recreational Segment ORVs

Recreation

The South Branch is also a popular canoe route beginning with a put-in on FH-16 at Elmwood. The best canoeing conditions are during high water in the spring (or following significant rain) and below the confluence with Cooks Run. The State Off-Road-Vehicle and snowmobile trail closely parallels the river for most of the eight miles from FR 3270 to FR 3470 and receives heavy winter use. The MDNR has designated the South Branch as a Blue Ribbon Trout Stream from FR 3270 to the Main Stem. Its listing as a Blue Ribbon Trout Stream attracts users from outside the region and contributes to its outstandingly remarkable recreation values. Wildlife viewing opportunities are good along the South Branch. Hunting for bear, deer, and grouse also occurs within the river corridor.

Fish

Fish values in this river segment are considered outstandingly remarkable. This river is one of the finest mixed (brown and brook) trout fisheries in the Upper Peninsula. This is because of the high production levels of brook and brown trout populations.

High groundwater flow, a better than average amount of spawning gravel, and extensive trout habitat restoration work by both the ONF and the MDNR have resulted in outstanding habitat conditions in this very popular fishery. This is a Michigan Blue Ribbon Trout Stream. Cooks Run contributes to the high quality of this stream by adding cold water and providing high quality spawning habitat for brook and brown trout migrating into Cooks Run from the South Branch of the Paint River.

Wildlife

The headwaters of the South Branch of the Paint River has high quality wetlands and springs used by American bittern, a great blue heron rookery, muskrat, beaver, mink, wood ducks, wood turtles, mergansers, swamp sparrow, yellow warbler, common yellowthroat, and many other wetland wildlife species. One RFSS dragonfly has been documented here – the pygmy snaketail.

The key habitat feature of this segment is the high quality spring complex (Paint River Springs) and associated wetlands. Riparian aspen forests are common

here and in the headwaters, which are in wetland and spring complexes. Connectivity values provided by this segment are also important to riparian wildlife species, both vertebrate and invertebrate. Wildlife values are outstandingly remarkable.

Presque Isle River, Main Stem – Recreational Segment ORVs

Scenery

The vegetative landscape in this segment is unique and variable, alternating along its course between riparian vegetation, upland hardwoods, conifers, and wetlands where stunted black ash dominate. In the river upstream of Yondota Falls, there are some areas of rapids and bedrock. The river is wide and undulating as it flows through wetlands; however, on approach to the falls the river narrows dramatically and cuts through bedrock gorge and boulders of various colors and textures. The falls are spread out in a series and downstream are numerous other smaller waterfalls, rapids, and rock outcrops along the banks. In the lower reach of the river, it enters a low relief and gently undulates again through a wide valley and begins to meander intensely through extensive forested wetlands, uncommon to the area. These characteristics combine to provide outstandingly remarkable scenery in this river segment.

Geology

The variety of landforms and geologic characteristics within short distances along this river segment contributes to the outstandingly remarkable values. This segment of the Presque Isle flows primarily through terminal moraine, ground moraine, and glacial outwash plains, all of which have unconsolidated loamy till and sandy outwash soils that are very common landforms for the region. The landform characteristics up to Yondota Falls are generally gently undulating and the river flows through many extensive wetlands. Where depth to bedrock is shallow, there are some areas of rapids with bedrock in the streambed and bedrock outcrops present along the stream banks. Numerous abandoned stream channel features are found near Marenisco, US Highway 2, and the confluence area with the Little Presque Isle River.

Where the river flows from Yondota Falls to Copps Creek, the streambed is primarily bedrock consisting of granites, gneisses, iron bearing formations, and other volcanic rocks. In this short part of the river corridor, there are numerous unnamed waterfalls, rapids, and bedrock outcrops along the riverbanks.

Where the river enters a low relief, gently undulating, and wet ground moraine landform, the valley widens considerably and begins to meander intensely through extensive forested floodplains. These extensive forested floodplains are uncommon on the ONF and in the region.

Wildlife

Due to the low gradient and abundant off-channel wetlands, the upper portion of this segment supports relatively high numbers of ducks and other waterbirds. A segment in the middle of the reach, beginning at Yondota Falls, is faster gradient and rocky with plunge pools and a few depositional bars. The wood turtle is known to be present in this faster reach. The lowest portion flattens out again and the floodplain is dotted with off-channel wetlands, similar to the portion upstream of Yondota Falls.

The river corridor provides outstandingly remarkable wildlife habitats due to numerous oxbow/wetland habitats and intact wide floodplain and connective corridors for species of national and regional significance. In particular, the upper end of the segment has an exceptionally wide, intact forested floodplain, which is unusual for a river of this size in the Midwest. Beaver colonies thrive in this upper section and provide important hydrologic and biologic functions for the river corridor habitat. Also important is the role this segment plays in connecting the large tract of old growth hemlock-hardwood forest habitat found in the Porcupine Mountains Wilderness State Park to the ONF.

Presque Isle River, Main Stem – Scenic Segment ORVs

Scenery

The geographic landscape in this river segment is dramatic. The meandering, broad course changes to a very straight and narrow valley carved into various colors and textures of bedrock. The majority of the river is a gorge with a nearly continuous stretch of substantial rapids and waterfalls including Minnewawa Falls. The vegetation type is the common riparian forest upstream, changing to upland hardwoods dominated by substantial amounts of sugar maple. A substantial component of the hardwood forest is large trees. The overall scale of this river segment to its surroundings is unique, showing high contrast and spatial definition. The scenery values are outstandingly remarkable.

Geology

The Presque Isle flows through a short segment of ground moraine landform bordered by exposed bedrock outcrops, then enters a steep river valley that has been eroded through bedrock outcrops. The river here changes quite substantially from the southern segment. The meandering course changes to very straight and narrow near Tula Creek, as it is contained by a valley carved into shallow metamorphic bedrock materials. From here to the northern Forest boundary, there is a gorge with a nearly continuous stretch of substantial rapids and waterfalls including two named falls. The bedrock also changes here as the river cuts through the Keweenaw Fault and a variety of exposed outcrops

composed of lava flows, basalt, conglomerate, shale, and sandstones. Geologic characteristics in this segment are outstandingly remarkable.

Wildlife

The variety and importance of wildlife populations and habitats is considered outstandingly remarkable. This short segment is likely used by bald eagles and ospreys. Red-shouldered hawks (RFSS) were documented in the late 1990's and gray wolves and American marten utilize the area. Wood turtles are expected to be present.

The area within the river corridor provides high quality riparian forests, including mature/old growth cedar and hemlock patches, that serve as connective corridors for riverine, riparian, and terrestrial wildlife. Especially important is the connection this reach provides between the Porcupine Mountains Wilderness State Park, located downstream (north), and the ONF.

Presque Isle River, East Branch – Recreational Segment ORVs

Fish

This segment has outstandingly remarkable populations of brook trout. In addition, this stream and several of its tributaries is home to the Michigan State Endangered (and RFSS) redbreast dace.

Habitat conditions in this stream are generally excellent. Moderately high gradients reveal gravel substrate and numerous spring-fed tributaries contribute cold water. The redbreast dace was discovered in a large spring and the habitat most likely to hold redbreast dace seems to be the same as that favored by brook trout. That is, cold water, gravel bottom streams with moderate gradients and high amounts of large woody debris that benefits brook trout, and small woody debris that benefits redbreast dace.

Wildlife

The variety and importance of wildlife populations and habitats in this segment are outstandingly remarkable. Wood turtles are known to nest in the sandy areas and American martens roam the corridor, as do gray wolves. The spring-fed wetland complex at Snowshoe Lake is a valuable cold-water resource important to otters, fish-eating birds, and invertebrates. One RFSS dragonfly, the rapids clubtail, has been found in this segment.

The cold spring-fed headwaters of this reach are of exceptionally high quality and relatively unique. The upland forests are maturing second growth that is still largely devoid of large snags and logs, with much of the upland riverbanks occupied by CCC-era red pine plantations. The proximity of numerous lakes, ponds, and other aquatic habitats scattered throughout this landform make the

area especially important for aquatic wildlife. Beaver colonies contribute to the excellent habitat quality.

Presque Isle River, South Branch – Recreational Segment ORVs

Wildlife

Outstandingly remarkable wildlife values are due to the many unique and rare wildlife species are found at the Presque Isle Flowage, including nesting bald eagles, osprey, nesting black terns (RFSS), nesting pied billed grebe, migratory ducks and many species of waterfowl including the re-introduced trumpeter swans (RFSS).

The Flowage was designed specifically for wildlife and has served this purpose well. The wetland values are excellent and northern pike and suckers contribute to the excellent production of bald eagles, osprey, and other fish-eating birds that nest around the Flowage. The Flowage was one of four release sites for trumpeter swans as part of a reintroduction effort in the mid-1990s. Wild rice has been successfully planted here in the recent past, providing important waterfowl habitat.

Presque Isle River, West Branch – Scenic Segment ORVs

Recreation

This segment of river is perhaps the most remote and inaccessible portion of the designated Presque Isle River system, providing an outstanding opportunity for solitude. There are only three main access points; two at developed canoe launch areas next to Forest System Roads and the other is at the Presque Isle Flowage Dam adjacent to Highway M-64 south of Marenisco, Michigan. Use of the majority of this segment of river is very low. Presque Isle Flowage sees moderate use for fishing and waterfowl hunting. The Flowage is promoted regionally for wildlife and scenery viewing opportunities, contributing to outstandingly remarkable recreation values.

Wildlife

Wildlife - This segment's outstandingly remarkable wildlife values lie in the extensive wetland complexes that are scattered throughout the headwaters and the Presque Isle Flowage impoundment. Outstandingly remarkable wildlife values are due to the many unique and rare wildlife species are found at the Presque Isle Flowage, including nesting bald eagles, osprey, nesting black terns (RFSS), nesting pied billed grebe, migratory ducks and many species of waterfowl including the reintroduced trumpeter swans (RFSS).

The Flowage was designed specifically for wildlife and has served this purpose well. The wetland values are excellent and northern pike and suckers contribute to the excellent production of bald eagles, osprey, and other fish-eating birds that nest around the Flowage. The Flowage was one of four release sites for trumpeter swans as part of a reintroduction effort in the mid-1990s. Wild rice has been successfully planted here in the recent past, providing important waterfowl habitat.

Numerous beaver ponds also occur in the area, with multiple beaver colonies existing on most tributaries. Species associated with these areas include waterfowl, wading birds, otters, muskrat, amphibians, and many rare and unusual invertebrates.

The large, open-water wetland complexes, enhanced by frequent beaver ponds, are the key trait of this segment. Much of this reach borders the Harris Creek semi-primitive motorized area, which is remote and difficult to access, providing remote habitat for reclusive species.

Sturgeon River – Wild Segment ORVs

Scenery

This river segment flows through a spectacular valley gorge 200 to 300 feet deep with very steep and deeply shadowed walls – the deepest valley in Michigan. Vegetation along the river is made up of a wide variety of tree species, brush, and wetlands. In some areas, the tree cover hangs over the river creating shade for thick layers of moss on the boulders lining the river. There are also numerous large mass failure areas (landslides) where banks over 100 feet have eroded. The river character changes intensely over the course of this segment, ranging from large boulder strewn expanses and sandy silt edges of bedrock to rocky multicolored cliffs pressing on the sides of the river. There are numerous and substantial rapids, much more during spring runoff periods, and there is one notable waterfall, Sturgeon Falls. Above Sturgeon Falls, the river is 150 feet wide, and then it necks down to a 6-foot wide chute bursting water in a curtain over rock to the foaming river below. The valley also displays excellent examples of visible erosion characteristics such as landslides, oxbow lakes, dry river channels, and ancient river terraces that exhibit the dynamic nature of the river course over the last 9,000 years.

Trees along the river consist of aspen, spruce, balsam, paper birch, jack pine, and other short-lived species that regenerated after extensive logging activities in the late 1800s and early 1900s. Dead trees have fallen into the channel creating several very large logjams at the upstream end near Prickett Reservoir. The majority of the river frontage is gradually converting to a longer-lived mix of hardwoods, hemlock, and some red and white pine. These offer highly colored scenic vistas in the autumn from the top of the escarpments, trails leading to the falls overlook, and other recreation sites. The overall immense scale of this river

segment to its surroundings is unique, full of dramatic, high contrasts and spatial definition and considered to have outstandingly remarkable scenic values.

Recreation

Recreational opportunities are considered to be outstandingly remarkable in this river segment. A portion of this segment falls within the Sturgeon River Gorge Wilderness providing opportunities for solitude. The primary recreation activity for this segment is viewing scenery and many people are drawn here to see the river and its surroundings. There are numerous points where the river can be viewed, including locations along Forest System Roads and from the Sturgeon River Campground. There are few opportunities for canoeing and kayaking in this segment due to the gorge and other hazardous stretches. Trout fishing opportunities are good, but use is low due primarily to limited access.

Geology

Geological characteristics of this segment are outstandingly remarkable. The entire stretch of river runs through a deep gorge. In this part of the landscape, the Sturgeon River has carved a spectacular gorge down through parent materials of primarily sandy outwash and highly erosive sandy glacial lake sediments. The gorge is 200 to 300 feet deep with very steep valley walls (50-90 percent slopes) and unstable soils. River flows vary greatly between spring runoff and end of summer dry periods.

The river channel character changes quite intensely over the course of this segment, ranging from large boulder-strewn substrates to sand and silt along with some small areas of bedrock. The stream shape also varies from straight and narrow to wide and meandering with numerous abandoned channel features. There are numerous and substantial rapids (much more during spring runoff), as well as one notable waterfall in the gorge (Sturgeon Falls) that identifies a fault line that exposes the contact between sandstone, basalt, and andesite. The valley also displays excellent examples of erosional and fluvial features such as landslides, mass wasting, oxbow lakes, dry river channels, and ancient river terraces that exhibit the dynamic nature of the river valley over the last 9,000 years.

Fish

Fish values are outstandingly remarkable in this river segment, being productive enough to support a trophy-sized brown trout population. There are no migratory species (blocked by Prickett Dam) and few warm-water species except near the Prickett Reservoir.

Fish habitat is excellent with high gradients, rock and gravel substrates, and cold water. The supply of large woody debris is as great as any on the ONF. However, the high gradient and width of the river results in very little large woody debris in the river itself because the trees get washed away. Several

important tributaries (including Sidnaw Creek and the Perch River) contribute both cold water and gravel spawning riffles for brown trout.

Wildlife

The extensive white pine forests are home to American martens and pine warblers. Many coniferous-dependant species of wildlife thrive here. The elusive clubtail, a rare dragonfly, occurs in this segment and has not been found elsewhere in the Forest. Wood turtles nest here and their populations are believed to be secure due to the nesting areas' inaccessibility to humans.

Soils in this area seem especially favorable to the growth of conifers, with some of the largest expanses of white pine on the Forest occurring here. White pine is a species that provides many wildlife values. There are lowland hardwood forests adjacent to the river. These old growth riparian forests are important migration corridors to many species, including neotropical migrant birds. Steep eroding banks occur along much of this segment, providing abundant and remote nesting sites for wood turtles. Wildlife values are considered outstandingly remarkable.

Sturgeon River – Scenic Segment ORVs

Scenery

This river segment becomes extremely wide as it moves downstream and meanders through a broad valley bottom forming numerous oxbow ponds, wetlands, ancient river terraces, and floodplain terraces. Valley walls are quite steep and unstable in places, but become shorter and less pronounced downstream. Vegetation along the river is made up of a variety of tree species, brush, and wetlands. Trees along the river include aspen, spruce, balsam, paper birch, jack pine, and other short-lived species that regenerated after extensive logging activities in the late 1800s and early 1900s. The majority of the river frontage is gradually converting to a mix of hardwoods and conifers, typical of the area. The combination of extensive, distinctive landforms and a broad meandering watercourse create a landscape that is unique in the region and considered outstandingly remarkable.

Geology

The Sturgeon River in this entire segment continues flowing through a steep valley, although the character of it changes. The valley becomes progressively wider and the river meanders throughout this broad valley bottom forming some of the best examples of oxbow lakes, wetlands, ancient river terraces, and ever-changing floodplain terraces on the ONF. The river bottom is characterized by gravel bars and large boulders. Valley walls are still quite steep and unstable in places, but become shorter and less pronounced downstream. The soil becomes less coarsely textured and more silty and loamy. The geologic characteristics of this segment are outstandingly remarkable.

Fish

One of two remaining self-sustaining lake sturgeon populations is found in the Sturgeon River below Prickett Reservoir, contributing to the outstandingly remarkable fish values. Populations of steelhead and walleyes occur here as well.

Habitat consists of a moderately high gradient, cobble-bottomed riffle providing excellent spawning habitat for several species (lake sturgeon, steelhead, and walleye). This small, yet productive spawning area could be used as a source for lake sturgeon species recovery in the future.

Wildlife

Wildlife values are considered outstandingly remarkable due to the presence of wood turtles in this reach. In addition, bald eagles, gray wolves, and other species utilize this area.

This river segment flows through a gorge with steep and eroding banks. This is ideal nesting habitat for the wood turtles. Further, the river in this reach is often wide and shallow, with many off-channel wetlands and oxbows. Finally, the river corridor provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa.

Yellow Dog River – Wild Segment ORVs

Scenery

Located in the McCormick Wilderness, after exiting the Bulldog Lake Dam, this segment meanders through narrow meadows and marshes until it reaches East Falls. It eventually drops 240 feet through numerous rock outcrops, cascades, waterfalls, and steep hills. It then flattens out again and meanders through large wetlands. The riverside is vegetated with dense, lowland brush and alder, but the trees are relatively undisturbed stands of eastern hemlock and hardwoods (sugar maple and northern red oak), plus large eastern white pines, and other old-growth northern hardwood species. The surrounding hills, bluffs, and escarpments add a multicolored background to the valley. Scenery values are outstandingly remarkable.

Geology

Geologic characteristics of the Yellow Dog River are outstandingly remarkable. The river first meanders through narrow meadows and marshes until it reaches East Falls. It then drops 240 feet through numerous rock outcrops, cascades, waterfalls, and steep hills, eventually flattening again and meandering through large wetlands. The bedrock is primarily basalt, gneiss, and otherwise metamorphic in nature.

Wildlife

At least two wildlife species are known here that are rare or absent across the rest of the ONF. These include moose and spruce grouse. White-tailed deer are at low densities here, relative to the rest of the ONF, due to lack of wintering refugia, deep snows, and the mature/old growth forest which produces low quantities of browse for deer.

The conifer components within the McCormick Wilderness make it amenable to many species that are rare across the ONF. The low deer densities enable thickets of conifers (including cedar, hemlock, and white pine) to develop and persist. The river corridor provides connectivity across the landscape for numerous riparian and migratory wildlife species. Riparian forests within this corridor are very productive wildlife habitats, important to invertebrates and vertebrates of many taxa. The abundance of conifer regeneration and the presence of unique wildlife species contribute to outstandingly remarkable wildlife values along the Yellow Dog River.

Wild and Scenic Rivers Comprehensive River Management Plan

Chapter 3 – Management Direction

CHAPTER 3 – MANAGEMENT DIRECTION FOR OTTAWA NATIONAL FOREST	
DESIGNATED WILD AND SCENIC RIVERS	3-1
DESIRED CONDITIONS (GOALS) COMMON TO ALL RIVER SEGMENTS	3-1
<i>Water Quality/ Free-flow</i>	3-1
<i>Recreation</i>	3-1
<i>Geology</i>	3-2
<i>Fish and Wildlife Habitat</i>	3-2
<i>Vegetation</i>	3-2
<i>Non-native Invasive Plants</i>	3-3
<i>Land Ownership</i>	3-3
<i>Mining</i>	3-3
DESIRED CONDITIONS (GOALS) FOR SPECIFIC RIVER SEGMENTS	3-3
<i>Black River – Scenic Segment</i>	3-3
<i>Ontonagon River, East Branch – Recreational Segment</i>	3-5
<i>Ontonagon River, East Branch – Wild Segment</i>	3-5
<i>Ontonagon River, Middle Branch – Recreational 1 Segment</i>	3-6
<i>Ontonagon River, Middle Branch – Scenic 1 Segment</i>	3-6
<i>Ontonagon River, Middle Branch – Recreational 2 Segment</i>	3-7
<i>Ontonagon River, Middle Branch – Scenic 2 Segment</i>	3-7
<i>Ontonagon River, Middle Branch – Wild Segment</i>	3-8
<i>Ontonagon River, Cisco Branch – Recreational Segment</i>	3-9
<i>Ontonagon River, Cisco Branch – Scenic Segment</i>	3-9
<i>Ontonagon River, West Branch – Recreational Segment</i>	3-9
<i>Paint River, Main Stem – Recreational Segment</i>	3-10
<i>Paint River, North Branch – Recreational Segment</i>	3-10
<i>Paint River, South Branch – Recreational Segment</i>	3-11
<i>Presque Isle River, Main Stem – Recreational Segment</i>	3-11
<i>Presque Isle River, Main Stem – Scenic Segment</i>	3-12
<i>Presque Isle River, East Branch – Recreational Segment</i>	3-12
<i>Presque Isle River, South Branch – Recreational Segment</i>	3-12
<i>Presque Isle River, West Branch – Scenic Segment</i>	3-13
<i>Sturgeon River – Wild Segment</i>	3-13
<i>Sturgeon River – Scenic Segment</i>	3-14
<i>Yellow Dog River – Wild Segment</i>	3-14
MA 8.1 MANAGEMENT STANDARDS AND GUIDELINES	3-15
2080 – <i>Non-native Invasive Species</i>	3-15
2300 – <i>Recreation Management</i>	3-15
2400 – <i>Timber Management</i>	3-18
2500 – <i>Soil, Water, and Air</i>	3-19
2600 – <i>Wildlife, Fish, and Sensitive Plants</i>	3-19
2700 – <i>Special Use Management</i>	3-20
2800 – <i>Minerals and Geology</i>	3-20
3400 – <i>Forest Pest Management</i>	3-21
5400 – <i>Land Ownership</i>	3-21
7300 – <i>Buildings and Other Structures</i>	3-22
7400 – <i>Public Health and Pollution Control Facilities</i>	3-22
7700 – <i>Transportation System</i>	3-22

Chapter 3 – Management Direction for Ottawa National Forest Designated Wild and Scenic Rivers

The following desired conditions (goals), management standards, and guidelines apply to the corridors of Congressionally designated Wild and Scenic River segments of the Black, Ontonagon, Paint, Presque Isle, Sturgeon, and Yellow Dog Rivers within the Ottawa National Forest. The intent of this management direction is to protect and enhance water quality, free-flowing characteristics, and outstandingly remarkable values of each of these river segments. The management direction found in this document replaces management direction for MA 8.1 of the Ottawa National Forest Land and Resource Management Plan (2006) and is to be applied in addition to existing forestwide direction found in that plan. In the case of conflicting management direction between MA 8.1 and overlapping MAs (such as MAs 5.1 and 5.2, McCormick and Sturgeon River Gorge Wildernesses, or MA 8.3 Special Interest Areas) or forestwide direction, the more restrictive shall apply. See Figure 1 for delineation of designated Wild and Scenic River corridors.

Desired Conditions (Goals) Common to All River Segments

In river corridors where existing resource conditions differ from desired resource conditions, management actions shall be designed to move resources toward the desired conditions described below. Where existing resource conditions are the same as the desired conditions, management actions shall be designed to maintain those conditions.

Water Quality/ Free-flow

The designated river has excellent water quality that supports diverse aquatic communities. The river segment exists in a free-flowing condition with a range of flows that provide optimum conditions for fish, wildlife, natural processes, and channel integrity.

Recreation

Designated river corridors provide opportunities for a variety of river-related recreation experiences. Motorized recreational vehicle access is allowed only on roads and trails designated for such uses. Developed recreation facilities are managed to protect and enhance the rivers' resources. Dispersed recreation sites are compatible with river values.

Designated river corridors provide outstanding opportunities for visitor education regarding cultural and historic resources, geology, hydrologic conditions, wildlife, fish, ecological resources, and natural processes that attract visitors from outside

this geographic region. Interpretive efforts are designed to enhance recreational experiences, influence proper stewardship behaviors, and protect river resources.

Geology

Relatively natural and undisturbed ecological conditions, such as stable rainfall and runoff patterns, and natural succession of vegetation in the designated river corridors, help maintain the rivers in a state of dynamic equilibrium with natural erosional and depositional processes occurring at local scales. Changes in stream channel characteristics and valley walls occur at normal rates and extent. Riparian habitat management and stabilization of human caused or accelerated erosion are designed to allow natural processes to continue and to blend with the natural landscape. All geological features are natural in appearance, free from human defacement, damage, and destruction.

Fish and Wildlife Habitat

Designated rivers, their corridors, and associated ecological communities are diverse in composition and structure. They support native and desired non-native fish and wildlife species appropriate to ecological site and hydrologic characteristics. Habitat conditions contribute to the viability of gray wolves, bald eagles, and other threatened, endangered and Regional Forester Sensitive Species populations. Herbivory does not impact ecosystem functions.

Habitat features necessary to enable wildlife species to use the river corridors as migration and dispersal routes across the landscape of the Ottawa National Forest are abundant. Large standing dead and live cavity trees are common and readily available to primary and secondary cavity nesters, bark gleaners, and decomposers. Similarly, optimal amounts of large downed woody debris lies on the forest floor within the river corridors, providing habitat for species that need them, including amphibians, small mammals, decomposers, and predatory insects. Decomposing woody material is abundant to provide nursery sites for seedling establishment, moisture retention, and soil-building processes.

Aquatic habitat condition for fish supports a diverse, productive, and stable aquatic community typical of that found in these rivers. Sediments are predominately cobble or gravel in rivers with moderate to high gradients. Rivers have a complex morphology including a near equal number of riffles and pools, numerous pieces of large woody debris, and abundant shade from large, long-lived riparian trees.

Vegetation

River corridors are composed of diverse, dynamic, and complex native vegetation types. Vegetative communities vary by ecotonal zones ranging from terrestrial to aquatic. Native vegetation occurs in various successional stages, including forest openings, but climax communities are common and are tied to the site potential of the ecological units where they occur. Native trees, shrubs, herbaceous and

emergent vegetation functions in a variety of ways, such as providing shade to moderate river water temperature, a source of fine litter and large woody debris to streams and riparian areas, bank stabilization, sediment filtration and nutrients, modified microclimate, and wildlife habitat and connectivity. Forest health is maintained to minimize threats to those outstandingly remarkable river values that are dependant upon forest vegetation.

Non-native Invasive Plants

Non-native, invasive plants (identified on the ONF priority non-native plant list) rarely occur in the Wild and Scenic River corridors. Infestations are addressed using integrated pest management principles. Invasive plant treatment promotes native plant community recovery and enhances river related resources. Revegetation of disturbed soils is timely and features locally native plant species.

Land Ownership

Lands held in private ownership are managed in accordance with County and Township land use ordinances and other appropriate jurisdictions, so that the rivers' free-flowing character and high water quality are maintained. The Ottawa National Forest assists, advises, and cooperates with the State of Michigan and its political subdivisions, landowners, private organizations, and individuals to plan, protect, and manage river resources.

Mining

Mining activities, within the authority of the Ottawa National Forest, do not interfere with the protection and enhancement of river values, water quality, or free-flowing conditions.

Desired Conditions (Goals) for Specific River Segments

Desired resource conditions that apply only to specific river segments follow. Resources with no river-specific conditions are not included. Management actions shall be designed to achieve or maintain the following resource conditions in the specified river corridors, in addition to those desired conditions applying to all river corridors described earlier.

Black River – Scenic Segment

Scenery

The Black River is distinguished by having exemplary characteristics that define high quality scenery. Visual attractions are highly diverse over the majority of the river. Focal points, like the five major waterfalls in this segment, are accessed by facilities that are unobtrusive and blend with the natural landscape. The surrounding forested landscape includes unique examples of old-growth hemlock and large sugar maple. The maples and other hardwood stands offer

dynamic variations in seasonal color. Developed facilities at Black River Harbor and the adjacent park are moderately developed, embodying a rustic appearance similar to the Civilian Conservation Corps (CCC) buildings in the harbor area. All facilities are appropriate in scale and development level.

Recreation

The Black River provides opportunities primarily for semi-primitive, motorized recreation experiences. Facilities that provide scenery viewing opportunities are maintained or enhanced, particularly at waterfalls, along the Black River Scenic Byway, and along the North Country National Scenic Trail. Hiking, picnicking, camping, fishing, and boating opportunities at Black River Harbor continue to draw visitors from a wide geographic area.

Fish

Steelhead, coaster brook trout, and lake sturgeon runs are restored to the Black River. Resident walleye and smallmouth bass provide seasonal variety to the harbor fishery. Water quality is high and tributaries provide cold water and good spawning riffles for sustained native brook trout reproduction. A continuous supply of large woody debris is recruited into the river, creating complex channels and high quality fish habitat. Human-caused sources of sediment input to the river are minimized.

Wildlife

Bald eagles nest along the river. Populations of wood turtles are healthy and viable. Wintering deer densities are in balance with available habitat. Gray wolves remain viable and within desired population levels. Hemlock forests are intact and regenerating. Old growth hemlock, white pine, and hardwoods persist and provide large snags and large woody debris. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities.

Heritage (Historic)

Black River Harbor CCC structures are maintained in their original condition and within their historical context, which would allow them to be eligible for nomination to the National Register of Historic Places (NRHP). Use of the area is consistent with historic use. Historic structures are maintained with existing and like materials. The historic fishing village site and CCC-built recreation area at Black River Harbor provide interpretation opportunities for the enjoyment and education of visitors. Historic value remains with no vandalism or other human-caused degradation.

Ontonagon River, East Branch – Recreational Segment

Fish

Steelhead runs are consistently good and self-sustaining. Native brook trout production supports a high quality fishery between Lower and Upper Dam impoundments. The stream substrate is recovering from past high sediment input (i.e. sediment is moving downstream with no additional management-induced accumulating input). Large woody debris is present in the river and is developing in the riparian forests. The river channel is complex with diverse aquatic communities and high productivity.

Wildlife

Wood turtle populations are healthy and viable. Winter deer densities are in balance with available habitat. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities.

Ontonagon River, East Branch – Wild Segment

Scenery

This segment provides a rich scenic experience dominated by a natural appearing landscape. Vegetation is made up of a wide variety of tree species, brush, and wetlands. Box elder, unusual in this region, is commonly seen along the riverbanks. The river meanders through a deep, gorge-like valley with oxbow ponds, edged by exposed sandstone cliffs. In some places, the river cascades over sedimentary sandstone layers and through boulder-strewn rapids. Access is by foot only and relatively difficult except for one moderately developed overlook with an interpretive sign in a low mount frame.

Fish

Lake sturgeon utilize all available habitat for successful spawning and their populations are maintained at historic levels. Spawning substrates are protected. Sediment is moving downstream with no additional management-induced accumulation. Large woody debris is available in sufficient quantities and distributed as both logjams and individual trees, contributing to high quality habitat for lake sturgeon and other species.

Wildlife

Wood turtle populations are healthy and viable. Winter deer densities are in balance with available habitat. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities. Hemlock, white pine, and other conifers are present. Browse is available for wintering deer.

Ontonagon River, Middle Branch – Recreational 1 Segment

Recreation

Middle Branch Ontonagon River provides opportunities for roaded natural recreation experiences. Canoeing and kayaking is a primary recreation use along this segment. Existing access points are maintained or enhanced to facilitate river-related use. Outfitter and guide activities provide visitors with increased opportunities to recreate on this segment.

Fish

The high quality fishery supports self-sustaining populations of native brook trout and naturalized brown trout. High water quality is maintained. Riparian forests feature large, long-lived species and numerous spring flows are protected. Duck Creek contributes to the excellent habitat quality of the segment by delivering cold water to the Middle Branch and contributing suitable spawning areas for native trout that move into Duck Creek to spawn during the fall season.

Ontonagon River, Middle Branch – Scenic 1 Segment

Recreation

Middle Branch Ontonagon Scenic I segment provides a roaded natural recreation experience, along with good fly fishing and whitewater canoeing and kayaking opportunities.

Fish

Fish and macro invertebrate populations are both abundant and diverse (species). Brook trout, brown trout, walleye, smallmouth bass, and even the occasional muskellunge are present. Trout habitat is good in the main river, favoring brook and brown trout. Spawning habitat and water quality in the tributaries of this segment are adequate for brook trout and brown trout reproduction and annual replenishment of these species in the river segment. Riparian habitat is adequately shading the river and supplying a steady input of large woody debris.

Wildlife

Wood turtle populations are healthy and viable. Winter deer densities are in balance with available habitat. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities. Hemlock, white pine, and other conifer species are present, and browse is available for wintering deer.

Ontonagon River, Middle Branch – Recreational 2 Segment

Scenery

This segment provides a rich scenic experience dominated by a natural appearing landscape of densely forested, steep river valleys and bottomlands. Northern hardwoods with sugar maple and red maple are most common, but aspen stands also occur, making fall colors a primary feature. Two spectacular falls bracket this stretch of river. Developments supporting the viewing of these falls are consistent with the scenic values, blending in with the surroundings.

Recreation

Middle Branch Ontonagon River provides opportunities for roaded natural recreation experiences. Viewing scenery at Bond Falls and Agate Falls continues to be a primary recreation activity that draws visitors from a wide geographic area. Facilities, scenic overlooks, trails, and paths are accessible to people of all abilities.

Fish

Excellent brook and brown trout populations support the Blue Ribbon Trout fishery. Rusty crayfish are not being spread by people, either intentionally or unintentionally. Large woody debris is restored, creating complex channels and excellent habitat for fish. Regulated flows maintain high quality habitat by reducing erosion and restoring a natural sediment and flow regime. Annual water flow regimes mimic natural conditions to sustain cold-water aquatic communities.

Wildlife

Wood turtle populations are healthy and viable. Winter deer densities are in balance with available habitat. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities. Hemlock, white pine, and other conifer are present, and browse is available for wintering deer.

Ontonagon River, Middle Branch – Scenic 2 Segment

Scenery

This segment provides a rich scenic experience dominated by a natural appearing landscape. Vegetation is made up of a wide variety of tree species, brush, and wetlands. The river meanders through a deep, gorge-like valley with oxbow ponds where naturally occurring landslides have exposed soil banks up to 100 feet tall, adding special visual interest. Moderate developments are subordinate to the natural appearing landscape.

Fish

Resident brook and brown trout are common and the movement of migratory species (steelhead and coho) is unimpeded up to Agate Falls. Large woody debris is present, creating complex channels and excellent habitat for fish. Regulated flows maintain high quality habitat by removing excess sediment and restoring a natural sediment regime.

Wildlife

Wood turtle populations are healthy and viable. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities. Thermal cover and browse continue to be available to over-wintering deer.

Ontonagon River, Middle Branch – Wild Segment

Scenery

This segment provides a rich scenic experience dominated by a natural appearing landscape. Vegetation is made up of a wide variety of tree species, brush, and wetlands. The river meanders through a deep, gorge-like valley with oxbow ponds where naturally occurring landslides have exposed soil banks up to 300 feet tall, adding special visual interest

Fish

Resident brook and brown trout are common, and the movement of migratory species is unimpeded. Habitat within Trout Creek contributes to the spawning success of trout in this segment. Trout spawning habitat is restored through active habitat restoration, providing adequate recruitment of fish to the Middle Branch Ontonagon River. Habitat quality is high with complex channels surrounded by mature to old-growth riparian forests.

Wildlife

Wood turtle populations are healthy and viable. Deer densities are in balance with available habitat. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Visitor use does not compromise wood turtle numbers due to collection activities. Hemlock, white pine and other conifer species are present and browse is available for wintering deer.

Ontonagon River, Cisco Branch – Recreational Segment

Wildlife

Populations of the rapid clubtail dragonfly are viable and beaver colonies are numerous and viable. Beaver impoundments stabilize water flows and provide wetland habitats. Large snags and woody debris are recruited in riparian forests.

Ontonagon River, Cisco Branch – Scenic Segment

Scenery

This segment provides a rich scenic experience including a forested environment dominated by northern hardwoods. Evidence of vegetative management is not apparent although some timber activity is seen on private land. The diversity of tree species includes white pine, hemlock, aspen, swamp conifers, and lowland hardwoods, especially maple. The character of the river varies through its course, as it begins with high velocity white water and gradually slows toward the north to an unruffled meander. Developments supporting the viewing of falls are consistent with the scenic values, blending in with the surroundings.

Fish

Brook trout are found in areas where cold water is found, such as at the mouths of tributaries. Elsewhere, cool-water species such as bass and pike sustain an alternative type of stream fishing experience for the area. Flows are stable and suitable to support fish throughout the year. Tenderfoot Creek is a high producer of trout and contributes to the excellent habitat quality of the Cisco Branch.

Wildlife

Wood turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Winter deer populations are in balance with available habitat. Beaver colonies are numerous and viable. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Wetland and flood plains are productive, connected and numerous. Beaver impoundments stabilize water flows and provide wetland habitats. Deer wintering areas provide adequate thermal cover and winter browse.

Ontonagon River, West Branch – Recreational Segment

Scenery

This segment provides a rich scenic experience dominated by a natural appearing landscape. High, multicolored cliffs border the valley of hardwood trees. Large maple, displaying ample fall color, and stands of large hemlock

complete the mosaic. The natural and dynamic variation of river width in this segment adds to its character and the long series of substantial rapids and small waterfalls before it enters Victoria Reservoir contribute an additional character to scenery. Moderate developments are subordinate to the natural appearing landscape.

Fish

Excellent smallmouth bass populations and associated species, such as walleye, thrive. This segment of the river contains very high gravel bed-loads, good spawning conditions, and high invertebrate production. Large woody debris is abundant, creating complex channels. Annual water flow regimes mimic natural conditions to sustain cold-water aquatic communities.

Wildlife

Wood turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes.

Paint River, Main Stem – Recreational Segment

Recreation

The Main Stem Paint River provides opportunities for roaded natural recreation experiences. Canoeing and other watercraft use is a primary recreational activity, providing opportunities for novice and family users. Access is maintained or enhanced at existing locations.

Paint River, North Branch – Recreational Segment

Recreation

Canoeing is primarily limited to high water in the spring or following heavy rains. Some portaging is required around three waterfalls and a dam. In the three-mile stretch above the Paint River Forks, access opportunities are maintained where the river crosses FH16 and county roads, or where the river parallels a county road. Good trout fishing opportunities are maintained. Wide, flat stretches of the river continue to provide the “feel” of a western river and provide fly-fishing experiences at a wide range of skill levels. There are opportunities to view wildlife, and deer, bear, and grouse hunting occurs within the river corridor. Users experience solitude due to the relatively low recreational use.

Fish

Stream temperatures are suitable for trout year-round. Populations of the creek heelsplitter mussel are viable. Riparian forests are dominated by large, old trees

that contribute shade and large woody debris to the stream ecosystem. Rusty crayfish are not present.

Paint River, South Branch – Recreational Segment

Recreation

South Branch Paint River provides opportunities for roaded natural recreation experiences. Trophy-quality trout fishing opportunities draw visitors from a wide geographic area to this river segment. Access for canoeing/kayaking is maintained or enhanced at existing locations.

Fish

Brook and brown trout populations are high and dominated by larger, older fish supporting a trophy-quality trout fishery. Very cold water and consistent spring flows create extensive habitat suitable for brook and brown trout. High quality habitat is restored.

Wildlife

Populations of the pygmy snaketail dragonfly are healthy and viable. Wood turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Paint River Springs are cold, clear, voluminous, and free from development or vehicular access. Turtle nesting areas (sandy/gravel banks) are present, though dynamic, and subject to natural processes. Beaver dams contribute to habitat complexity by regulating flow and filtering fine sediments.

Presque Isle River, Main Stem – Recreational Segment

Scenery

This segment provides a rich scenic experience with a dramatic change in topography and flow characteristics starting with a gentle meander through wetlands, transitioning to a tumultuous series of falls and then returning to a gentle meander in the lower portion. A natural appearing landscape is dominant. Where human use is evident at Marenisco, facilities for protecting river values are rustic appearing and blend with the natural surroundings.

Wildlife

Habitat conditions contribute to the health and viability of beaver, waterfowl, shorebirds, amphibian, and wood turtle populations. The wide, intact, and functioning floodplain remains subject to natural processes. Deciduous forage is abundant for beaver colonies.

Presque Isle River, Main Stem – Scenic Segment

Scenery

This segment provides a rich, dramatic scenic experience. The meandering, broad course upstream changes into a straight and narrow valley carved into various colors and textures of bedrock downstream. The rapids waterfalls and deep gorge dominate the natural appearing landscape. Developments supporting the viewing of the falls are consistent with the scenic values and blend with the natural surroundings.

Wildlife

Wood turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Turtle nesting areas (sandy/gravel banks) are present, though dynamic, and subject to natural processes. The habitat corridor connecting the upper watershed to Porcupine Mountains Wilderness is intact. Old growth patches are intact, variable, and subject to natural processes.

Presque Isle River, East Branch – Recreational Segment

Fish

Brook trout and redbreast dace populations are self-sustaining and common throughout this segment and its tributaries. Cold water from numerous springs provides habitat for redbreast dace and trout. Riparian forests are maturing, dominated by long-lived tree species. Cold-water habitat and forested riparian areas are maintained.

Wildlife

Habitat conditions contribute to rapids clubtail dragonfly and wood turtle health and viability. Beaver colonies are numerous and persistent upstream of Gogebic County Highway 525, and deciduous forage contributes to beaver abundance. The spring complex at Snowshoe Lake remains cold and clear without developed access.

Presque Isle River, South Branch – Recreational Segment

Wildlife

Diverse bird species such as black terns, trumpeter swans, bald eagles, and ospreys flourish in the Presque Isle Flowage. The Presque Isle Flowage wetland habitat values are maintained and enhanced through active management of water levels. Wild rice thrives, providing waterfowl habitat. The uplands provide adequate nest trees for large fish-eating birds.

Presque Isle River, West Branch – Scenic Segment

Recreation

West Branch Presque Isle River provides opportunities for semi-primitive motorized recreation experiences. Watercraft access opportunities from Forest System Roads and State-owned lands are maintained or enhanced. Quality wildlife viewing opportunities at the Presque Isle Flowage draws visitors because of the variety and numbers of waterfowl and other birds associated with the wetlands.

Wildlife

Diverse bird species such as black terns, trumpeter swans, bald eagles, and ospreys flourish in the Presque Isle Flowage. Beaver colonies are healthy and viable. The Presque Isle Flowage wetland habitat values are maintained and enhanced through active management of water levels. Wild rice is thriving, providing waterfowl habitat. The uplands provide adequate nest trees for large fish-eating birds. Beaver impoundments provide abundant wetland habitats for waterfowl.

Sturgeon River – Wild Segment

Scenery

This segment is distinguished by having exemplary characteristics that define high quality scenery and visual attractions that are highly diverse over the majority of the river and deep valley gorge. Special characteristics of deeply shadowed walls, moss covered boulders, multicolored cliffs, and numerous falls including the notable Sturgeon Falls are show cased in the deepest valley in the State. The hardwood mix offers highly colored seasonal vistas. Developed facilities at the rim of the escarpment, outside the Wilderness boundary and along Forest Roads and trails, are moderately developed, and embody a rustic appearance. All facilities are appropriate in scale and development.

Recreation

The Wild segment of the Sturgeon River provides opportunities for semi-primitive non-motorized recreation experiences. Scenery viewing opportunities are available at numerous points along Forest System Roads and provide visitors with a chance to observe unique geological features.

Fish

Cold-water river communities, including macro invertebrates, brook trout and brown trout, are self-sustaining and fully utilize available habitat. The Sturgeon River has a high gradient, cobble-bottom, and cold water with a complex channel habitat. Tributaries (e.g. Perch River) supply cold water, contributing to the high

quality habitat and providing spawning areas for trout. Riparian areas consist of mature to old-growth forests of long-lived trees, including both deciduous and conifer species. Erosion occurs at natural rates and human-caused sources of sediment are minimized.

Wildlife

Turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Oxbows and off-channel wetlands remain connected to the main channel and intact. Old growth forests are present and subject to natural processes. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes.

Sturgeon River – Scenic Segment

Scenery

This segment is distinguished by having exemplary characteristics that define high quality scenery and visual attractions that are highly diverse over the majority of the wide, meandering river. The extensive erosion patterns, features of the river, and characteristic vegetation are naturally evolving in a dynamic scenic mosaic.

Fish

The lake sturgeon population is self-sustaining and increasing. Eggs from this population are being utilized to repopulate other historic, lake sturgeon rivers. Flow regime allows for natural spawning of lake sturgeon. Spawning habitat (throughout) is excellent for sturgeon and includes clean cobble riffles with deep adjacent resting/feeding habitat. Annual water flow regimes mimic natural conditions to sustain cold-water aquatic communities.

Wildlife

Wood turtle populations are healthy and viable. Visitor use does not compromise wood turtle numbers due to collection activities. Turtle nesting areas (sandy/gravel banks) remain present, though dynamic, and subject to natural processes. Oxbows and off-channel wetlands remain connected to the main channel and intact.

Yellow Dog River – Wild Segment

Scenery

This segment is distinguished by having exemplary characteristics that define high quality scenery and visual attractions that are highly diverse over this segment's length. Management for Wilderness continues to preserve existing scenic characteristics unique to this segment. Not even low impact recreation facilities are found here.

Wildlife

Moose and spruce grouse populations are healthy and viable. Deer densities are low, enabling natural hemlock and cedar regeneration. Unusually high-quality conifer habitats continue to regenerate naturally.

MA 8.1 Management Standards and Guidelines

2080 – Non-native Invasive Species

Standard

Activities and facilities required for the control of sea lamprey shall be allowed within the WSR corridors, as long as such activities and facilities are necessary for the control of the sea lamprey and do not adversely affect the identified river values including free-flow.

2300 – Recreation Management ♦ Recreation Opportunities

Standards

Wild River Segments:

Provide a “semi-primitive non-motorized” recreation experience.

Scenic River Segments:

Provide a “semi-primitive motorized” or “semi-primitive non-motorized” recreation experience, consistent with the Management Area designation of adjacent land(s).

Recreational River Segments:

Provide a “roaded natural” recreation experience, consistent with the Management Area designation of adjacent land(s).

2300 – Recreation Management ♦ Developed Sites

Standards

Wild River Segments:

New developed recreation facilities are not permitted.

The Sturgeon River Campground will be managed to protect and enhance the ORVs, and provide for public health and safety. Substantial additions to existing improvements are prohibited.

User capacity at the Sturgeon River Campground shall not exceed 45 Persons At One Time (PAOT).

Scenic and Recreational River Segments:

Allow periodic maintenance dredging of Black River Harbor to provide a “Harbor of Refuge” and maintain the recreation values.

Combined user capacity in developed sites on all scenic and recreational segments shall not exceed 1,360 PAOT

Guidelines

Scenic and Recreational River Segments:

Recreation facilities such as campgrounds, picnic areas, launching facilities for watercraft, observation sites, and trailheads may be established.

As National Forest facilities are repaired, replaced, or added, the design emphasis would be on the continued use of a rustic style following the Lakes Province character for the built environment.

2300 – Recreation Management ♦ Dispersed Sites

Standards

Wild River Segments:

All dispersed facilities, river access sites, and trails shall be consistent with the “semi-primitive non-motorized” classification.

Scenic and Recreational River Segments:

All dispersed facilities, river access sites, and trails shall be consistent with the motorized or non-motorized ROS classifications on management areas adjacent to each river segment.

2300 – Recreation Management ♦ Visual Quality

Standards

Wild River Segments:

Management activities will meet a VQO (Visual Quality Objective) of Preservation or Retention as follows:

Preservation VQO:

- Sturgeon Wild, within the Sturgeon River Gorge Wilderness
- Yellow Dog Wild, within the McCormick Wilderness

Retention VQO:

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ East Branch Ontonagon Wild ▪ Middle Branch Ontonagon Wild | <ul style="list-style-type: none"> ▪ Sturgeon Wild, outside of Wilderness |
|--|--|

Design management activities within Wild River corridors outside of wilderness to maintain and protect the existing river scenery as viewed first from the river, and second from within the river corridor.

Scenic and Recreational River Segments:

Management activities will meet a VQO of Retention or Partial Retention as follows:

Retention VQO:

- Black Scenic
- Middle Branch Ontonagon Recreational 2
- Middle Branch Ontonagon Scenic 2
- Presque Isle Main Stem Scenic
- Sturgeon Scenic.

Partial Retention VQO:

- East Branch Ontonagon Recreational
- Middle Branch Ontonagon Recreational 1
- Middle Branch Ontonagon Scenic 1
- Cisco Branch Ontonagon Recreational
- Cisco Branch Ontonagon Scenic
- West Branch Ontonagon Recreational
- Main Stem, North Branch and South Branch Paint Recreational
- Main Stem Presque Isle Recreational
- East Branch Presque Isle Recreational
- South Branch Presque Isle Recreational
- West Branch Presque Isle Scenic

Design management activities to maintain and protect the existing river scenery as viewed first from the river, and second from within the river corridor.

2300 – Recreation Management ♦ Heritage Resources

Guidelines

Wild River Segments:

On-site heritage resource interpretation will not normally occur.

Scenic River Segments:

Allow interpretation of heritage resources compatible with the natural character of the site and with established ROS classes in the river corridors.

Recreational River Segments:

Interpretation of heritage resources is encouraged. It will be designed to protect sites and will be compatible with the natural character and recreation opportunities in the area.

2300 – Recreation Management ♦ All Terrain Vehicles, Trail Use and Operations

Guidelines

Wild River Segments:

Only non-motorized trail uses will be allowed with the following exceptions:

- Administrative use or under written authorization
- OHV/snowmobile use of existing Forest Service designated OHV/snowmobile trails and routes.

Relocate existing designated Forest Service OHV/snowmobile trails outside of Wild River areas when reasonable alternative routes can be found.

Snowmobile use on unplowed roads is not allowed, except on designated trails.

Scenic and Recreational River Segments:

Allow designated motorized trail routes within Scenic and Recreational River segments only when necessary to connect established motorized trails outside of the river corridors when consistent with the protection and enhancement of river values.

2400 – Timber Management

Standards

Undertake vegetation management activities only for the maintenance, protection, and enhancement of the established river values in the designated river corridors.

Guidelines

Scenic and Recreational River Segments:

A wide range of silvicultural practices are allowed, provided that such practices are necessary for the protection and enhancement of the established river values. These practices should:

- Promote the retention of long-lived tree species, leading toward the development of a big tree character throughout the river corridors.
- Enhance visual variety, increase species and structural diversity, and provide increased depth of view into the forest when appropriate.

Restore hemlock and white pine for wildlife habitat needs using natural and artificial techniques.

Design vegetation management techniques to increase habitat diversity and complexity, subject to site capability.

2500 – Soil, Water, and Air

Standards

Bank stabilization projects will be undertaken only to:

- Correct human-caused soil and water resource damage, or
- Correct soil and water damage from natural disasters when downstream health and safety or river values are at risk.

Native materials (rocks, logs, and native plants) will be used in restoration work.

Close low water crossings to motorized vehicle use on NFS lands and rehabilitate to protect water quality.

Guidelines

Work with private landowners, mineral rights owners, and other agencies to reduce human-caused sources of sediment, channel constrictions, and obstructions on non-federal lands within the designated corridors.

Encourage State, Township, and Tribal governments to manage the water levels in Presque Isle Flowage for the protection and enhancement of established ORVs.

Reduce existing human-caused sources of sediment deposition, channel constriction, and obstructions on NFS lands within the designated corridors.

2600 – Wildlife, Fish, and Sensitive Plants

Guidelines

Restore natural stream habitat structure and function through watershed management, riparian vegetation management, and direct habitat restoration of spawning, rearing, and adult fish habitats within the designated river corridors.

Manage beaver populations and habitat features for the protection and enhancement of established ORVs.

Control beaver populations in tributaries to provide brook trout access to thermal refugia and quality spawning sites in high quality trout streams.

Protect and enhance habitat for the redbside dace (a Regional Forester Sensitive Species) by using stream improvement techniques where they occur.

Undertake vegetation treatments to regenerate deciduous trees as beaver forage in order to encourage maintenance of beaver works that protect and enhance ORVs.

Undertake vegetation treatments near wood turtle nesting habitat to provide forage in small openings (1-2 acres).

2700 – Special Use Management

Standards

Before reauthorization of special use permits, existing special uses will be evaluated to determine compatibility with the river segment classification and with protection and enhancement of established river values.

Applications for new special use permits will be evaluated on a case-by-case basis to determine compatibility with the river segment classification and with protection and enhancement of established river values.

Guidelines

Encourage utility owners with existing permits to undertake mitigation measures that minimize impacts to river values.

Condition new or amended utility permits to include mitigation measures that minimize impacts to river values.

Utility lines or corridors in existence prior to WSR designation may be considered nonconforming inconsistencies in relation to scenery goals. As opportunities arise, they should be brought into compliance with assigned Visual Quality Objectives. This applies to the following river segments:

- Middle Branch Ontonagon Scenic 2 and Wild
- Presque Isle Main Stem Recreational and Scenic
- Sturgeon Wild

Construction of new electronic sites, utility lines, or transmission lines should not normally occur within the Wild River corridors:

2800 – Minerals and Geology

Standards

There shall be no new federal common variety mineral pits developed within the river corridors.

Close and rehabilitate existing common variety mineral pits within the river corridors where:

- There are conflicts with river values and effects cannot be mitigated, or
- The pits are no longer needed to meet resource management objectives.

Wild River Segments:

Development of federal minerals within designated corridors of Wild segments will not be permitted.

Scenic and Recreational River Segments:

Surface disturbance or occupancy for development and extraction of federally owned minerals will not be permitted.

Guidelines

Work with private minerals owners to minimize impacts to river values.

3400 – Forest Pest Management***Standards*****Wild River Segments:**

Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage of resources on lands outside the Wild River segments or to prevent an unnatural loss to river values due to exotic pests.

Scenic and Recreational River Segments:

Reduce the risk of insect and disease outbreaks through the application of integrated pest management principles that do not adversely affect the identified river values.

5400 – Land Ownership***Guidelines***

This management area has the following priorities for land acquisition:

- Donation
- Exchange
- Purchase

5400 – Land Ownership ♦ Engineering Operations***Guideline***

Property line marking standards to be used are Class C (subdued visibility).

7300 – Buildings and Other Structures

Guidelines

Wild River Segments:

Primitive facilities (including trail bridges) may be constructed if necessary for the protection and enhancement of established river values and if consistent with established ROS classes.

Scenic and Recreational River Segments:

Buildings and structures (including trail bridges) may be constructed if necessary for the protection and enhancement of established river values and if consistent with established ROS classes.

7400 - Public Health and Pollution Control Facilities

Standard

Solid waste disposal sites or landfills are not permitted.

7700 – Transportation System

Standards

Wild River Segments:

No new road construction is permitted within the river corridors.

Scenic River Segments:

New road construction will only be allowed where no other reasonable alternative exists outside of designated river corridors, and where road construction does not compromise river classification or established river values.

Guidelines

Decommission, reconstruct, or relocate roads as needed to protect and enhance river values.

Scenic River Segments:

Limited reconstruction of existing roads may occur when necessary to control road-caused erosion and sedimentation and maintain the existing OML with no compromise of river values.

Recreational River Segments:

Limited construction or reconstruction may occur if river values are protected and enhanced.

Ottawa National Forest
Wild and Scenic Rivers
Comprehensive River Management Plan
Chapter 4 – Implementation Activities

CHAPTER 4 – IMPLEMENTATION ACTIVITIES	4-1
RECREATION MANAGEMENT PROJECTS.....	4-1
<i>Developed Sites</i>	4-1
<i>Interpretive Facilities, Services, and Public Information</i>	4-1
WATER QUALITY AND FREE-FLOW IMPROVEMENT PROJECTS	4-2
FISH AND WILDLIFE HABITAT MANAGEMENT PROJECTS	4-2

Chapter 4 – Implementation Activities

This chapter outlines management actions which may be implemented within the designated Wild and Scenic River corridors. Additional site-specific analysis will be required prior to implementing any project in order to assess its potential environmental impacts. Depending on the results of the site-specific analysis, projects may not be implemented or may be modified to mitigate unacceptable impacts that may result from implementation. Project implementation is dependent upon available funding. Additional projects may be added to this list as they are identified and deemed important to protecting and enhancing river resource values without amending this CRMP. All projects listed below are consistent with the standards and guidelines described in Chapter 3.

Recreation Management Projects

Developed Sites

- Increase parking capacity at Black River viewing points from 150 to 200 vehicles, as needed for resource protection.
- Replace Black River waterfall viewing facilities, as needed for resource protection.
- Provide for “Harbor of Refuge” operations at Black River Harbor by periodic dredging and other maintenance activities.
- Rehabilitate the Sturgeon River Campground to remove and relocate campsites that are periodically inundated with river floodwaters. Plant shrubs where needed to improve floodplain vegetative condition.
- Develop facilities to view Minnewawa Falls.
- Develop Sturgeon River viewing facilities outside of the Sturgeon River Gorge Wilderness.

Interpretive Facilities, Services, and Public Information

- Provide interpretation at the old fish rearing station on Smith Creek to demonstrate the evolution of fisheries management techniques (East Branch Ontonagon).
- Provide interpretation at Black River Harbor to demonstrate the importance of the CCC-era structures, the commercial fishing industry (MV Nancy Jean) and the geological resources in this segment.
- Provide interpretive signs along the Black River Scenic Byway, Ontonagon River and the Sturgeon River to highlight important geological features at appropriate locations.

- Provide WSR identification signs along highways where the designated segments intersect.

Water Quality and Free-flow Improvement Projects

- Work proactively with State and other jurisdictions to remove the dam remnants near M-28 in Kenton and stabilize the site to improve water quality and instream flow on the East Branch Ontonagon.
- Work proactively with responsible agencies and landowners to re-route the Middle Branch Ontonagon into old meander bends and remove constricting structures at the old abandoned fish rearing site (NOT the Watersmeet Fish Hatchery) to restore channel and floodplain integrity.
- Work with recreation camp permittees to maintain sufficient riparian buffers adjacent to developments in order to minimize sediment risk to water quality in the Ontonagon River watershed.
- Work with recreation camp permittees to rehabilitate ATV trails that contribute sediment to the Ontonagon River.
- Remove fords on all rivers (not needed for private property access) containing them and work proactively with responsible agencies and landowners to remove fords within other ownerships on all rivers.
- Work with the communities of Marenisco, Kenton, and Watersmeet, and with private landowners along all rivers flowing through developed areas to improve water infiltration and reduce sedimentation. Consider techniques such as concrete grid and modular pavement, bio-retention systems for storm water runoff, parking lot runoff storage and rain gardens.
- Reduce impacts on water quality and free-flow resulting from administrative sites (Marenisco warehouse, Kenton administrative facilities, Watersmeet J.W. Toumey Nursery and District administrative facilities). Consider techniques such as concrete grid and modular pavement, bio-retention systems for storm water runoff, parking lot runoff storage and rain gardens.

Fish and Wildlife Habitat Management Projects

- Restore hydrologic connectivity at the mouth of Narrows Creek (Black River) to allow aquatic organism passage.
- Reconnect cold water refugia for brook trout in Sand Island, Reed, Powder Mill and Narrows Creeks to Black River.
- Improve aquatic organism passage at the weir at Prickett dam.
- Retain and stabilize large woody debris for stream habitat enhancement on National Forest lands within the East Branch of the Ontonagon River between Lake 13 Road and M28.

- Protect and enhance habitat for the redbside dace (a Regional Forester Sensitive Species) by using stream improvement techniques on the East Branch Presque Isle Recreational segment, primarily downstream of County Road 525.
- Construct a steelhead trout spawning riffle below Lower Dam on the East Branch of the Ontonagon River.
- Continue the Jumbo River habitat restoration project which includes lake sturgeon spawning and resting habitat improvement.
- Pursue opportunities to modify the MDNR railroad grade trail to protect and enhance wood turtle populations.
- Provide wildlife viewing opportunities at Presque Isle Flowage.
- Regenerate deciduous trees in areas suited to beaver works including aspen and alder on the Cisco Branch Ontonagon Recreational, the South Branch Paint Recreational and the South, West and East Branches of the Presque Isle.
- Recruit large nest trees for bald eagle and other raptors along the South and West Branches of the Presque Isle.
- Improve structural and biological complexity in plantations.
- Manage second growth hardwood stands to recruit new age classes, release selected tree species such as hemlock, cedar, white pine and mid-tolerant hardwoods.
- Restore mesic conifers.
- Establish hemlock and white pine on suitable sites
- Create wood turtle nesting and foraging areas and remove encroaching vegetation from nesting areas.
- Manage deer thermal cover and winter browse in important deer wintering areas.

Mining

- Work with responsible agencies and landowners to close and rehabilitate gravel pits within the corridor or at least to rehabilitate areas where gravels are expended and screen current operations from view; emphasis should be placed on the largest pits such as the one operated by Gogebic County.

Ottawa National Forest

Wild and Scenic Rivers

Comprehensive River Management Plan

Chapter 5 – Monitoring and Evaluation Guide

Chapter 5 – Monitoring and Evaluation Guide

The monitoring and evaluation guide is the management tool used to evaluate implementation of the CRMP. The guide is designed to be the foundation for the long-term protection and enhancement of the river-related values in the ONF's designated WSR corridors. The guide is designed to answer the following monitoring question: To what extent is Wild and Scenic River management contributing to protection and enhancement of the WSR values? The specific objectives of this guide are to determine whether:

- Planned desired conditions are maintained or achieved,
- Management standards and guidelines are being followed,
- Management standards and guidelines are effective in protecting and enhancing the river-related values, and
- Intensity of monitoring is commensurate with forest priorities, and the risks, costs, and values involved in meeting desired conditions.

The monitoring activities described in Table 2 are designed to be specific to the WSR corridors and are to be conducted in addition to other monitoring activities prescribed in the Forest Plan. The following table outlines the key indicators, resource conditions, sampling procedures and frequencies that will be conducted in the WSR corridors, by river-related value.

Table 5-1 – Monitoring Program for Ottawa National Forest Wild and Scenic Rivers

River-Related Value	Key Indicator	Resource Condition (Desired)	Sampling Procedure and Frequency
Scenic Quality	Visual Condition	Projects meet VQOs	Post project inspection for compliance with VQO
Recreation Opportunities	Recreation opportunities available consistent with the ONF niche of remote recreation.	Provide a variety of river related recreation opportunities.	Review recreation program, 5-10 years.
	Impacts (trash, compacted soils, damaged vegetation) associated with high recreation use levels	Natural appearing landscapes consistent with VQO	Condition surveys at developed recreation sites, annually
Geologic Integrity	Natural appearance	Natural processes prevail	Periodic field observations
	Natural appearance	Natural processes prevail	Site inspections at permitted ground disturbing activities, as needed
High Quality Fish and Wildlife Habitat	Benthic Invertebrates	Diverse, productive, stable aquatic community	ONF EPT protocol, semi-annually
	Aquatic Invasive Species	Diverse, productive, stable aquatic community	Direct sampling, predictive modeling, annually
	Corridor upland forest habitat condition	Restoration silviculture	FSVEG analysis, annually
Fish and Wildlife Populations	Wood turtle adult survival	Annual mortality rate of adult females <5%	Casper & Beuch Protocol, annually

River-Related Value	Key Indicator	Resource Condition (Desired)	Sampling Procedure and Frequency
	Wood turtle nest success	Recruitment of young wood turtles	Casper & Beuch Protocol, annually
	Bald eagle nest success	Recruitment of young bald eagles	Site visits and aerial survey, semi-annually
	Beaver lodge counts	Beaver-provided wetland habitat maintained	State samples
	Lake sturgeon populations	Viable lake sturgeon populations.	State samples
Historic Site Integrity	Historic site loss or degradation due to theft, visitation impacts or natural processes	Maintain condition within the historic context	Site Inspections, semi-annually at season open and close.
High Water Quality	State Water Quality Standards	Protects State designated uses	State Protocol, 3-5 years
	State Water Quality Standards	Protect State designated	Bull Dog Lake Dam

River-Related Value	Key Indicator	Resource Condition (Desired)	Sampling Procedure and Frequency
		uses at Bull Dog Lake	engineering condition inspection (every 5 years), Annual field observations by recreation personnel
Research Needs	Fluvial processes in the Great Lakes	Understanding of sediment erosion/deposition processes	

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.