

ENVIRONMENTAL ASSESSMENT

for the

MENOMINEE FOREST MANAGEMENT PLAN

(Revised 1973)

2012-2027

Prepared by Menominee Tribal Enterprises (MTE)

Menominee Forestry Center

P.O. Box 670

Keshena, WI 54135

For:

U.S. Department of the Interior

Bureau of Indian Affairs, Midwest Region

Norman Point II Building

5600 W. American Blvd, Suite 500

Bloomington, MN 55437

November 2013

Table of Contents

EXECUTIVE SUMMARY	7
Introduction	7
Purpose and Need.....	7
Alternatives	7
Preferred Alternative – FMP 2027	7
No Action Alternative.....	8
ENVIRONMENTAL CONSEQUENCES AND SUMMARY MATRIX	8
Major Conclusions.....	8
TABLE OF ENVIRONMENTAL CONSEQUENCES	9
Table ES-1 Summary of Contributions to Purpose & Need, Mitigation Measures and Significance of Environmental Effects.....	10
1.0 PURPOSE AND NEED.....	16
1.1 Purpose and Need.....	16
1.2 Regulatory Compliance	17
1.4 Major Federal Actions.....	17
2.0 – ALTERNATIVES	18
2.1 Preferred Alternative	18
2.2 No Action Alternative.....	20
3.0 – AFFECTED ENVIRONMENT	20
3.1 Land Resources	21
3.1.1 Land Area	21
3.1.2 Topography	21
3.1.3 Soils	21
3.1.4 Geologic Setting,	

3.1.5	Mineral and Paleontological Resources.....	22
3.2	Water Resources	22
3.2.1	Ground Water	22
3.2.2	Surface Water.....	22
3.2.3	Water Quality	23
3.3	Air	
3.3.1	Criteria Pollutants.....	23
3.3.2	Greenhouse Gases	24
3.4	Living Resources.....	25
3.4.1	Threatened and Endangered Species.....	25
3.4.2	Wildlife	27
3.4.3	Vegetation	29
3.4.4	Agriculture.....	29
3.4.5	Ecosystems and Biological Communities	30
3.5	Cultural Resources	30
3.5.1	Historic, Cultural, Religious Properties.....	30
3.5.2	Archeological Resources.....	32
3.6	Socio-economic Conditions.....	32
3.6.1	Historic Socioeconomic Conditions for the MITW	34
3.6.2	Employment, Income and Poverty.....	36
3.6.3	Demographic Trends	39
3.6.4	Lifestyle and Cultural Values	40
3.6.5	Community Infrastructure.....	40
3.7	Resource Use Patterns	47
3.7.1	Hunting, Fishing, Gathering.....	47

3.7.2	Timber Harvesting	48
3.7.3	Agriculture.....	48
3.7.4	Mining	48
3.7.5	Recreation	48
3.7.6	Land Use Plans.....	49
3.8	Other Values	49
3.8.1	Wilderness; Wild and Scenic Rivers.....	49
3.8.2	Noise and Light.....	50
3.8.4	Public Health and Safety	50
3.8.5	Invasive Species.....	51
4.0	ENVIRONMENTAL CONSEQUENCES	51
	Comparative Assessment.....	51
	Determination of Significance.....	52
4.1	Land Resources	53
4.1.1	Topography	53
4.1.2	Soils	53
4.1.3	Geologic Setting, Mineral and Paleontological Resources.....	53
4.2	Water Resources	54
4.2.1	Ground Water	54
4.2.2	Surface Water	54
4.2.3	Water Quality.....	55
4.3	Air.....	55
4.3.1	Criteria Pollutants	55
4.3.2	Greenhouse Gases and Global Climate Change.....	55
4.4	Living Resources.....	56

4.4.1	Threatened and Endangered Species	56
4.4.2	Wildlife	57
4.4.2.1	Bald and Golden Eagle Protection Act.....	57
4.4.3	Vegetation.....	58
4.4.4	Agriculture.....	59
4.4.5	Ecosystems and Biological Communities	59
4.5	Cultural Resources	59
4.5.1	Historic, Cultural, Religious Properties	59
4.5.2	Archeological Resources	60
4.6	Socio-economic Conditions.....	60
4.6.1	Employment, Income and Poverty.....	60
4.6.2	Fiscal Effects to Menominee Tribe and Region.....	61
4.6.3	Demographic Trends.....	61
4.6.4	Lifestyle and Cultural Values.....	61
4.6.5	Community Infrastructure, Public Services and Utilities	62
4.7	Resource Use Patterns.....	63
4.7.1	Hunting, Fishing, Gathering	63
4.7.2	Timber Harvesting.....	63
4.7.3	Agriculture.....	63
4.7.4	Mining	63
4.7.5	Recreation	63
4.7.6	Land Use Plans	64
4.8	Other Values	64
4.8.1	Wild and Scenic Rivers	64
4.8.2	Noise and Light.....	64

4.8.3	Visual	65
4.8.4	Public Health and Safety	65
3.8.5	Invasive Species.....	65
5.0	- MITIGATION	65
6.0	- ENVIRONMENTAL JUSTICE	67
6.1	Significance Criteria	67
6.2	Comparative Impact Assessment.....	68
6.3	U.S. Census Data – Menominee County/Reservation	68
6.4	Preferred Alternative - FMP 2027	69
6.5	No Action Alternative.....	69
7.0	- CONSULTATION AND COORDINATION.....	70
7.1	Preparers of Environmental Assessment.....	70
7.2	Documents of Consultation & Coordination:.....	70
7.2.1	Email Regarding NPS on Wild and Scenic River	70
7.2.2	Menominee Nation Tribal Resolution number 07-02 on sustained yield land near the Wolf River;	71
7.2.3	Section 7 Endangered Species Act Determination.....	71
8.0	- REFERENCES	71
Figures		73

EXECUTIVE SUMMARY

Introduction

The U.S. Department of the Interior (DOI), Bureau of Indian Affairs (BIA), administers approximately 55.7 million acres of land held in trust by the U.S. for the benefit of Native Americans, Alaska Natives and Indian tribes. The United States recognizes 566 separate Tribal governments. The stated mission of the BIA is to “enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes and Alaska Natives.” Among the duties delegated to the BIA, pursuant to the Indian Reorganization Act and applicable regulations, is to review and approve petitions by Indian tribes seeking approval of Forest Management Plan (FMP 2027) for forests located on federal trust lands.

The Menominee Indian Tribe of Wisconsin (MITW), a federally-recognized tribe, has requested the Bureau of Indian Affairs Midwest Region approve the revised FMP 2027 prepared by Menominee Tribal Enterprises (MTE) for the years 2012 to 2027.

Purpose and Need

The members of the MITW have a current and ongoing need for employment and income for members living within the Menominee Reservation. BIA approval of FMP 2027 is needed for MTE to continue to operate the Menominee sustained yield forest products industry. Menominee’s FMP was originally updated in 1973 and an update is due again to reflect changes in the forest, modified forestry practices and to reflect current values, objectives and priorities of the current generation of members.

Without approval of FMP 2027, MTE would be legally limited to specific activities that do not include continued regular timber harvests to provide logs for MTE’s milling and other value-added activities. Without the revenues from continued forest product sales, MTE would be forced to terminate nearly all of its 164 employees, 25 Forest Contractors that own their own logging companies, with a total woodworker employment to approximately 160 people. Unemployment in Menominee County/Reservation could increase by as much as 5 percentage points. Terminated employees would each lose a median annual income of \$30,000 plus benefits.

Alternatives

This document analyzes the Preferred Alternative and the No Action alternative. The alternatives are described in Section 2.0 and are summarized below.

Preferred Alternative – FMP 2027

The Preferred Alternative is BIA approval of the Menominee FMP 2027. An updated FMP 2027 is needed and requires approval by BIA because the forest is located on federal trust lands administered by BIA.

No Action Alternative

Under the No Action Alternative, BIA would not approve the FMP 2027. MTE could perform only limited forestry prescriptions, primarily to protect and preserve the Menominee Forest as a tribal trust resource.

ENVIRONMENTAL CONSEQUENCES AND SUMMARY MATRIX

Major Conclusions

BIA's approval of FMP 2027, the Preferred Alternative, would most directly contribute to the purpose and need for the proposal, summarized in Chapter 1: [Introduction](#), including continued employment for approximately 164 MTE employees at a median annual income of roughly \$30,000 plus benefits. Further, with BIA approval of FMP 2027, MTE could continue attempting to increase employment with specialty market products. BIA approval of FMP 2027 would also result in MTE continuing to contract with about 100 Forest Contractors, primarily member-owned logging companies. MTE would continue to have approximately \$118 million positive economic impact on Menominee County/Reservation and the region. MTE would continue to contribute excess profits as defined by the Menominee Constitution and Bylaws, Article XII, Section 2 (d) to MITW for program services and community infrastructure described in Section 3.6.5 Community Infrastructure and that also helps contribute to a modest standard of living for hundreds of Menominee families. The excess forestry revenues provided to MITW varies in the range of approximately \$90,000 to \$370,000 per year, depending on availability of excess profits.

If BIA were to select the No Action Alternative, MTE would be authorized to conduct only limited forestry prescriptions to protect the forest as described in EA Section 2.2. But no normal timber harvests would be permitted, so the stream of forestry revenues for MTE's forest products operations would be dramatically reduced, if not stopped entirely. MTE would terminate a large portion of its current employees and Forest Contractors. Terminated employees would each lose a median annual income of approximately \$30,000 plus benefits. Unemployment could increase by as much as 5 percent in Menominee County/Reservation. The current regional economic benefits of approximately \$118 million would cease. MTE would have no excess profits to share with MITW to help pay for community programs and infrastructure. But the most serious long term adverse effect would probably be that MTE could not manage the forest in a sustainable manner without BIA approval of FMP 2027. The sustainability of the forest would slowly degrade over decades. From an environmental justice perspective, the No Action Alternative would have significant adverse disproportionate environmental justice impacts on tribal members and low income people in Menominee County/Reservation, as summarized in Chapter 6.

Other than the substantial differences in socio-economic and environmental justice impacts, the Preferred and No Action Alternatives would have similar impacts to most of the other resource categories, assuming mitigation would be implemented as described in FMP 2027. See Table ES-1 in the Executive Summary for comparison of effects.

TABLE OF ENVIRONMENTAL CONSEQUENCES

The environmental consequences of the alternatives analyzed within the EA are summarized in Table ES-1. Mitigation measures have been identified where feasible to address specific effects regardless of whether they are considered “significant”. Mitigation measures identified in the design process have been incorporated into the project description. In addition, measures have been identified to mitigate specific effects identified during the preparation of the EIS. These measures are summarized in Table ES-1 below. For a detailed discussion of the NEPA significance of environmental consequences, please see Section 4.0 of this document.

Table ES-1 Summary of Contributions to Purpose & Need, Mitigation Measures and Significance of Environmental Effects

Alternatives	Environmental Effects	Impact Purpose & Need?	Level of significance before mitigation	Mitigation Measures
LAND RESOURCE				
FMP 2027	Possible soil erosion from road and stream crossing construction and timber cuts; Possible long term impacts to soil productivity;	No	Less than significant	Erosion control BMPs; Quarter-mile wide buffer strip along each shore of Wolf River; Protect soil productivity;
No Action	Compared to FMP 2027, less chance of possible soil erosion from road and stream crossing construction and timber cuts; Possible long term impacts to soil productivity;	No	Less than significant	Erosion control BMPs; Quarter-mile wide buffer strip along each shore of Wolf River; Protect soil productivity;
WATER RESOURCES-Drainage and Surface Water Quality				
FMP 2027	Potential soil erosion and siltation in Wolf River, wetlands, streams, wild rice beds;	No	Less than significant	Erosion control BMPs; Quarter-mile wide buffer strip along each shore of Wolf River;
No Action	Compared to FMP 2027, less chance of potential soil erosion and siltation of Wolf River, wetlands, streams, wild rice beds;	No	Less than significant	Erosion control BMPs; Quarter-mile wide buffer strip along each shore of Wolf River;
Groundwater				
FMP 2027	Groundwater Contamination from accidental spills during forestry prescriptions	No	Less than significant	Spill Prevention, Control, and Counter measure Plan
No Action	Compared to FMP 2027, less chance of Groundwater contamination from accidental spills during limited forestry prescriptions	No	Less than significant	Spill Prevention, Control, and Counter measure Plan

AIR QUALITY & GREENHOUSE GAS				
FMP 2027	Emissions from mill and mobile sources in County in attainment for criteria pollutants : VOC, NO _x , CO, SO _x , PM ₁₀ , and PM _{2.5} Mill emits less than 25.000 metric tons of CO2-equivalent GHG on annual basis;	No No	Less than significant Less than significant	Maintain vehicles in good condition, restrict vehicle idling, implement dust suppression methods; Energy conservation at mill;
No Action	Compared to FMP 2027, much reduced emissions from mobile sources operated in Menominee County/Reservation where there is attainment for criteria pollutants : VOC, NO _x , CO, SO _x , PM ₁₀ , and PM _{2.5} Mill would likely not operate;	No No	Less than significant Less than significant	Maintain vehicles in good condition, restrict vehicle idling, implement dust suppression methods; Energy conservation at mill;
BIOLOGICAL RESOURCES - Wildlife and Habitats				
FMP 2027	19 Bald eagle nests Lake sturgeon in Wolf River	No No	Less than significant Less than significant	Buffer distance from eagle nests Feb-August; Soil erosion BMPs & quarter-mile buffer each shore of Wolf R.
No Action	19 Bald eagle nests Lake sturgeon in Wolf River	No No	Less than significant Less than significant	Buffer distance from eagle nests Feb-August; Soil erosion BMPs & quarter-mile buffer each shore of Wolf R.
Federally Listed Species				
FMP 2027	ESA Federally listed species: Karner blue butterfly and critical habitat wild blue lupine; Karners observed on Menominee Reservation, but outside forest boundaries; Lupine documented on various locations on Menominee Reservation within some forest boundaries	No	No Effect	No disturbance of protected species without permit or other authorization from the U.S. Fish and Wildlife Service

No Action	ESA Federally listed species: Karner blue butterfly and critical habitat wild blue lupine; Karners observed on Menominee Reservation, but outside forest boundaries; Lupine documented on various locations on Menominee Reservation within some forest boundaries	No	No Effect	No disturbance of protected species without permit or other authorization from the U.S. Fish and Wildlife Service
Vegetation				
FMP 2027	Forestry impacts listed below; No agriculture, livestock, crops, prime and unique farmland present;	No	Less than significant	None required
No Action	Forestry impacts listed below; No agriculture, livestock, crops, prime and unique farmland present;	No	Less than significant	None required
Wetlands				
FMP 2027	Wetlands: Potential siltation from soil erosion; No direct wetland impacts anticipated, but if needed, Army Corps of Engineers Section 404 permit required;	No	Less than significant	Soil erosion BMPs & buffers around wetlands; Storm water BMPs implemented for road construction; Wetland filling regulated by the USACE.
No Action	Wetlands: Potential siltation from soil erosion; No direct wetland impacts anticipated, but if needed, Army Corps of Engineers Section 404 permit required;	No	Less Than significant	Soil erosion BMPs & buffers around wetlands; Storm water BMPs implemented for road construction; Wetland filling regulated by the USACE.
CULTURAL RESOURCES				
FMP 2027	Protection of historic properties, traditional cultural properties & human remains; Compliance with Section 106 NHPA consultation process with THPO and BIA for individual forestry prescriptions in advance for each prescription scheduled by MTE;	No	Less than significant	Buffers around known resources, including Compartment 223 and Wolf River corridor; Field ID & THPO alert for inadvertently discovered sites;

No Action	Protection of historic properties, traditional cultural properties & human remains; Compliance with Section 106 NHPA consultation process with THPO and BIA for individual forestry prescriptions in advance for each prescription scheduled by MTE;	No	Less than significant	Buffers around known resources, including Compartment 223 and Wolf River corridor; Field ID & THPO alert for inadvertently discovered sites;
SOCIOECONOMIC RESOURCES				
FMP 2027	Employment & Income: MTE employment of 164-plus Menominee members with median \$30,000 annual income; Contracts with 25 Forest Contractors who own their own logging firms employing approximately 160 people;	YES	BENEFICIAL	None required
FMP 2027	Community Infrastructure: Excess profits from MTE for MITW tribal community services on order of \$90K to \$370K per year, if available;	YES	BENEFICIAL	None Required
FMP 2027	Regional Economic: MTE economic contribution of \$118 million to Menominee County/Reservation & region;	YES	BENEFICIAL	None Required
No Action	Socioeconomic: Severely curtailed forestry prescriptions result in substantially reduced MTE revenues so mass layoffs & lost income to 264 plus Menominee families; County unemployment increases up to 5 percent, no excess profit funding to contribute to community infrastructure, loss of beneficial regional economic effects;	YES	SIGNIFICANT ADVERSE	None possible
RESOURCE USE PATTERNS				
FMP 2027	Hunting, fishing and gathering would continue for subsistence activities by Menominee members;	No	Less than significant	Soil erosion BMPs; Buffer along both banks of Wolf River; Access to forest for subsistence activities;
FMP 2027	Timber Harvesting would continue with improved sustainability; smoother and better annual flow of desirable tree species to support marketability of forest products;	No	Beneficial impacts	Implement FMP 2027 with mitigation summarized in plan;
FMP 2027	Agriculture (not silviculture) and Mining; No loss of access to borrow pits for sand and gravel needed for roads and construction;	No	Less than significant	Access to borrow pits;

FMP 2027	Recreational rafting on Wolf River is sensitive to siltation in river	No	Less than significant	Soil erosion BMPs; MITW established permanent buffer in Wolf River corridor;
FMP 2027	Land use plans: MTE would have authority to completely implement FMP 2027 which is essentially the land use plan for the Menominee sustained yield forest;	YES	BENEFICIAL	None required
No Action	Hunting, fishing and gathering would continue for subsistence activities by Menominee members;	No	Less than significant	Soil erosion BMPs; Buffer along both banks of Wolf River; Access to forest for subsistence activities;
No Action	Timber harvesting would cease except for emergencies; near zero annual flow of desirable tree species to support marketability of forest products;	YES	SIGNIFICANT ADVERSE	None possible
No Action	Agriculture (not silviculture) and Mining; No loss of access to borrow pits for sand and gravel needed for roads and construction;	No	Less than significant	Access to borrow pits;
No Action	Recreational rafting on Wolf River is sensitive to siltation in river	No	Less than significant	Soil erosion BMPs; MITW established permanent buffer in Wolf River corridor;
No Action	Land use plans: MTE would not have authority to completely implement FMP 2027 which is essentially the land use plan for the Menominee sustained yield forest;	YES	SUBSTANTIAL ADVERSE	None possible
OTHER VALUES				
FMP 2027	Wild and Scenic designation of Wolf River within Menominee Reservation;	No	Less than significant	MITW established permanent buffer for Compartment 233 & one-quarter mile wide each bank Wolf R.
FMP 2027	Noise and light: operation of forestry vehicles in forest and mill in Neopit, WI	No	Less than significant	Keep forestry equipment tuned and muffled; Prohibit jake braking in populated areas;

FMP 2027	Visual: Potential visual impact from forestry prescriptions along Wolf River, and along roads through varying visual sensitivity areas	No	Less than significant	FMP 2027 Chapter 12; Wolf R corridor buffer quarter mile each bank;
FMP 2027	Public health and safety: wild fire and natural disaster management;	No	Less than significant	Incident Command System ICS & preparedness plan in place
No Action	Wild and Scenic: same impact as FMP 2027 on Wolf River within Menominee Reservation;	No	Less than significant	MITW established permanent buffer for Compartment 233 & one-quarter mile wide each bank Wolf R.
No Action	Noise and light: operation of forestry vehicles in forest for restricted activities;	No	Less than significant	Keep forestry equipment tuned and muffled; Prohibit jake braking in populated areas;
No Action	Visual: Potential visual impact from restricted forestry prescriptions along Wolf River, and along roads through varying visual sensitivity areas	No	Less than significant	FMP 2027 Chapter 12; Wolf R corridor buffer quarter mile each bank;
No Action	Public health and safety: wild fire and natural disaster management;	No	Less than significant	Incident Command System ICS & preparedness plan in place
	ENVIRONMENTAL JUSTICE			
FMP 2027	Employment for 164-plus members and 25 Forest Contractors of which 11 are minority or low income Menominee Tribal members;	YES	BENEFICIAL	None required
FMP 2027	MTE Excess profits of roughly \$90K to \$370K per year, if available, for MITW tribal services to minority or low income Menominee Tribal members;	YES	BENEFICIAL	None Required
FMP 2027	MTE economic contribution of \$118 million to Menominee County/Reservation & region that could potentially improve services, employment and income for minority or low income people in region;	YES	BENEFICIAL	None required

No Action	Severely curtailed forestry prescriptions result in substantially reduced MTE revenues so mass layoffs, county unemployment increases up to 5 percent, no excess funding for MITW tribal services, loss of beneficial regional economic effects;	NO	SIGNIFICANT ADVERSE	None possible
-----------	--	-----------	----------------------------	---------------

CHAPTER 1 - PURPOSE AND NEED

1.1 Purpose and Need

The members of the MITW have a current and ongoing need for employment and income on the Menominee Reservation to help sustain their at least modest standard of living on a steady and sustainable basis. Unemployment on the Menominee Reservation has remained consistently higher than state and national unemployment rates for decades and the need for continued employment exists now and for the foreseeable future. Without BIA approval of the Menominee FMP 2027, MTE would need to dramatically decrease or terminate the number of its workers and Forest Contractors (small business logging companies) and long term unemployment rates would increase roughly five percent on the Menominee Reservation to a total of roughly 13.7 percent. MTE has generated important employment and self employment small business opportunities for decades based on marketing of forest products from the Menominee Sustained Forest and the Menominee Mill. There is a continuing need for these employment opportunities based on forest management using strategies and policies established in the MTE FMP 2027 Revised (1973). More information is available in EA Section 4.6 Socio-Economic Conditions. Chapter 6 - Environmental Justice also helps explain the socio-economic impacts of BIA approval of FMP 2027 in comparison to the impacts of the No Action Alternative.

Further, as part of a modest standard of living, Menominee members also seek services from their tribal government as described in Section 3.6.5 Community Infrastructure. The MITW receives inadequate federal funding and gaming revenues to adequately fund vital government services. So any surplus revenues from MTE excess profit from forest products are needed to help MITW fund ongoing vital government services to members and pay for the financial shortfall from the Public Law 93-638 Forest Management Contract.

The goals of the FMP 2027 regarding sustainability are grounded by the principles contained within the words of Menominee Chief Oshkosh, when he was asked how the Tribe should harvest timber:

“Start with the rising sun and work toward the setting sun, but take only the mature trees, the sick trees, and the trees that have fallen. When you reach the end of the reservation, turn and cut from the setting sun to the rising sun and the trees will last forever.”

After many centuries of enjoyment, the Menominee people continue to be proud of their forest and to enjoy it for spiritual and cultural identity, subsistence, recreation and as a working forest.

1.2 Regulatory Compliance

This EA was prepared with MTE's assistance for BIA's compliance with the National Environmental Policy Act of 1969 (NEPA), 42 USC 4321-4347, the President's Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA 40 CFR 1500-1508, and 59 IAM and 30 IAM Supplement 1, which detail the BIA procedures for compliance with NEPA. BIA's NEPA Guidebook was also used as a reference for BIA's NEPA process. The objective of this environmental assessment (EA) is to assess the significance of environmental effects that may result from BIA approving and MTE implementing FMP 2027 for the Menominee forest and to disclose the impacts to the public, including Menominee tribal members. This EA also assesses the significance of impacts of the No Action Alternative for comparison purposes. This EA also documents and assesses BIA's compliance with other environmental mandates triggered by implementation of FMP 2027. Compliance was considered regarding the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, Wild and Scenic Rivers Act, Bald and Golden Eagle Protection Act, Executive Order 11990-Protection of Wetlands and other requirements for the benefit of the human environment.

1.4 Major Federal Actions

"Major federal action" is a NEPA term defined in the CEQ regulations at 40 CFR 1508.18(b)(4). In short, the major federal action is the project contemplated by BIA that triggers the need for BIA to comply with NEPA by preparing this EA. In this case, MTE has updated the Forest Management Plan for 2027 (FMP 2027) for the Menominee Forest, located on federal trust property. MTE needs the Bureau of Indian Affairs (BIA) to approve the FMP 2027 because BIA is the federal administrator of the federal trust property where the Menominee Forest is located. BIA's consideration of approval of MTE's revised FMP 2027 is the major federal action that triggers the need for this EA for BIA to comply with NEPA. The major federal action also triggers BIA's need to comply with environmental mandates in addition to NEPA before BIA might approve MTE's revised FMP 2027. This EA documents BIA's compliance with the National Environmental Policy Act (NEPA), Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (Section 106) which is all triggered by BIA's contemplation of approval of the FMP 2027. Other federal and tribal environmental mandates are also addressed in the EA due to the presence of identified historic and pre-historic archeological sites, a wild and scenic river, wetlands and other valuable and regulated natural trust assets within the forest of the Menominee Reservation.

NEPA regulations at 40 CFR 1506.5(a) and (b) explain BIA's responsibility for this EA and how MTE is authorized to be involved in BIA's EA process. Using NEPA terminology, MTE's role is to be the non-federal "applicant" to BIA because MTE has requested BIA's approval of the revised FMP 2027. BIA's contemplated approval of MTE's revised FMP 2027 is a legal nexus such that BIA is also assumed to be taking all of MTE's prescriptive actions to manage the Menominee Forest. In other words, none of MTE's prescriptive forestry actions could legally occur without BIA first approving MTE's revised FMP 2027. BIA is ultimately legally responsible for the scope and content of this EA 40 CFR 1506.2(a) and (b) that was prepared with the assistance of MTE, the applicant.

CHAPTER 2 – ALTERNATIVES

2.1 Preferred Alternative

The key component of the Preferred Alternative is BIA approval of the Menominee FMP 2027 dated November 29, 2012. FMP 2027 is hereby incorporated into this EA by reference and it is the best summary of the details of this alternative (FMP 2027, MTE, 2012). The FMP 2027 includes much valuable information for this EA. As needed, portions of the FMP 2027 will be summarized in appropriate sections of the EA. Figure 1 is a map of Menominee Reservation depicting the Harvest Schedule Status and Acreage Total for 2012-2027.

Chapter 1 of FMP 2027 contains valuable information regarding the history of the MITW, MTE and the Menominee FMP. The Menominee Reservation was established by treaty in 1854. At that time, there was a small saw mill at Keshena Falls to primarily supply the tribal community. The Trust and Management Agreement of 1975 defined the unique trust relationship between the MITW and the federal government. The agreement indicated that the Menominee forest must be operated on a sustained yield basis pursuant to the FMP 2027FMP: Menominee Enterprises, Inc. 1968-1982 (1973 Revision). FMP 2027 is an update of the 1973 revision of the FMP 2027.

Chapter 4 of FMP 2027 describes Forest Management Operations in detail. FMP 2027 documents a process for forestry management with general steps as follows:

1. Continuous Forest Inventory (CFI) – CFI provides the strategic-level information necessary for long term planning.
2. Operations Inventory (OPINV) – OPINV proves a stand level inventory of the entire reservation for tactical (near-term) planning.
3. Harvest Scheduling – Trends and goals from CFI are combined with more precise information on stand level inventory in OPINV to develop an operational harvest schedule. Figure 1 shows the harvest schedule status and acreage.
4. Silviculture uses the harvest schedule to develop harvest prescriptions; input from Tribal Historic Preservation Officer (THPO), Forest Health, Fire and applicable MITW departments. MTE adjusts prescriptions as necessary.
5. Once approved, stands are marked, cruised, and checked according to prescription.
6. Award packages are prepared by the Harvest Prep forester and handed off to the Timber Harvest Administration (THA).
7. THA administers the award process.
8. Harvest contracts are prepared by THA.

9. Harvesting occurs and saw logs are delivered to the mill in Neopit, and are tracked using (pulp) scale delivery tickets.
10. Pulpwood is delivered to mills off the reservation, tracked using (pulp) trip tickets.
11. Harvest contracts are continually monitored by THA foresters and technicians.
12. Jobs are completed. Any remaining fines and assessments are paid prior to closeout.
13. Post harvest surveys are conducted by THA and Forest Inventory. THA checks to ensure that all work is completed and then the contract is closed. Inventory updates all databases to reflect changes in contract status and to the composition of the forest (e.g. changes to the OPINV).

Chapter 2 of FMP 2027 describes forest-wide management goals and strategies. MTE and their cooperating partners are able to work together to ensure that the highest standards are met when managing and protecting the Menominee natural resources. The FMP 2027 establishes that the overall forest management goal of MTE is:

“Maintain the diversity of native species and habitats, continue to improve environmental and cultural protection, improve planning efforts, further develop economic opportunities, promote communication and increase environmental education for the Menominee people, while maximizing the quantity and quality of forest products grown under sustained yield principles.”

The strategies that achieve these goals include:

1. Incorporation of the interests of tribal members as expressed through elected officials and public commentary into the forest management goals
2. Establishment of near and long-term cover type targets (measured in acres) that maximize forest diversity
3. Development of harvest schedules that ensure diversity in species composition, stand structure, and age distribution across the forest
4. Development of management prescriptions that direct forest stands toward specific objectives within stands and across landscapes
5. Incorporation of sustainable management tools, including harvesting, integrated pest management, fire and pre-commercial treatments
6. Incorporation of water quality as a management objective on all treatments
7. Incorporation of historic preservation as a management objective on all timber harvest treatments
8. Incorporation of wildlife habitat goals on all treatments
9. Incorporation of soil preservation on all treatments

FMP 2027 also describes federal trust responsibility, multi-agency cooperation, multiple use resource management, forest management operations, silviculture and forest management goals, forest

development process, pest management (insects, disease, weeds, invasive species), fire management, public outreach strategy, cultural resources, wildlife habitat, riparian areas, forest soil productivity, visual quality, forest road construction and maintenance, forest economics, emergency management and compliance with the National Environmental Policy Act (NEPA).

2.2 No Action Alternative

If BIA selects the No Action Alternative, BIA would not approve the FMP 2027 for the period 2012 to 2027 (FMP2027) that has been prepared by MTE. Without a current FMP, BIA regulations stipulate that only six activities may legally occur in forests located on tribal forest lands held in federal trust status:

- 1.Preparation of an FMP (25 Code of Federal Regulations (CFR) 163.11);
- 2.Emergency sale of timber on allotted lands held in trust (25 CFR 163.14(b));
- 3.Free-use cutting without a permit (25 CFR 163.274);
- 4.Fire Management Measures (25 CFR 163.28(a), (b) and (c));
- 5.Trespass protection and prosecution (25 CFR 163.29); and
- 6.Insect and disease control (25 CFR 163.31(b)).

While the No Action Alternative is not preferred by MTE, assessment this alternative under NEPA procedures provides a useful baseline for comparison with the Preferred Alternative of the significance of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the purpose and need for the action. The No Action Alternative is a description of what is reasonably foreseeable, if BIA doesn't approve FMP 2027. The alternative is potentially foreseeable because it is clearly documented in BIA regulations, as explained in the first paragraph of Section 2.2.

CHAPTER 3 – AFFECTED ENVIRONMENT

Chapter 3 describes the existing conditions for specific resource categories that were selected from a list suggested by the BIA NEPA Guidebook. The resources that are discussed in detail in Chapter 3 are those that are reasonably expected to be impacted by the alternatives. Chapter 3 also mentions environmental laws for specific resources and identifies other entities with either jurisdiction by law or special expertise for specific resources. Existing conditions can include projections of reasonably foreseeable future conditions for each resource. Chapter 4 assesses the impacts to each of these resources from each alternative.

3.1 Land Resources

3.1.1 Land Area

The Menominee Reservation consists of 235,523 acres or approximately 358 square miles, and contains roughly 223,500 acres of heavily forested land, which is 95 percent of the area of the reservation. The reservation is located in northeast Wisconsin about 45 miles northwest of Green Bay. The Menominee reservation shares nearly identical boundaries with Menominee County. The exceptions are where BIA has approved fee-to-trust acquisitions for reservation lands that are located outside the county boundaries.

3.1.2 Topography

Land surface altitude ranges from about 1,400 feet above sea level in the northwest to about 800 feet in the southeast. Local topographic relief is about 20 to 50 feet (Krohelski, Kammerer, & Conlon, 1994). The east and southeast areas of the Reservation are flatter and contain the greatest concentration of larger lakes and wetlands. The north and northwest portions of the Reservation have greater variation in topography and generally steeper areas with smaller lakes and wetlands. Steep topography is a key resource concern because of drainage patterns and the added potential for transport of soils when vegetation is disturbed by prescriptions called for by either alternative.

Harvesting of trees can be challenging in some of the steeper stands and compartments. Chapter 11 of FMP 2027 describes the goal of forest soil productivity and describes concerns regarding soil erosion and soil displacement during prescriptions. Chapter 11 mentions mitigation and best management practices (BMPs) for soil movement in steep areas is available such as not windrowing soils for seedlings even in steeper areas.

3.1.3 Soils

The soils of the forest have been classified and mapped by the U.S. Natural Resources Conservation Service (USDA NRCS, 1998). The soil survey includes mapping and descriptions of the physical characteristics of the soil types that occur in Menominee County/Reservation, including the Menominee Forest. Generally, soils range from sands in the southeast to silt loams in the northwest.

The Soil Survey of Menominee County/Reservation, completed in 1998, greatly expanded the knowledge of the soils, their properties, and management implications since the 1973 FMP. Soil classification combined with forest habitat classification (See Chapter 7 of FMP 2027), allows a more detailed analysis of habitat type, soils, and tree growth. The additional information acquired with the classification allows for better assessment of the impacts of silviculture practices. This information helps to reduce any identified undesirable effects, such as erosion and compaction due to road design, road construction, skidding, and time of harvest. See the Forest Operations section for more information on soils and Timber Harvest Administration. (MTE, 2012) Soil erosion from storm water runoff can also cause water quality problems for receiving waters. Storm water runoff and natural drainage are described in Section 3.2 Water Resources.

Chapter 11 of the FMP 2027 spells out the planning considerations with regard to forest soil

productivity. Soil productivity is a major factor in determining the amount of timber production that can be sustained over time, so the FMP2027 recognizes that the sustainable forest, therefore sustainable employment and income for tribal members depends on maintaining sustainable soil productivity.

3.1.4 Geologic Setting, Mineral and Paleontological Resources

The Reservation is underlain by the southern extension of the Canadian Shield. Most of the Reservation is underlain by Precambrian crystalline granitic and syenitic rock of the Wolf River batholith, which is known locally as Wolf River granite. In the extreme southeastern portion of the Reservation, the bedrock is composed of quartz monzonite. The bedrock slopes irregularly to the southeast at about 26 feet per mile. The maximum thickness of glacial deposits over bedrock is about 180 feet in the southeast part of the Reservation. Bedrock is exposed in places in the central and eastern parts of the Reservation. Mineral extraction is limited to sand and gravel borrow pits for construction of roads and other developments in the forest. There have been no paleontological resources known to have been discovered on the Menominee Reservation.

3.2 Water Resources

In 1994, the US Geological Survey (USGS) prepared a report in cooperation with the MITW entitled the *Water Resources of the Menominee Indian Reservation of Wisconsin*, Water Resources Investigation Report 93-4053. That report is hereby incorporated into this EA by reference (USGS Report 93-4053 by Krohelski, Kammerer, & Conlon, 1994). The following information on water resources is primarily from this reference.

3.2.1 Ground Water

Ground water is the source of all domestic water used on the Menominee Reservation. A bedrock aquifer is formed on the weathered top 20 feet of the Precambrian granite. An aquifer of saturated, permeable sand and gravel in layers, lenses, terrace deposits, and valley fillings overlies the granite in places. Both aquifers lack laterally extensive low-permeability clay and silt layers. As a result, the aquifers are unconfined (under water-table conditions) throughout the Reservation area.

3.2.2 Surface Water

On the regional scale, the Menominee Reservation is part of the Lake Michigan surface-water drainage area. The intermediate river basins in the vicinity include the Fox-Wolf and the Menominee-Oconto-Peshtigo river basins. Within these basins, the Wolf and South Branch of the Oconto are the two primary local surface-water drainage basins within the Reservation. The Wolf River flows north to south and its tributaries drain most of the Reservation. Groundwater sustains stream flow during low-rainfall periods. During water year 1985, USGS estimated that 87 percent of the water flowing in the Wolf River was contributed by ground water. The eastern quarter of the Reservation is drained by the South Branch of the Oconto River, which flows eastward into Oconto County.

MTE's mill is located adjacent to the Neopit Mill Pond on the West Branch of the Wolf River. The mill uses surface water from Neopit Mill Pond for fire protection and process water purposes.

Within Reservation boundaries are 44 lakes, which range in size from Legend Lake (1,304 acres) to Red Springs Lake (1 acre). Most lakes are small, only 12 are larger than 50 acres.

Menominee Reservation contains approximately 31,000 acres of wetlands, approximately 13 percent of the area of the Reservation. These include primarily shrubby swamps, wooded swamps and bogs. MTE use of erosion BMPs near surface waters is critical to protect Menominee's wetlands, lakes and streams.

3.2.3 Water Quality

There are no waters on the Menominee Reservation that are considered impaired by the Wisconsin DNR 303(b) standards in accordance with the Clean Water Act. Most lakes, streams and wetlands within the Reservation are surrounded by natural vegetation and lack development around them, resulting in natural levels of nutrients with little nutrient-based water quality problems. The alternatives are not likely to be related to water quality issues for groundwater. Groundwater from the sand and gravel and bedrock is naturally a calcium magnesium bicarbonate type. Most of the groundwater is moderately hard to very hard. USGS found that there is no widespread problem with respect to high concentrations of health-related inorganic constituents in groundwater on the Reservation. The principle groundwater problems are iron and manganese concentrations that exceed standards and excessive hardness. These are not human health issues, but can result in objectionable drinking water taste and staining of laundry and plumbing fixtures. Surface water samples by USGS from lakes and streams were very similar to the natural groundwater characteristics, reflecting the strong interaction between surface and groundwater within the Reservation. Chapter 10 of FMP 2027 addresses water quality issues in riparian areas. Potential water quality threats to riparian areas as: sediment, nutrient contributions, chemicals (pesticides, petroleum, coolants) and temperature changes. Chapter 10 identifies categories of mitigation for these potential water quality threats.

Related to lake sturgeon in the Wolf River, productivity of wetlands and wild rice beds, there are concerns about soil erosion and siltation in these surface water bodies from forestry prescriptions located near sensitive waters. So MTE use of BMPs to prevent soil erosion is critical.

3.3 Air

3.3.1 Criteria Pollutants

The Clean Air Act (CAA) requires EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants are found all over the United States and include particulate matter (dust), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides and lead. EPA calls these "criteria" air pollutants because it regulates them by developing human, health-based, and/or environmentally based criteria for setting permissible levels.

EPA does not list Menominee County/Reservation as a non-attainment area for any of the six priority pollutants. This means that the prevailing concentrations of the criteria pollutants in Menominee County/Reservation are below the EPA standards shown on the following table.

The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as

asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

National Ambient Air Quality Standards for Six Criteria Pollutants

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		primary & secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary & secondary	Annual	53 ppb ⁽²⁾	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008]		primary & secondary	8-hour	0.075 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution Dec 14, 2012	PM _{2.5}	primary	Annual	12 µg/m ³	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m ³	annual mean, averaged over 3 years
		primary & secondary	24-hour	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary & secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

3.3.2 Greenhouse Gases

The President's Council on Environmental Quality (CEQ) issued a memorandum, dated February 18, 2010, for heads of federal departments and agencies on the subject of Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. (CEQ, 2010) CEQ's

website that contains this memorandum explains that the intent is to provide assessment guidance for federal decision makers that are proposing actions that would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO₂-equivalent GHG emissions on an annual basis. The CEQ guidance refers to “Applicability Tool” available at a USEPA website. EPA’s applicability tool helps determine whether a particular facility exceeds the GHG emissions threshold and therefore the facility would need to annually report GHG emissions to USEPA. The Menominee mill is a stationary source of greenhouse gas emissions and is the subject of the FMP 2027, BIA’s Preferred Alternative. If the mill produces more than 25,000 metric tons of CO₂-equivalent GHG, then it would be subject to reporting requirements to USEPA. Also, a consideration is that trees and other vegetation in the Menominee forest take up CO₂ and related GHGs from the atmosphere during photosynthesis, a potential climate change benefit from a terrestrial carbon sequestration perspective.

3.4 Living Resources

3.4.1 Threatened and Endangered Species

3.4.1.1 *Karner blue butterfly* (*Lycaeides melissa samuelis*)

The United States Fish and Wildlife Service’s (USFWS) Wisconsin County Distribution Lists: Federally-listed Threatened, Endangered, Proposed and Candidate Species identifies only one species that is federally listed for Menominee County/Reservation. That species is the Karner blue butterfly (KBB), an endangered species. (USFWS web site, 2013). Figure 2 is a map of KBB high potential range produced for the USFWS by the Forest Landscape Ecology Lab at the University of Wisconsin-Madison. The southeastern portion of the Menominee Reservation is shown as high potential for KBB because that is where the host plant, wild blue lupine (*Lupinus perennis*), is located (USFWS, 2008). Wild blue lupine is the only food plant for the Karner caterpillar. Across the United States, Karners are found along the northern band of lupine range. (U.S Fish & Wildlife Service’s website on KBB)

The biology staff of the Menominee Conservation Fish and Wildlife Department indicate that KBB have been observed on the Menominee Reservation in three small locations where wild blue lupine is present. KBBs have been observed in Sections 23 and 24 of T28N, R16E in an area less than 3 acres in size in a powerline right-of-way in a human populated area. MITW instituted measures to protect the right-of-ways in the vicinity from grass mowing during times the butterflies were active. The small area of observed KBB is not within the designated sustained yield area of the Menominee Forest.

On the Menominee Reservation, the wild blue lupine plants are typically located in dry sandy areas with open woods and clearings. This type of habitat is usually associated with scrub oak or oak savannah communities that are maintained by fire at an early stage of plant succession. MTE and the biology staff of the Menominee Conservation Fish and Wildlife Department have identified and inventoried wild blue lupine plants primarily in residential areas in southeastern corner of the Menominee Reservation. Figures 3 and 4 are maps of wild blue lupine survey results. Each of the inventoried areas is critical habitat for the KBB, even if the butterfly has not been observed in each of these areas. There are significant amounts of lupine in the SE corner on timberland. MTE has done surveys and has maps as well. MTE has BMP’s to avoid KBB “take” as well.



Karner blue butterfly, Photo by USFWS; Joel Trick



Wild blue lupine is the sole food for the Karner blue butterfly caterpillar. Photo by USFWS; Joel Trick

The State of Wisconsin is a stronghold for the endangered Karner Blue Butterfly, where it is found on private and public lands. Activities like timber harvests, prescribed burns, and rights-of-way mowing can destroy Karner blue butterflies if improperly executed but those activities are crucial for maintaining KBB habitat over time.

The Endangered Species Act prohibits the "take" (i.e., destruction or harm) of listed species unless a permit is obtained from the U.S. Fish and Wildlife Service. The permit is called an "Incidental Take Permit" and is obtained only after a Habitat Conservation Plan (HCP) is developed. An HCP identifies how "take" will be reduced and identifies the actions that will be used to compensate for "take" that occurs. The Wisconsin DNR and 42 partners, including forest industry companies, utility companies, and non-governmental conservation organizations prepared an HCP so that they and private landowners could continue to conduct their normal activities but the Karner Blue Butterfly and its habitat would be conserved. The Wisconsin Karner Blue Habitat Conservation Plan is a landscape-wide plan that ensures the continued existence of the Karner blue butterfly on more than 260,000 acres of land in Wisconsin.

In 1999, the USFWS issued a permit to the Wisconsin DNR and other HCP partners for 10 years. The MITW is not one of the other HCP partners at this time, but that could change in the future. In 2010, the permit was renewed and the HCP updated. A draft environmental assessment and updated HCP were available for public review from the USFWS Green Bay Field Office and comment and the comment period closed on May 4, 2010. Following the open comment period, the EA and updated HCP were finalized and the permit signed in July 2010. The HCP contains valuable information regarding BMPs, but does not apply to Menominee County/Reservation at this time.

3.4.1.2. Section 7 Consultation

BIA's Section 7 consultation correspondence with the USFWS is contained in Chapter 8 - Consultation and Coordination. The purpose of Section 7 of the Endangered Species Act (ESA) is to ensure that federal agencies and departments use their authorities to protect and conserve endangered or threatened species. Section 7 of the Act requires that federal agencies prevent or modify any projects authorized, funded, or carried out by the agencies that are "likely to jeopardize the continued existence

of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species.” The ESA is administered by the U.S. Department of the Interior through the USFWS. (USEPA, 1991)

The USFWS has jurisdiction by law 40 CFR 1508.15 and special expertise 40 CFR 1508.26 regarding the Endangered Species Act. The USFWS Green Bay Field Office is the USFWS Region 3 Lead Office for the KBB listing. So BIA must conduct adequate Section 7 consultation with the USFWS Green Bay Field Office in order to comply with the Endangered Species Act.

3.4.2 Wildlife

3.4.2.1 Bald Eagle (*Haliaeetus leucocephalus*)

The Menominee County/Reservation forest contains large areas of prime bald eagle habitat. Bald eagles are no longer protected under the federal Endangered Species Act, so federal agencies no longer need to conduct Section 7 consultation with the U.S. Fish and Wildlife Service regarding bald eagles. However, the bald eagle remains protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times. The biological staff of the Menominee Conservation Fish and Wildlife Department of the Menominee Tribe of Indians of Wisconsin (MITW) indicates that bald eagle populations are increasing within the Menominee Reservation, Wisconsin. The bald eagle population nested in a total of 57 of 72 Wisconsin counties in 2003. Breeding adult bald eagles occupied a total of 880 eagle nest territories in Wisconsin, and of this the 18 nests on the Menominee Reservation were monitored. Bald eagles nest and feed in forested lands of the Menominee County/Reservation. MTE uses the bald eagle inventory information for the Menominee Reservation to avoid bald eagle nesting sites when forestry prescriptions are implemented, particularly during nesting and fledgling season. The bald eagle selects rivers and lakes in forested areas where they predominantly nest in large mature white pine and red pine trees.

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment. A copy of the Bald and Golden Eagle Protection Act is available at: <http://www.fws.gov/permits/ltr/ltr.html>.

3.4.2.1 Lake Sturgeon (*Acipenser fulvescens*)

Lake Sturgeon is a source of sustenance and spirituality for the Menominee people and a clan symbol of the MITW. The annual spring return of the sturgeon symbolizes the return of abundance to the Menominee, after long winters. Historically, when the water is high from snow melt, the sturgeon is called home by the sound of the water on a large circular underwater rock formation near Keshena Falls (on the Wolf River). These essential elements of Menominee culture were halted for 100 years

following the construction of the 1892 dam at Shawano, and later by the 1926 Dam at Balsam Row. In 1992, the Menominee people revived the sturgeon ceremonies with the assistance of the DNR. In celebration of Namao's (Menominee name) return, the Menominee Historic Preservation Department holds an Annual Sturgeon Feast & Pow-Wow at the Menominee Indian High School (MITW, 2012).



Photograph by Zeb Hogan, National Geographic;

Historically, lake sturgeon spawned in the Wolf River as they swam upstream to Keshena Falls from Lake Winnebago. Biologists have been able to restore portions of historic migration reaches by catching lake sturgeon downstream and transporting them upstream around dams. A few of the lake sturgeon are then captured near Keshena Falls each year for ceremonial meals by the Menominee people.

The lake sturgeon is often called a "living fossil," part of a family of fish that has existed for more than 135 million years. The fish grow very slowly and are susceptible to environmental factors. Biologists believe that long-term populations of lake sturgeon have declined due to factors including over-fishing, destruction as an undesirable by-catch of commercial fishing, water quality issues and siltation of spawning beds from watershed activities. While lake sturgeon populations have generally declined since 1900, the species has a viable naturally-reproducing population. Recent attempts by the Menominee Tribe and partners have brought hope regarding restoration of populations and their ability to migrate upstream to Keshena Falls.

Female sturgeon deposits their eggs every four to six years, starting at 20 years old, up to their life span of 50 years. At this age, the sturgeon is five feet long. The fish are transported upstream past dams on the Wolf River to spawn in the shallows of the river, as they swim or are transported as far upstream as Keshena Falls on the Menominee Reservation. The Wolf River runs generally north and south through

the Menominee Reservation. The historic migration route of lake sturgeon from Lake Winnebago to Keshena Falls is currently impeded by downstream dams. Water quality issues such as suspended silt (turbidity) from erosion, can adversely impact the life cycle of the sturgeon. Erosion and turbidity in the river could potentially be caused by improper forestry activities and construction near the river without proper best management practices to control erosion caused by storm water runoff. See Section 3.2.3 Water Quality for more information on turbidity.

One concern regarding lake sturgeon habitat in the Wolf River is the potential impact of forestry prescriptions on water quality. Logging activities could potentially increase turbidity in the Wolf River if best management practices were disregarded by the loggers. But the FMP 2027 identifies a corridor along the Wolf River where logging will no longer occur, but where other possible forest management would occur to control forest pests (e.g., insects, disease, and weeds) and invasive species. The corridor along the Wolf River is a one-quarter mile strip of land on each river bank, plus forestry compartment 223, that have been removed from sustainable forestry for a cultural preservation exclusion zone. This was accomplished by the MITW with a tribal resolution. No forestry practices would take place in the exclusion zone except for possible pest control to help maintain an overall healthy forest in these areas. Further, the FMP 2027 includes BMPs for erosion control near surface waters that are tributaries to the Wolf River and that could transport turbidity to the river and potentially contribute to exceedence of turbidity standards for lake sturgeon spawning habitat.

3.4.3 Vegetation

Unlike surrounding counties, most of the Menominee County/Reservation's vegetation is forest cover. Remote sensing imagery and reports from NASA astronauts in space shuttles indicate that from orbit, the Menominee Reservation is a clearly defined island of healthy contiguous forest compared to the highly fragmented vegetation of the surrounding region. The Menominee forest is a working forest and has been logged responsibly for over 100 years, yet the forest contains the same pre-historic essence that has been lost in surrounding counties due to land-use change and unsustainable logging. Overall, Menominee County/Reservation's vegetation has a wild and natural character unlike most counties in Wisconsin.

3.4.4 Agriculture

There are six properties with an agricultural land use classification within the Menominee County/Reservation, totaling less than 300 acres and about 0.001 percent of the land area. None of the agricultural land use area is located within the Menominee sustained yield forest area. According to a USDA Natural Resources Conservation Service (NRCS) update of a National Resource Inventory in 2000, there was no substantial land use for either cropland or pasture land in Menominee County/Reservation. (Menominee County Land Conservation Department, 2010)

3.4.4.1 Livestock

According to a NRCS National Resource Inventory updated in 2000, there was no substantial land use for pasture land in Menominee County/Reservation. (Menominee County Land Conservation Department, 2010)

3.4.4.2 Crops

According to a NRCS National Resource Inventory updated in 2000, there was no substantial land use for cropland in Menominee County/Reservation. (Menominee County Land Conservation Department, 2010)

3.4.4.3 Prime and Unique Farmland

FMP 2027 identifies no prime or unique farmland soils areas in the Menominee County/Reservation that have been designated by the NRCS. According to a NRCS National Resource Inventory updated in 2000, there was no substantial land use for either cropland or pasture land in Menominee County/Reservation.

3.4.5 Ecosystems and Biological Communities

Overall, the Menominee County/Reservation has a wild and natural character unlike most counties in Wisconsin. Most of the Reservation is either managed for forest products or undeveloped. This results in good wildlife habitats. The natural mixture of habitat types – marshes, bogs, lakes, streams, and forests is highly productive for forest and wetland species. The diversity in the forest creates an important resource for wildlife conservation. It provides a valuable environment for many species of plants, insects, birds, mammals, reptiles and amphibians. The habitat is a product, in part, from the forestry activities of MTE using ancient principles of sustainability that were first compiled in a FMP 2027 in the early 1970s.

3.5 Cultural Resources

3.5.1 Historic, Cultural, Religious Properties

The Menominee Reservation and forest contain many valuable cultural resources. The specific locations of the cultural resources are not publicly available to help protect them from adverse action. To help prevent potential adverse actions from federal actions, Congress created Section 106 of the National Historic Preservation Act (NHPA) 16 U.S.C. 470, as amended, that directs federal agencies like BIA to integrate preservation of valuable cultural and historic properties into federal land-use decisions. BIA's decision whether to approve FMP 2027 triggers the requirement for BIA to comply with Section 106. Consideration of adverse affects from BIA's approval of FMP 2027 to historic properties is also a criterion of significance listed in CEQ's NEPA regulations 40 CFR 1508.27(b)(8). BIA complies with the Section 106 process to help it determine, in consultation with the THPO, whether impacts of FMP 2027 forestry actions would be significantly adverse to Menominee cultural resources. Significant impacts that can't be mitigated could potentially lead to the requirement for BIA to conduct an EIS. So the outcome of the Section 106 process is an important assessment in Chapter 4.

NHPA also created the National Register of Historic Places (National Register), a list of sites determined by qualified investigators to satisfy specific eligibility criteria. NHPA defines historic properties as those cultural resources that are listed, or eligible to be listed, on the National Register of Historic Places. Historic properties can include traditional cultural properties, religious and archeological resources that meet the NHPA eligibility criteria.

Section 106 of the NHPA also requires that the BIA provide the Advisory Council on Historic Places (ACHP) with the opportunity to comment on BIA's contemplated approval of FMP 2027. Because of the large number of proposed federal actions in the United States, the ACHP has established a system of tribal and state historic preservation officers (THPO/SHPO) to help the ACHP in its duties to review and comment on the impacts of proposed federal undertakings. The Menominee Tribe of Wisconsin has worked with the National Park Service (NPS) to establish a Menominee THPO (THPO). This occurred subsequent to the 1996 EA for the FMP. So the BIA now must consult with the Menominee THPO regarding impacts of forestry activities under the FMP 2027 in order for the BIA to comply with Section 106 of NHPA.

The BIA's consultation with the Menominee THPO must occur for each specific forestry prescription for specific compartments and stands identified by MTE foresters using the FMP 2027. Compartments and stands are areas of the forest designated in the FMP 2027. In 2013, BIA conducted 43 individual THPO consultations for forestry actions such as individual timber sales in specific portions of forest compartments or stands.

Over the years, as MTE has conducted forestry activities on the Reservation, and the BIA has consulted with the THPO, many forestry compartment areas have been inspected to identify potential historic properties. Based on these inspections, the THPO has developed a record of site specific information for historic properties and other sites of cultural importance to the MITW. The record is more complete in some stands and compartments than others because of where past forestry activities have required previous Section 106 field work. While the entire forest has been subject of forestry prescriptions more than once, much of the past forestry activity occurred before the THPO was recognized by the NPS. So THPO records are most accurate during the time period since the THPO was recognized. The THPO has also collected other records obtained from sources involved in ACHP activities before the THPO was recognized.

The THPO continually works to add to the record of historic properties as additional areas are considered for management under the FMP 2027. This sometimes requires field reconnaissance by qualified BIA archeology staff or MTE contracts with a principle investigator (PI) as required by DOI regulations when specific historic properties have been identified, then one of the PIs writes the report for THPO review and concurrence. Site specific buffer areas are established as mitigation, as needed, to protect specific historic properties from future forestry activities at a given site. The site specific records of the historic properties and buffer areas are permanently maintained, so the records remain available to the THPO for purposes of possible future consultations for forestry prescriptions in specific locations.

Section 3.4.5 of the FMP 2027 contains the following summary. "The Menominee Forest, located within the traditional territory of the Menominee Tribe, has been used to gather natural resources, and as a home. Thus, there are numerous cultural resources to be found in various parts of the forest. Burial sites and settlements are common in many areas of the forest. It is MTE's goal that the disturbance to cultural resources are minimized or avoided. Staff paraprofessional archaeologists review cultural resource sites as they are discovered by foresters conducting their regular activities. In addition, all treatments are evaluated using the environmental checklist which reviews potential cultural resource

impact. When a cultural resource site is discovered, MTE takes steps to ensure that the site is avoided or any disturbance is minimized. If the area must be treated, MTE evaluates the effectiveness of treating the site during frozen ground conditions. MTE also makes every effort to coordinate with the THPO when these areas are encountered (MTE, 2012). Most newly encountered sites are found by MTE staff.

Chapter 8 – Cultural Resources of FMP 2027 summarizes the Menominee cultural history, clan system, goals and strategies and duties of the THPO. Table 8.1 in the FMP 2027 provides examples of cultural resource categories found on the Reservation. Section 8.9 of FMP 2027 summarizes how the THPO maintains cultural resource inventories. Section 8.10 covers the field identification of cultural resources and a specific list of features for foresters to report (i.e., feature type and location), to the THPO if they are discovered during regular duties. Section 8.11 identifies Tribal Ordinance #05-22, Tribal Logging Limitations. The ordinance reinforces the federal Section 106 THPO consultation process for potential high-sensitivity cultural sites. Section 8.12 indicates that inadvertent discoveries of cultural resources or human remains during forest management activities shall be reported to the THPO. Section 8.13 indicates that there are culturally restricted areas in the Menominee forest, most notably Compartment 223 and the Wolf River corridor. The Menominee Tribal Legislature has passed Tribal Resolution Number 07-02 for the removal of these sensitive areas out of sustained forestry yield designation to help protect the sensitive cultural resources located in these areas (Figure 1).

3.5.2 Archeological Resources

The Menominee Reservation and forest contain many valuable archeological resources such as the physical remains of past human activity. The specific locations of the archeological resources in the Menominee forest are not publicly available to help protect them from adverse action. Archeological resources can also be listed or eligible for the National Register. So the BIA must also include archeological resources in its Section 106 consultation process summarized in Section 3.5.1.

3.6 Socio-economic Conditions

This section of the EA describes the socioeconomic conditions on the Menominee Reservation that affects the standards of living and the quality of lifestyles of the workers of the Menominee forest products industry, as well as non-forestry MITW members. Many MITW members seek at least a modest standard of living, respectful of traditional Menominee culture and with appropriate services from the tribal government.

Chapter 15 of the FMP 2027 identifies key socioeconomic cause and effect links of this EA: The purpose and need for the proposal described in Chapter 1 is to create steady and sustained employment and income for MTE employees, which depends upon its steady and sustained management of the forest and mill using the forest management strategy described in the FMP 2027. But the BIA must first approve FMP 2027 for MTE to be authorized to implement the plan. Employment of MTE employees benefits not only the individual, but also the employee's family and the community. MTE workers spend their income on and near the Reservation to further stimulate the local economy to benefit the standard of living for those not employed by MTE.

Historically, before implementation of the Indian Gaming Regulatory Act (IGRA) in 1988, the MTE forest products industry was the only major generator of employment and revenues to sustain a modest standard of living for many of the tribal families living within the Menominee Reservation. While the Menominee gaming and related hospitality industry has grown, gaming revenues and employment are currently limited in regional market share compared to that of some other tribal governments in Wisconsin and Minnesota. Because the MITW gaming and hospitality industry does not generate adequate revenues for all desirable tribal services, MTE remains a vital generator of much needed employment, benefits, income and excess profits for vital government services by MITW on the Menominee Reservation.

The root purpose and need for the updated FMP 2027 is to continue to generate sustained production of forest products for MTE employees to use to sustain their employment and income for their families, and revenues for the MITW to use to provide government services to its member's families. The forest located within the Menominee Reservation is a tribal trust resource that has been used for more than 100 years for the stated root needs. The Management Plan, Trust and Management Agreement, and reaffirmed in the MITW Constitution and Bylaws of the Menominee Reservation require preparation of a FMP 2027 to guide proper management of the Menominee forest to maximize production of forest products in a sustainable way to meet the economic and subsistence needs of tribal families to the greatest extent possible.

Federal mandates require a current FMP for the Menominee forest because the lands are held in federal trust. The FMP 2027 is updated periodically to reflect current information regarding the forest and to take advantage of technological improvements as they become available to forest managers, such as GIS for better analysis of forest productivity information. New innovations in forest management and compliance procedures are anticipated to increase confidence and reliability of the FMP 2027 to generate a steady stream of highly marketable forest products to sustain the employment, revenue and government services to a substantial number of Menominee's families.

FMP 2027 indicates that for MTE, the management goals have been maximizing the quality and quantity of saw timber grown under sustained yield management principles, while maintaining the diversity of native species. Maintaining steady and sustainable production of quality timber of the correct species is equivalent to maintaining steady and sustainable employment and income for Menominee members.

MTE, a business arm of the MITW, conducted public hearings with tribal members to obtain their input on the FMP 2027 update. The Menominee people determined that a sustainable and professionally managed forest products industry located on the Reservation, within the jurisdiction of the MITW and with management by MTE, remains vital to the sustainable socio-economic health of the Reservation. A decent standard of living for many Menominee families depends on the long-term and sustainable health of the forest and the marketing of forest products that MTE can generate using the forest. The Menominee forest exists on lands held in trust by the United States for the benefit of the MITW (trust lands). A FMP 2027 is required for the forest because it is located on federal trust lands.

The previous FMP, revised in 1973, is revised approximately every 10 years, so a currently updated FMP 2027 with a long-term and sustainable perspective is vital to the long-term and sustainable socio-economic conditions and standard of living for many MITW tribal members and their neighbors. Since 1973, there have been changes in forest management (silviculture), forest pest and fire management, technology, (geographic information systems, personal computers, and the internet). The latter has helped foresters in managing the forest using mass quantities of data on the forest resources by compartments and even individual stands. This facilitates keeping track of individual forest prescription actions on the micro-scale and their cumulative contributions to the sustainable forest objectives on the macro-scale. Further, some jurisdictional changes have occurred, such as the federal recognition of the THPO. These innovations all beneficially impact the FMP strategies and how MTE manages the forest day-to-day.

3.6.1 Historic Socioeconomic Conditions for the MITW

The MITW has resided in what is now the state of Wisconsin for more than 10,000 years. Tribal lands once encompassed nearly 10 million acres within Wisconsin and Upper Michigan (Peroff, 1982). The treaties of 1831, 1832, 1836, 1848, 1854, and 1856 all resulted in the cession of Menominee land, which left the Tribe with 235,000 acres in northern Wisconsin. The Reservation is close to the mouth of the Menominee River the place of the creation of the Tribe (MITW and Menominee Kenosha Gaming Authority, 2006).

Confined to a limited amount of land, the Menominee could no longer live by their preferred methods of hunting, fishing, and gathering of rice. While the site conditions within the Reservation were not conducive to farming, the land did include excellent timberland. In 1908, the La Follette Act authorized the construction of a saw mill on the Reservation, and the Tribe began to practice sustained-yield management of its forest. The saw mill was and continues to be a major source of income, employment, and enjoyment for the Menominee people. The forest management approach allows for recreational pursuit such as camping, boating, and other activities that go beyond recreational. Some of these other activities include; berry gathering as a food source, herbal gathering for medicinal purposes, spiritual and ceremonial use that is a way of life. The forest is valued culturally and economically (MITW and Menominee Kenosha Gaming Authority, 2006).

By the 1950s the MITW was among the most self-sufficient tribes in the United States. The MITW managed a 220,000-acre forest and a sawmill representing a capital investment of \$1.5 million. Furthermore, the MITW had more than \$10 million on deposit in the U.S. Treasury and had a successful and fully functioning government (Peroff, 1982). The MITW also had established a law enforcement agency, telephone services, electric companies, a hospital and clinic, and schools. By virtue of its achievements, the MITW was subjected to a federal policy that unilaterally ended rights and protections that were based on treaties with the United States. This policy known as "Termination" caused significant harm to the MITW and is widely recognized as a failure today. Despite the repeal of this policy, the adverse effects of Termination continue. The harm this policy caused distinguishes the MITW from other tribes in the United States (Ryan Baumtrog, July 2008).

With very limited resources, the Menominee have worked to return their Tribe to the prospering nation that it was before Termination. The MITW have used the modest revenues from the gaming operation on the Reservation and the saw mill in several ways to benefit the MITW. For example, the MITW operates and maintains a health-care clinic for tribal members. Since 1993, the College of Menominee Nation has served the community by offering associate and baccalaureate of arts and sciences degrees and providing opportunities for students to complete baccalaureate degrees through agreements with other four-year universities. The MITW continues to sustain and manage its forest and to run and maintain the saw mill, which provides some members with jobs and income. These ventures are indicators of the Menominee experience and determination to use resources carefully and with a commitment to the collective benefit of the MITW. (Ryan Baumtrog, July 2008).

Before the enactment of the federal Termination Act in 1954, the MITW was economically self sufficient and had a reputation of responsible and effective tribal governance. The immediate and lingering effects of Termination were health and social ills that typically accompany poverty. Menominee County/Reservation is Wisconsin's poorest county and has the lowest levels of health in the state. The federal government recognized the problems with Termination, repealed the law in 1973, and abandoned plans to terminate other Indian nations (Ryan Baumtrog, July 2008). The MITW is one of the poorest in the country and is still in the process of recovery from Termination.

The Menominee Termination Act was signed into law on June 17, 1954, but not implemented until May 1, 1961, because of many problems and concerns raised by the implications of ending federal recognition. The act transformed the Reservation into a county subject to state and federal laws (Peroff, 1982). Tribal enrollment was closed and children born after June 17, 1954 were not recognized as tribal members. The Menominee were no longer viewed as Native American, and MITW tribal government structures were dismantled (Ryan Baumtrog, July 2008).

Before Termination, tribal members were considerably poorer than the non-tribal population in surrounding counties, and the Reservation had a limited and fragile revenue base, despite the MITW's natural resources, sawmill, hospital, power plant, and government. The federal government considered these accomplishments an indication the Menominee should be "rewarded" with Termination, even though all factors showed that residents of the new county would not be able to fund the services the State of Wisconsin mandated (Peroff, 1982). The narrow base for property taxes was insufficient to support the public schools, law enforcement, human and emergency services the State required.

After years of lobbying by the Menominee people, the federal government restored recognition to the MITW on December 22, 1973. However, restoration did not end or remedy the negative effects of Termination. A 2005 study demonstrates that individuals and the MITW as a whole faced increased costs for governance and public services while income dropped (MITW and Menominee Kenosha Gaming Authority, 2005). Some of the major findings:

- Individuals and families left the former Reservation in record numbers for jobs and for services. The population on the former Reservation consisted primarily of the very young and the elderly. Poverty increased markedly.

- The hospital and clinic had to be closed because of the inability to fund compliance with state standards. Most tribal members had to forgo health care because of the higher costs and the lack of transportation to services in Shawano and Antigo.
- The Tribe sold its telephone and electric companies, and utility services had to be purchased.
- Tribal courts and police were dismantled, and Menominee County/Reservation relied heavily on neighboring Shawano County for law enforcement.
- The former reservation became part of the Shawano School District, and Menominee youth pursued their education with the challenges that accompany ethnic minority status.
- Menominee young people no longer qualified for funding for Indians to attend boarding schools or colleges.
- Land, critical to the economy and the cultural identity of the Menominee, was sold to individuals outside the Tribe in order to generate needed revenues to pay for County services.
- Individuals had to sell land to buyers outside the MITW because they could not afford property taxes.
- Tribal members had to acquire hunting and fishing licenses for activities critical for cultural identity and, for subsistence.
- As with other communities in social and economic distress, the MITW has experienced increases in alcohol and other drug abuse, gang-related violence, and domestic abuse since Termination.

While it might be argued that some of the economic difficulties and relocation of Menominee people to urban areas were due in part to factors other than the Termination policy, it cannot be argued that Termination helped the MITW or its people. Indeed, the BIA has acknowledged that Termination was a failed policy and caused the MITW harm:

In 1965, the BIA stated: “A review of developments in Menominee County/Reservation since termination of the Federal trust in 1961 makes clear how ill-advised were the terms on which the Menominee were deprived of Federal services and supervision.” (U.S. Department of the Interior, Bureau of Indian Affairs, 1965)

In 1972 the BIA stated: “Upon termination the reservation became a county which today is the most poverty-stricken in the State of Wisconsin. Public expenditures which were to decrease over time soared from an annual figure of \$160,000 before termination to almost \$2,000,000 thereafter. Yet despite the cost the county ranks at the bottom of Wisconsin counties in employment, income, education, health, housing, property values, and other areas.” (U.S. Department of the Interior, Bureau of Indian Affairs, March 31, 1972)

3.6.2 Employment, Income and Poverty

3.6.2.1 Employment

The MITW has an ongoing need to retain existing jobs on the Reservation and to find ways to generate new employment. Since the 1970s, the MITW’s employment opportunities have diversified, primarily from the opening of the tribal casino and bingo hall in 1987 and the chartering of the College of the Menominee Nation in 1993. Along with the forestry industry and small retail businesses, these

employers provide jobs not only for the residents of Menominee County/Reservation, but also draw in employees from other counties, primarily Shawano, some of whom are tribal members living off of the Reservation. The county labor force faces an annual unemployment rate that generally hovered from 8-10 % through the 1990s, with an increase to 12.3 % during the recession of the early 2000s, remaining around 10 % until at least 2008. The unemployment rate is at least twice as high as that in the state overall and is the highest of any county in the state. (Ryan Baumtrog, July 2008).

Chapter 15 of FMP 2027 indicates that unemployment for the MITW has remained consistently high for years. MTE provides well paying jobs with full health and dental benefits for 161 employees in a range of skills from manufacturing to professional. MTE continues to seek ways to increase employment. For example, MTE is currently engaged in a value-added project that employs about 10 people using a smaller scale saw for smaller logs needed for specialty markets. Other employment includes MTE's logging contractors, employing approximately 160 workers who cut and deliver logs to the MTE mills. The existence and profitability these small logging businesses have and will continue to depend upon MTE following FMP 2027 to manage and generate consistent and sustainable stands of marketable trees.

3.6.2.2 Fiscal Effects to Menominee Tribe and Region

MTE makes excess profits available from the Menominee forest products industry for use by the MITW to provide priority services available to Menominee members, including employees of MTE. For example, MTE supports the Veteran's Pow Wow with annual funding of approximately \$5,000. MTE also provides a portion of their profits to MITW of between approximately \$25 and \$100 per Menominee member over 18 for MITW to potentially use for tribal governmental services to MITW members. Census 2010 data indicate that in 2010, there were roughly 3,689 Menominee people living in Menominee County/Reservation, so the MTE excess profits provided to MITW range between roughly \$92,000 and \$369,000 per year. Section 3.6.5 Community Infrastructure summarizes the MITW programs and services that are supported by excess MTE revenues, as available.

MTE contributes in other ways to the economy of Menominee County/Reservation and the surrounding region. A 2008 Extension Service Report from the University of Wisconsin used an IMPLAN economic model to determine that MTE had a total 2006 economic output of just over \$96 million. The indirect and induced effects of MTE activity in Menominee County/Reservation represented \$12 million in additional economic output, bringing the total for MTE operations to \$108 million. This is roughly 50 percent of the cumulative economic activity in the county. MTE accounts for almost 14 % of the sawmill output of northern Wisconsin. The four-county region of Langlade, Menominee, Oconto and Shawano Counties are specialized in sawmill, millwork, cabinetry, wood countertop, and wood furniture industries with numerous small businesses that create further employment and income at least partly dependent on MTE operations using FMP 2027 (Clements & Marcouiller, 2008).

3.6.2.3 Income and Poverty

Especially since Termination, the Menominee County/Reservation has experienced levels of poverty and income far worse than any other county in Wisconsin. Table 1 compares median income (adjusted for inflation) in Menominee County/Reservation with state levels.

	Table 1: Median Household Income					
	1969	1979	1989	1999	2005	2011
Menominee County/Reservation	28,902	35,239	22,242	34,512	30,839	32,017
Wisconsin	44,516	38,786	46,371	51,335	47,141	52,374

Source: (U.S Census, 1990); (U.S. Census, 2005); (U.S. Census, 2010)

Median income in Menominee County/Reservation has been consistently about one-third lower than the statewide average, with the exception of 1979, the peak year for federal spending on Indian programs. After 1979, spending on tribal programs declined due to budget cuts instigated during the Reagan/Bush years (Gary Sandefur, 1996). In an environment such as Menominee County/Reservation where a large proportion of the labor force is employed by the local government, the availability of funding for such programs did appear to have a strong, if transitory, effect on raising relative income levels. Table 2 compares the poverty level in Menominee County/Reservation with state rates and other nearby counties during the last three decades. The mean wage of MTE employees is \$14.50 per hour or roughly \$30,000 per year.

	Table 2: State and County Poverty Rates				
	Percentage of Population in Poverty				
	1979	1989	1999	2005	2011
Menominee County/Reservation	18.0	48.7	28.8	26.3	29.8
Wisconsin	7.1	10.7	8.7	10.2	12.0

Source: (U.S. Census, 2005); (U.S. Census, 2010)

Poverty rates for Menominee County/Reservation are anywhere from two to four times higher than the state average. The higher poverty rates in Menominee County/Reservation have several causes. The large proportion of children and older adults on the Reservation means that families are more likely to have non-earning members. The greater number of single-parent households means that more families have only a single source of income. The incomes that those families earn are lower than in other Wisconsin counties. (Ryan Baumtrog, July 2008)

Poverty rates in other Wisconsin counties and on a statewide level move within a fairly narrow band, but poverty rates in Menominee County/Reservation more than doubled between 1979 and 1989, and then drop by half between 1989 and 1999. This sensitivity to external factors no doubt reflects the limited diversity of employment opportunities in the county. In the late 1970s, government and the forest products industry accounted for almost all employment on the Reservation. Government funding cuts or slowdowns in the lumber industry can have enormous impacts on the overall economic condition of the tribal population. (Ryan Baumtrog, July 2008).

3.6.3 Demographic Trends

The MITW resided in what is now Wisconsin since before European contact in the 1600s. Disease and conflicts introduced by other migrating tribes reduced the Menominee population to as low as 400 in 1667. The Menominee population grew slowly during the next 200 years. The 1854 census reported 1,900 members. (Ryan Baumtrog, July 2008). By 1854, the series of treaties with the United States federal government had reduced the lands available to the MITW to the current Reservation boundaries, ignoring the fee-to-trust acquisitions approved by BIA since the 1990s (MITW Facts and Figures Reference Book).

For the next 100 years, the Menominee population had a low of 1,400 members and then experienced gradual population growth until the tribal rolls were closed in 1954 under the Termination policy. At Termination in 1961 the enrolled membership was 3,700, which does not include children born after the closing of the rolls in 1954. Approximately three-fourths of the Tribe lived in Menominee County/Reservation (Menominee Historic Preservation Department, 1987).

The enrolled Menominee population has more than doubled since Termination. The U.S. Census Bureau reported the population of the MITW was 8,691 in the 2000 census. The distribution of the population since 1954 has changed dramatically. Before Termination, the majority of the Tribe lived on the Reservation. In the decades after, the Reservation population declined 12 % in the 1950s and 29 % in the 1960s. Population decreases were even greater for the Menominee population since the county figures reflect an influx of non-Menominee people. Non-tribal people were 2 % of the population on the Reservation in 1956; by 1970 they were 12 %.

Since federal recognition of the MITW was restored in 1973, the tribal population grew, but emigration from Menominee County/Reservation has not abated. As of September 2004, the MITW had 8,181 enrollees. Less than half of the enrollment (4,021 people, or 49.1 %) live on the Reservation, another 2,856 (35 %) live off-Reservation in Wisconsin, with the largest populations in communities adjacent to the Reservation (749), in Green Bay (612), and Milwaukee (341). The remaining 1,304 members live out of state, with the largest concentration in Chicago (126) (MITW, Department of Administration, 2004 Supplemented June 2008).

The emigration from the Reservation, and the County's high birth rate, has skewed the age distribution of the tribal population. Tribal members living off the Reservation are more likely to be of working age, and those living on the Reservation are more likely to be children. Of the total enrollment, 27.8 % are younger than 20, but among those people living in Menominee County/Reservation, 42.1 % are younger than 20 years of age. In Wisconsin, 25.5 % of the population is younger than 18, compared to 38.9 % of Menominee County/Reservation's residents. No other county in Wisconsin exceeds 30 % (U.S. Bureau of the Census, 2000 Census).

The skewed age distribution dates to Termination when the county population saw increases among the very young and very old, and substantial decreases in working age people. These trends suggest that people were leaving the Reservation to pursue work or education that may have not been available within the Reservation, leaving behind their children to be raised by single parents or by grandparents.

These shifts in the county population have many consequences for individuals, families, and for the

governmental institutions responsible for service provision. One result is that single women head many more Reservation households than is generally true in the state. Data from the 2000 Census show nearly one-third of Menominee householders are single women compared to 9.6 % of all Wisconsin households. Female-headed households are much more likely to experience poverty, need government assistance, and have negative consequences for children's educational attainment and other outcomes (Sanderfur, 1994).

3.6.4 Lifestyle and Cultural Values

MTE supports the Menominee community standard of living with forestry profits. For example, \$5,000 is contributed annually for the Menominee Nation Pow Wow. Payments in the range of \$25 to \$100 per member over 18 years of age were made available to the MITW to help support community and tribal government services, including lifestyle and cultural traditions. The table in section 3.6.5.4 lists the MITW's health and family programs and departments that demonstrate that Menominee members value all members, particularly their elders, veterans, families and youth, low income members, and members that reside off-reservation. Members value culturally-appropriate tribal governmental services for health, community centers, nutrition, general assistance, treatment for addiction and mental health and social services. Examples of recreation and fitness activities include hoop dancers, little league baseball, culture camp, open gym night at the high school, boys and girls clubs and the boxing club. Examples of cultural activities include the Zoar Ceremonial Building and Veteran's Pow Wow.

Menominee people relate to the Reservation, even if they go away for education or jobs. Wisconsin residents generally follow a pattern in which people who leave the state after high school and college graduation tend to return after five to 15 years (Ryan Baumtrog, July 2008). Although all communities, tribal and non-tribal, face the prospect educated members moving towards urban centers as young people relocate to work and to change their lifestyles, indicators suggest that this phenomenon is not a major threat to the MITW. Cultural ties are a force to draw Menominee people back to the Reservation, and many do return to live there. Others who spend part of their lives in Milwaukee and Chicago maintain their identification with the MITW and their ties to the Reservation (Ryan Baumtrog, July 2008).

3.6.5 Community Infrastructure

While the Menominee Reservation is a forested area of considerable cultural and aesthetic value to the Menominee people, the physical community infrastructure for living and economic activities is limited and aging. The service based portion of the community infrastructure does not have adequate revenues either. MTE makes excess profits available from the Menominee forest products industry for use by the MITW to provide priority physical infrastructure, programs and services available to Menominee members, including employees of MTE. For example, MTE supports the Menominee Nation Pow Wow with annual funding of approximately \$5,000. Additionally, MTE provides annual advances of excess forestry revenues, when available, of between approximately \$25 and \$100 per Menominee member over 18 for MITW to potentially use for these valued services.

3.6.5.1 Transportation

Chapter 13 of the FMP 2027 contains policy and objectives for forest road construction, maintenance and decommissioning. The goal is to build and maintain forest roads that optimize efficiency of forestry operations while minimizing the adverse impacts of roads on forest resources partly by complying with applicable environmental mandates. There are three forest road types:

1. Temporary Roads for short term use such as timber harvest prescriptions; used primarily when ground is frozen to minimize impact; when closed, all stream crossing sites and road routes are allowed to revegetate naturally;
2. Permanent Seasonal Roads are part of the permanent road system. Seasonal roads are intended for use when the ground is frozen or firm. These roads generally are narrower, built to engineering standards less than non-forest secondary roads and use less gravel.
3. Permanent All-Season Forest Roads usually have gravel surfaces and are designed for year round use, but there may be some seasonal use restrictions.

The silviculture department initiates a road review meeting during harvest planning that is attended by MTE staff to discuss the existing road network in the proposed area. The review examines the existing forestry road system to determine which roads will be used, if additional roads need to be constructed, and if any roads need to be decommissioned. Forest planning procedures include consultation with the Menominee THPO. Road construction is initiated by the prescription process, which includes environmental and cultural reviews which ensure compliance with tribal ordinances and federal mandates.

Forestry activities also use non-forest roads, such as movement of logging trucks to the mill. The Indian Reservation Road inventory for the Menominee Reservation has approximately 295 miles of BIA roads, 8 miles of tribal roads, 41 miles of state roads and 122 miles of county and township roads. The Tribe's Community Development Department maintains and repairs tribal and BIA roads while Menominee County/Reservation is in charge of county and town roads.

The Menominee Nation's Department of Transportation provides services to the Tribal School, Head Start, and Tribal Clinic and operates round-trip bus services from Keshena to Neopit, Zoar, Middle Village, Shawano, and other locations. The department works with the Department of Community Development to improve walkways and crosswalks to make villages more pedestrian friendly. The Department of Transportation's development plan addresses current services as well as needs and gaps in service.

3.6.5.2 Utilities

Keshena has community wells, a pump house, two water towers, water and wastewater distribution systems, and a wastewater treatment plant. Neopit's systems are similar to Keshena, while Zoar has a new well and pump house. The Tribe began a \$5 million project in 2008 to update utility systems, with partial funding from the U.S. Department of Agriculture, U.S. Environmental Protection Agency, and the Indian Health Service.

3.6.5.3 Water and Sewer

The Menominee Tribal Utility Department provides the water, wastewater, and septic services to everyone within the Reservation who does not have their own well and septic systems. They also provide Middle Village with electrical service. The Utility Department provides the following services:

Middle Village

Residential sewer/water/electrical:
72 customers
Commercial sewer/water/electrical:
210 customers

Neopit

Residential sewer and water:
210 customers
Commercial sewer and water:
19 customers

Commercial electrical: 9 customers

Keshena

Residential sewer and water:
312 customers
Commercial sewer and water:
60 customers

Zoar

Residential water:
23 customers
Commercial water: 4 customers

Trailer Court

Residential water: 17 customers

Redwing

Residential water: 21 customers

3.6.5.4 Health and Family

The following table summarizes examples of MITW programs and departments under the health and safety category that relate to spiritual, physical and mental well-being of the Tribe.

Summary of Menominee Health and Family Programs and Department

Program	Summary of Program	Total Funding in 2008
Aging Division	Mission is to respect and honor the traditions of tribal elders by providing services that promote independent living and enhance quality of elders' lives, including the Wolf River Community Based Residential Facility.	\$1,088,000
Chicago Community Center	Center allows tribal members in Chicago to maintain ties with one another and Tribe. Venue for semi-annual meetings with members in Chicago.	\$8,000
Tribal Clinic	Provides quality, accessible and comprehensive medical, dental, optical, mental and community health services.	\$16,216,000
Youth Development & Outreach	Serves youth & Menominee families through culturally appropriate resources. Promote family reunification and support; Promote healthy lifestyles, strengthen families, community outreach & partnerships.	\$624,000
Food Distribution Supplement Program	Supplies food, recipes, nutrition information to help eligible people maintain balanced diets. Works with USDA and served 11,030 participants in 2006.	\$395,000

Maehnowesekiyah	Culturally specific treatment, education and support services for needs including addiction, mental health, adolescent and domestic abuse.	\$2,028,000
Neopit Community Center	Gathering place for activities, special events, community service projects, and family learning.	\$8,000
Recreation Department	Provides and promotes parks, public areas, recreational programs, and special events such as Culture Camp, Family Fun Day, Tribal School and Hoop Dancers, Little League baseball, and open gym night at the high school.	\$236,000
South Branch Community Center	Gathering place for activities, special events, community service projects, and family learning. Tutoring and library services were discontinued due to inadequate funding.	\$8,000
General Assistance	Discontinued in 2007 due to inadequate funding. Program served 111 in 2006.	
Social Services	Child Support Department, Indian Child Welfare Act requirements, counseling services to children and families, enrollment assistance to adult adoptees, adult paternity, kinship care services, respite day care, adoption recruitment, coordinate community child protection team, administer Indian money accounts program and emergency/catastrophic program.	
Veterans Service Office	Menominee County/Reservation with financial assistance from MITW operates and sponsors this program to provide technical and limited financial assistance to veterans who reside in the Menominee County/Reservation. MITW helps fund the program because the vast majority of county veterans are also MITW members. The state also provides some funds.	\$29,000
Zoar Ceremonial Building	For gatherings that include social and religious events;	\$4,700
Neopit Boxing Club	Teaches Menominee youth of all ages boxing techniques and other athletic instruction in a safe and healthy environment;	\$11,000
Woodland Boys and Girls Club	A non-profit that provides structured after-school and summer tutoring, field trips, anti-drug and anti-alcohol activities, Menominee crafts, and cultural events.	\$114,000

Community Funding Requests	Request that provide cash assistance for special community events and aid in emergency situations for those not eligible for other assistance.	\$24,000
Veterans Pow Wow	Annual community event that serves to honor and recognize all Native American veterans and active duty personnel through traditional drumming, singing and dancing; MTE provides additional annual funding of approximately \$5,000.	\$7,000
Child Support Agency	Promotes parental responsibility and financial security for children by helping establish paternity or provide child, family and medical support.	

3.1.1.1 Labor, Education and Training

U.S. Census Bureau data (2010) indicate that 1,443 civilian persons over 16 were employed in Menominee County/Reservation in 2010. Of that, 684 are private wage and salary workers, 638 are government workers, 121 are self-employed. There were no unpaid family workers reported to the Census Bureau. High school graduation rate is 86.3 %, roughly 3.5 percentage points lower than the state average. Fourteen percent of the population has earned a bachelor degree or higher which is 12 % lower than the state average.

Summary of Menominee Labor, Education and Training Programs and Departments

Program	Summary of Program	Total Funding in 2008
College of Menominee Nation	Serves as a center for life-long learning; two-year community college infuses higher learning;	\$252,000
Early Child Care Services	Provide educational child care services for 155 children in collaboration with other departments with child oriented responsibilities;	\$760,000
East-West University	Educational services leading to bachelor of arts degree for those living on the Reservation;	\$29,000
Education Department	Helps workers pursue higher education to advance in the work place; Helps fund students to seek bachelor's degrees at colleges or universities; Also provides GED equivalency instruction and job-related workshops;	\$721,000

Head Start	Provides Menominee children from birth to 5 years a pathway to help prepare for success in K-12 schools;	\$2,580,000
Tribal Historic Preservation Office	Revitalizes and preserves Menominee history, language and culture. Since 1999, functions as Tribal Historic Preservation Officer (THPO) for Section 106 compliances and other cultural compliances;	\$225,000
Community Resources Center	Provides quality job training, employment, labor market information and income maintenance services. Includes the Tribal Temporary Assistance for Needy Families services;	\$2,199,000
Johnson O'Malley Program	Meets specialized educational needs of American Indian students attending public schools;	\$114,000
Language and Cultural Commission	Promotes revitalization and preservation of the Menominee language, history, traditions, and culture for Menominee families and children.	\$93,000
Library	Tribal/county library in Keshena provide life-long learning through access to library materials; Free computer and internet access;	\$133,000
Tribal School	Educates students from K-8;	\$4,038,000
Department of Trust Resources	Monitors forest management and development practices, promotes involvement of members in the management of the Tribe's natural resources; Developed a timeline and process to ensure proper review and approval of silviculture treatments; organizes monthly meetings of MTE staff, BIA trust foresters and MITW.	\$2,300,000
University of WI-Extension	Offers educational programs for agriculture, community and economic development, natural resources, family and youth development tailored to local needs and based on academic knowledge and research.	\$11,400

3.1.1.2 Housing

In Menominee County/Reservation there are 2,381 housing units of which 1,441 are occupied, as reported in U.S. Census Bureau data (2010). Owners occupy 971 units and 470 units are renter occupied. Of the 2,381 units, 2,035 units are detached single family homes and 259 are mobile homes. Roughly 1,910 of the housing units were constructed since 1970. Units are heated by propane, wood, fuel oil,

electricity and natural gas, in decreasing order of abundance. Only 12 units lack plumbing and kitchen facilities. The following table summarizes examples of MITW housing programs and departments:

Summary of Menominee Housing Programs and Departments

Program	Summary of Program	Total Funding in 2008
Home Improvement Program	Provides grants to low income members to help make their housing standard as defined by statute or a new modest home in certain cases;	\$49,000
Tribal Housing Department	Develops, operates, and maintains affordable housing through 18 programs;	\$3,446,000
Wolf River Development Corporation	Tribal corporate entity that uses tax credits to help secure investment dollars used to renovate, rehabilitate or construct homes on the reservation	\$550,000

3.1.1.3 Enforcement and Resource Protection

The following table summarizes examples of MITW enforcement and resource protection programs and departments.

Program	Summary of Program	Total Funding in 2008
Conservation Department	Manages conservation law enforcement, fish and wildlife management and environmental quality services;	\$869,000
Election Commission	Executes tribal elections	\$55,000
Environmental Services Department	Promotes environmental integrity, environmental management, clean and safe water and air, safe redevelopment of brown fields, emergency management, proper management of solid and hazardous waste, and environmental health.	\$751,000
Tribal Gaming Commission	Promotes and ensures integrity, security, honesty and fairness in operation of gaming and related facilities;	\$521,000
Tribal Court	Provides judicial services on the Reservation on adjudication of criminal, civil, juvenile, family, probate and mediation;	\$789,000

Tribal Police Department	Law enforcement services on Reservation	\$3,294,000
Tribal Probation and Parole Department	Supervises clients on probation in lieu of a jail sentence;	\$208,000
Prosecutor's Office	Acts on criminal and civil violations of Menominee Tribal Law;	\$360,000
Tax Commissioner	Monitors and enforces tribal regulatory permits, ordinances, licenses and payment of tribal taxes;	\$72,000

3.1.1.4 Community Development

Summary of Community Development Programs

Program	Summary of Program	Total Funding in 2008
Community Development	Oversees tribal economic development, small business development, solid waste disposal and recycling, land-use planning and design, and maintenance and construction of facilities and roads;	\$3,596,000
Fire Protection	Fire protection for entire county;	\$85,000
Department of Transportation	Bus services for schools, Head Start , clinic and bus services between village centers;	\$1,661,000
Utility Department	Provides water supply, wastewater disposal, and septic services; Electrical services for Middle Village;	\$1,259,000

3.7 Resource Use Patterns

3.7.1 Hunting, Fishing, Gathering

Some MITW members depend, at least in part, on subsistence hunting, fishing and gathering within the Reservation, particularly within the Menominee forest. Many more members find these activities culturally traditional. Fishing includes ceremonial harvest of lake sturgeon from the Wolf River, with annual community feasts. See EA Section 3.4.2.1 for more information on lake sturgeon. Members use areas located within the Menominee forest for gathering firewood, medicinal and cultural plants, pine boughs for sale, maple syrup, wild rice, birch bark and other useful resources. Some gathering is for subsistence and some is to generate supplemental income.

3.7.2 Timber Harvesting

The Menominee forest continues to produce high quality timber that has proven to be a valuable tribal trust asset intended by Congress to help support Menominee families. In the Menominee forest, there are approximately 220,000 acres delineated into more than 9,000 distinct timber stands. Because the forest is located on federal trust lands, MTE is required to have a FMP that is approved by the BIA, as designee for the Secretary, Department of Interior. Chapter 2 of the FMP 2027 describes the modern forestry objectives, strategies and management principles that MTE uses for forest management and harvesting from the forest. FMP 2027 is based on sustained yield practices and management, including harvest schedules that ensure forest health, diversity in species composition, stand structure and age distribution across the forest.

MTE generates approximately \$108 million (2006 dollars) annually from timber harvesting and added value industry. EA Section 3.6.2.2 explains that a 2008 Extension Service Report from the University of Wisconsin used an IMPLAN economic model to determine that MTE had a total 2006 economic output of just over \$96 million. The indirect and induced economic impacts add another \$12 million in economic output, bringing the 2006 total economic output for MTE operations to \$108 million.

Note that this is an estimate of total economic output, which is not limited to just MTE revenues from annual sales of products. To further explain, MTE employees and Forest Contractors receive income from MTE and small businesses generate revenues from the forest products industry. These small businesses and MTE generate revenues and then acquires goods and services for their activities. All of the businesses and employees receiving income or revenues then cause another round of purchasing of goods and services in the area for their needs. Economists use the IMPLAN model to measure how many times those same dollars are received and then spent again. It is not unusual for economists to be able to measure up to 6 iterations of revenues being earned and spent again and again. The total economic output from MTE estimated at \$108 is the sum total of all of these iterations of economic activity. Sections 3.6 and 4.6 of this EA summarize the socio-economic conditions and impacts to Tribal members that are tied to MTE timber harvesting.

3.7.3 Agriculture

There are no lands designated by Menominee County/Reservation as agriculture land use in the Menominee sustained yield forest areas. The county has designated less than 300 acres as agricultural land use and located outside the boundaries of the forest.

3.7.4 Mining

There is no mining on the Menominee Reservation, except for a number of gravel pits used occasionally for construction of roads, housing and community development. Some of the borrow pits are located in the Menominee forest.

3.7.5 Recreation

MITW and others operate seasonal recreational rafting businesses on the Wolf River within the Menominee Reservation. Rafters are attracted to the natural setting, excellent water quality and undeveloped visual qualities of the Wolf River. Chapter 12 of FMP 2027 describes goals and strategies

to protect the aesthetic quality of the forest for the enjoyment of the Tribal membership and for recreational users. The forest is enjoyed by some members for hiking and other recreation purposes.

Tribal members enjoy a number of recreational programs summarized in Section 3.6.5 Community Infrastructure that are partially funded by excess MTE profits.

3.7.6 Land Use Plans

MITW has designated large areas of the Menominee Reservation for sustained yield forestry practices. Within the designated sustained yield areas, the FMP 2027 is the land use plan with administration authority delegated to MTE.

3.8 Other Values

3.8.1 Wilderness; Wild and Scenic Rivers

3.8.1.1 Wilderness

There are no federally or tribally designated wilderness areas located on the Menominee Reservation so no further assessment of wilderness is needed.

3.8.1.2 Wolf River Wild and Scenic Federal Designation

Twenty-four miles of the Wolf River were federally designated on October 2, 1968 under the Wild and Scenic Rivers Act, 16 U.S.C. 271 et seq (WSRA). The designated section of the Wolf River is located within the Reservation from the Menominee-Langlade County line downstream to Keshena Falls, near Keshena, Wisconsin. The National Park Service, Midwest Regional Office in Omaha, NE is the managing agency with special expertise, as defined in NEPA regulations 40 CFR 1508.26, regarding the listing of the Wolf River under the WSRA.

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes. (Wild & Scenic Rivers Act, October 2, 1968).

The National Park Service indicates that rivers may be designated by Congress or, if certain requirements of the WSRA are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally administered rivers, the designated boundaries generally average one-quarter mile on either bank in order to protect river-related values.

3.8.1.3 Menominee Tribal Resolution for Lands near Wolf River

The MITW passed tribal resolution number 07-02 on March 5, 2007, that removed a one-quarter-mile strip of land on either bank of the Wolf River and compartment 223 from sustained yield forestry practices (Figure 1). A copy of the tribal resolution is included in Chapter 8 Consultation and Coordination. The purpose of this resolution was to protect cultural resources, which not the same reason for the federal designation of the Wolf River under WSRA. However, both the tribal resolution and compliance with the WSRA recognize a one-quarter mile buffer on each bank of the Wolf River for at least the length of the federal designation of the Wild and Scenic Wolf River.

3.8.2 Noise and Light

Lighting is limited to villages and in more rural locations by yard lights at residences, small business and tribal government facilities. Rural areas are quiet, punctuated by vehicles, forestry or earth moving equipment and recreational vehicles such as ATVs and snowmobiles. MTE's sawmill creates some industrial noise in Neopit village and logging trucks and other vehicles create vehicle noises and noise on paved highways.

3.8.3 Visual

Most of Menominee Reservation is undeveloped with visually pleasing and natural-appearing vegetation. Any disruption of the natural-appearing vegetation is apparent and can be considered by some to be visually unappealing. Recreational users, particularly on the Wolf River seek the naturally-appearing vegetation setting. The Wolf River is a designated Wild and Scenic river from the northern Reservation boundary south to Keshena Falls. The Wild and Scenic designation is primarily due to the attractive visual quality of the vegetation on the banks of the Wolf River. For cultural reasons, MITW tribal resolution 07-02 withdrew from designated sustained yield forestry practices all of Compartment 223 and a one-quarter-mile buffer on each bank of the Wolf River. (MITW, 2007) But the buffer corridor also simultaneously preserves the visual quality along the Wolf River and in compartment 223. Figure 1 is a map that depicts Compartment 223 and the Wolf River corridor.

Chapter 12 of FMP 2027 addresses visual quality management related to MTE's forestry activities. Chapter 12 acknowledges the benefits of visual quality management and specifies strategies to maintain visual quality depending on the visual sensitivity of the location. Various kinds of visual BMPs are used depending on sensitivity of a given location of forestry prescription.

3.8.4 Public Health and Safety

In FMP 2027, Chapter 7 – Fire Management Strategy addresses wild fire management as a public health and safety issue related to the Menominee forest products industry. Many Menominee residents live in wildland/urban interface locations where wild fire is a serious risk.

FMP 2027 Chapter 16 - Natural Disturbance and Emergency Support addresses human and natural landscape disturbances as public health and safety issues related to the Menominee forest. Disturbances can include tornados, straight line winds, snow storms, ice storms, extreme temperatures and floods. Menominee members live in population centers separated by substantial distances over roads and scattered along the secondary roads of the Reservation. Because of the distances involved and undeveloped nature of the forest, natural disturbances can isolate people from access to necessary resources, such as emergency services, food, medications, utilities and employment. Chapter 16 describes the incident command system (ICS) framework that would be used to respond to the disturbances and to help keep people, property and the environment safe. Chapter 16 summarizes the contact and response protocol, ICS goals and objectives, training and exercises, and duties of ICS and general staff.

3.8.5 Invasive Species

Invasive non-native species exist on the Menominee Reservation is listed on page 155 of FMP 2027. The MITW Environmental Department and Menominee County/Reservation Land Conservation Committee have developed an Invasive Species Management Plan (ISMP) for Non-sustained Yield Forestlands while MTE utilizes their Invasive Plans for Sustain Yield Forestlands. The areas of greatest risk for the introduction of invasive species are residential areas and along the more highly traveled roads. Chapter 14 of the FMP 2027 describes the problem and solutions including promoting public awareness, MITW ordinance that prohibits transportation of firewood onto the Reservation, treating pine stumps cut during the summer with Sporax or cellutreat, maintain cooperative partnerships with other authorities, explore funding sources and conducting periodic searches for specific species. When invasive species are found, MTE staff prepares species-specific treatments and prescriptions (i.e., Oak Wilt).

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

Comparative Assessment

This section compares the environmental consequences or impacts of the BIA's contemplated approval of FMP 2027 to the consequences of the BIA's potential selection of the No Action Alternative. The analysis presented in this section has been prepared according to CEQ's NEPA Regulations Section 1502.16. The purpose of Chapter 4 is to determine the significance of the projects' impacts in each resource category to help sharply define those issues that best help BIA determine which option to select. The first paragraph of 40 CFR 1502.14 further describes this process.

The BIA's approval of FMP 2027, the Preferred Alternative, would most directly contribute to the purpose and need for the proposal, summarized in Chapter 1, including continued employment for approximately 164 MTE employees at a median annual income of roughly \$30,000. Further, with the BIA approval of FMP 2027, MTE could continue attempting to increase employment with specialty market products. BIA approval of FMP 2027 would also result in MTE continuing to contract with about 25 Forest Contractors, primarily MITW member-owned logging companies. MTE would continue to have approximately \$118 million positive economic impact on Menominee County/Reservation and the region. MTE would continue to contribute excess profits to MITW for program services and community

infrastructure described in Section 3.6.5 and that also helps contribute to a modest standard of living for hundreds of Menominee families. The excess forestry revenues provided to MITW varies from approximately \$90,000 to \$370,000 per year, depending on availability of excess profits.

If BIA were to select the No Action Alternative, MTE could only conduct limited forestry operations to protect the forest as described in EA Section 2.2. However, normal timber sales would not be permitted and the timber for MTE's mills would be dramatically reduced. MTE would need to lay off a large portion of its current employees and logging contractors. Unemployment could increase by as much as 5 % in Menominee County/Reservation. The current regional economic benefits of approximately \$118 million would cease. MTE would have no profit to share with MITW to help pay for community programs and infrastructure. The most serious long term adverse effect would be that MTE could not manage the forest in a sustainable manner without BIA approval of FMP 2027. The health of the forest would slowly degrade over decades. The No Action Alternative would have significant adverse disproportionate environmental justice impacts on tribal members and low income people in Menominee County/Reservation, as summarized in Chapter 6.

Other than the substantial differences in socio-economic and environmental justice impacts, the two alternatives would have similar impacts to most of the other resource categories, assuming mitigation would be implemented as described for FMP 2027. See Table ES-1 in the Executive Summary for comparison of effects.

Determination of Significance

If a proposal has significant impacts that cannot be mitigated to below significance levels, then the BIA would need to prepare an environmental impact statement (EIS) to study the impacts found to be significant in further detail. The CEQ regulations for implementing NEPA (Section 1508.27) define significance of project impacts in terms of context and intensity. Context refers to society as a whole, the affected region or interests and the locality. The significance of effects varies depending on the setting of the proposed action. Intensity refers to the severity of the effect. For example, the Corps of Engineers might consider the impact more intense for filling an acre of wetland in Nevada, where wetlands are scarce, to filling an acre of wetland in Wisconsin, where wetlands are relatively abundant.

The following issues should be considered in evaluating intensity 40 CFR 1508.27(b):

- ☐ Effects may be both beneficial and adverse;
- ☐ The degree to which the proposal affects public health or safety effects;
- ☐ The degree to which the proposal impacts unique resource characteristics of the geographic area;
- ☐ The degree of controversy over environmental effects among jurisdictional or special expertise entities;
- ☐ Uncertainty and unknown risks of effects
- ☐ The degree to which the proposal may set a precedence
- ☐ Cumulative effects of the proposal and others;
- ☐ Effects on scientific, cultural or historic resources;
- ☐ Effects to endangered or threatened species or its critical habitat;

- Violation of federal, tribal, state or local environmental regulations or mandates;

4.1 Land Resources

4.1.1 Topography

Neither alternative significantly disturbs natural topography to the point where soil erosion BMPs could not control soil erosion. Each alternative could require revision of topography for specific prescriptions, although activity under the No Action Alternative would be severely limited to emergency and protective type actions. FMP 2027 requires or causes changes in topography for road construction and possibly other prescriptions, but also requires use of erosion control BMPs, particularly in areas of steeper topography.

4.1.2 Soils

4.1.2.1 Significance Criteria for Soils

One significance criteria for impacts to soils is related to sustainable soil productivity for forestry production. FMP 2027 Chapter 11 identifies potential impacts to sustainable soil productivity: compaction and rutting 11.3.2; Soil displacement 11.3.3; changes to soil chemistry 11.3.4 including nutrient cycling, nutrient status and removals, nutrient retention strategies.

Another criteria to determine the significance of impact from alternatives on soils is erosion of soils and deposition of soils as siltation in sensitive surface water resources including the Wolf River, other streams, wetlands and lakes.

4.1.2.2 Preferred Alternative – FMP 2027

BIA's approval of FMP 2027 would not likely have significant adverse impacts to soil productivity for forestry production or soil erosion, assuming implementation of mitigation described in FMP 2027. Soil erosion BMPs are included in each specific prescription for an operation. With BIA approval of FMP 2027, MTE would implement the forest soil productivity goals and strategies summarized in Chapter 11 of FMP 2027.

4.1.2.3 No Action Alternative

Without BIA approval of FMP 2027, MTE would not have authority to implement the forest soil productivity goals and strategies summarized in Chapter 11 of FMP 2027. MTE would be authorized to conduct limited forestry prescriptions listed in EA Section 2.2 and these would be conducted using best management practices (BMPs) to minimize soil erosion. Soil erosion BMPs are included in each specific prescription for an operation that could take place under the No Action Alternative.

4.1.3 Geologic Setting, Mineral and Paleontological Resources

BIA approval of FMP 2027 would not significantly prohibit access to necessary sand and gravel pits in the forest. Some construction of forest roads or stream crossings may require extraction of sand or gravel from these areas. Similarly, the No Action Alternative would not significantly prohibit access to these same sites. The limited actions authorized under the No Action Alternative could conceivably require minimal sand or gravel extraction from borrow areas in the forest.

4.2 Water Resources

4.2.1 Ground Water

The significance criteria for groundwater aquifers includes whether an alternative would result in contamination of groundwater or withdrawal of water to the point of unsustainable aquifer levels. Contaminated groundwater could enter drinking water wells or sensitive waters such as the Wolf River, wetlands or streams.

BIA approval of FMP 2027 would not have significant impacts to ground water, assuming implementation of mitigation described in FMP 2027. The MTE mill currently uses ground water for potable water, but FMP 2027 does not envision an increase in groundwater use. Logging and other motorized forestry equipment contain fuel, hydraulic fluids and other vehicular fluids that could be accidentally released from the vehicles during equipment failure and potentially contaminate groundwater over weeks or months. Diesel fuel is delivered to equipment using tanks mounted on vehicles rather than directly from stationary aboveground storage tanks (ASTs) to prevent the risk of tipping ASTs during operations that could potentially result in larger scale releases of fuel. Further, stationary ASTs are not adequately portable for transitory forestry operations. Equipment operators are required to have spill cleanup supplies and containers with them in the event of a release. Cleanup is required immediately to limit the risk of contaminants leaching into groundwater over weeks or months. Any residual or de minimus petroleum released to soil (i.e. chainsaw bar oil) is subject to natural bacterial action that would degrade the petroleum to non-hazardous substances to help reduce the risk that contamination could reach groundwater.

Similarly, the No Action Alternative includes authorization for limited forestry prescriptions that could involve use of motorized forestry equipment and vehicles. The same analysis for FMP 2027 applies to the No Action Alternative, except that the scale of risk of groundwater contamination is much reduced for the No Action Alternative.

4.2.2 Surface Water

The significance criteria for surface water includes whether an alternative would result in chemical or petroleum contamination of surface water, soil erosion and siltation to surface water or withdrawal of surface water to the point of unsustainable surface water levels. Sensitive surface water areas include wetlands, wild rice areas, lakes, streams, and the Wolf River because of the presence of lake sturgeon, cultural resources, and recreational uses.

The BIA approval of FMP 2027 would not have significant impacts to surface water assuming implementation of mitigation described in FMP 2027. The MTE mill currently uses surface water from the Neopit pond for sprinkling wood piles at the mill and for fire protection water source. FMP 2027 does not predict an increase in surface water use over current volumes. Logging and other motorized forestry equipment contain fuel, hydraulic fluids, coolant and other oils that could be accidentally released from the vehicles during equipment failure and potentially be transported by storm water to sensitive surface water. For mitigation of these risks, FMP 2027 includes buffer areas adjoining sensitive surface water and soil erosion BMPs that could function to help reduce the risk of transport of chemical

contaminants and soil erosion to surface waters. Further, Tribal Resolution 07-02 has essentially created a one-quarter mile buffer strip on both banks of the Wolf River that would help reduce the risk of storm water transport of sediment or contamination from areas of road construction, stream crossings or other active prescriptions. Equipment operators are required to have spill cleanup supplies and containers with them in the event of a spill. Cleanup is required immediately to limit the risk of contaminants being transported by storm water. Any residual or de minimus petroleum released to soil is subject to natural bacterial action that would degrade the petroleum to non-hazardous substances to help reduce the risk that contamination could reach sensitive surface water.

Similarly, the No Action Alternative includes authorization for limited forestry prescriptions that could involve use of motorized forestry equipment and vehicles near surface water. The same analysis for FMP 2027 applies to the No Action Alternative, except that the scale of risk of surface water contamination is much reduced for the No Action Alternative.

4.2.3 Water Quality

The significance criteria for water quality includes whether an alternative would cause chemical contamination of waters or soil erosion resulting in siltation to surface water. Potential water quality issues were addressed in Section 4.2.1. Neither alternative would result in significant impacts to water quality, assuming BMPs are used properly.

4.3 Air

4.3.1 Criteria Pollutants

Both alternatives would be in compliance with the Clean Air Act and neither would significantly increase concentrations of EPA's six criteria pollutants to the point of exceeding National Ambient Air Quality Standards (NAAQS). FMP 2027 would involve a continued operation of the Menominee forest products industry with some growth in employment possible. But a dramatic increase in operations is not likely. So, dramatic increases in emissions due to BIA approval of FMP 2027 are unlikely for particulate matter (dust) and the other criteria pollutants.

4.3.2 Greenhouse Gases and Global Climate Change

4.3.2.1 Significance Criteria

The criteria used to determine the significance of impacts of the alternatives to public health and safety is whether either alternative threatens non-compliance with the President's Council on Environmental Quality (CEQ) memorandum on consideration of effects of climate change and greenhouse gas (GHG) emissions. This relates to the CEQ's NEPA intensity criteria that includes the degree to which the alternatives affects public health and safety described at 40 CFR 1508.27(b)(2); or whether the alternatives threaten violation of environmental mandates described at 40 CFR 1508.27(b)(10).

4.3.2.2 Preferred Alternative – FMP 2027

The BIA approval of FMP 2027 would have no significant impacts with regard to greenhouse gas (GHG) emissions or global climate change. CEQ issued a memorandum, dated February 18, 2010, for heads of federal departments and agencies on the subject of the Draft NEPA Guidance on Consideration of the

Effects of Climate Change and Greenhouse Gas Emissions. CEQ's intent is to provide assessment guidance for federal decision makers that are proposing actions that would be reasonably anticipated to cause direct emissions 25,000 metric tons or more of CO₂-equivalent GHG emissions on an annual basis. The CEQ guidance refers to "applicability tools" available at a USEPA website. The tool helps determine whether a particular facility exceeds the emissions threshold and therefore the facility would need to annually report GHG emissions to USEPA.

The tool categorizes GHG sources by industry. The MTE mill, part of the FLP 2027, is categorized as a stationary fuel combustion source. The tool indicates that GHG emissions from emergency generators, emergency equipment, portable equipment and flares should not be included. The mill burns only wood chips and the tool addresses only coal, fuel oil or natural gas. The tool indicates that coal produces the most GHG of the three fuel sources that the tool considers. So this GHG assessment assumes that the mill burns coal. Then because the mill has maximum rated heat input capacity for all stationary fuel combustion units of less than 30 million British thermal units (Btu) per hour (the size of a small coal-fired power plant), the Preferred Alternative is assumed to not exceed the 25,000 metric ton threshold which would result in the need for reporting to USEPA of GHG emissions. Also, vegetation in the forest take up CO₂ and related GHGs from the atmosphere during photosynthesis resulting in a net carbon sink.

4.3.2.3 No Action Alternative

The No Action Alternative would have no significant GHG impacts. The No Action Alternative would also not involve stationary fuel combustion units of a capacity exceeding 30 million British thermal units (Btu) per hour, so is assumed to not exceed the 25,000 metric ton threshold of GHGs released to trigger reporting to USEPA.

4.4 Living Resources

4.4.1 Threatened and Endangered Species

4.4.1.1 Significance Criteria

The criterion used to determine the significance of impacts of the alternatives to federally designated threatened or endangered species is whether either alternative threatens to violate the Endangered Species Act, 16 U.S.C. 1531 et seq (ESA). Section 7 of ESA describes the compliance requirement for the BIA, as described in EA Section 3.4.1.2. This relates to the CEQ's intensity criteria regarding the degree to which the alternatives may adversely affect an endangered or threatened species or its habitat which has been determined to be critical under ESA further described at 40 CFR 1508.27(b)(9); or whether the alternatives threaten violation of environmental mandates further described at 40 CFR 1508.27(b)(10).

4.4.1.1 Preferred Alternative – FMP 2027

The Preferred Alternative – FMP 2027 would not have significant effects on the Karner blue butterflies (KBB) (*Lycaeides melissa samuelis*) or its critical habitat, wild blue lupine. The BIA conducted Section 7 consultation with the USFWS Green Bay Field Office. BIA has determined that its approval of the FMP 2027 and MTE's implementation of FMP 2027 would have "No Effect" on the KBB or its critical habitat. The BIA's Section 7 consultation correspondence with the USFWS is contained in Chapter 8 - Consultation and Coordination.

The initial step of the BIA's Section 7 consultation was to obtain a list of threatened or endangered species from the USFWS Midwest Region's *Wisconsin County Distribution of Federally Listed Endangered, Threatened, proposed and Candidate Species*. For Menominee County/Reservation, the list includes only the KBB and wild blue lupine as the sole food source for KBB caterpillars. The biology staff of the Menominee Conservation Fish and Wildlife Department indicated that KBB have been observed on three acres of wild blue lupine habitat in a power line right-of-way located in the southeastern portion of the Menominee Reservation. Conservation and MTE staff has inventoried wild blue lupine in habitats suitable for lupine. Because MTE uses BMPs to protect lupine areas located in the forest, BIA has determined that its approval of the FMP 2027 and MTE activities using FMP 2027 would have "No Effect" on the KBB or its critical habitat.

4.4.1.2 No Action Alternative

The No Action Alternative would also have "No Effect" on the Karner blue butterfly or its critical habitat. The No Action Alternative does not include the BIA approval of FMP 2027, but does include some limited forest protection prescriptions summarized in EA Section 2.2. The limited prescriptions under No Action would occur within the forest where MTE would use BMPs to avoid adverse impacts to KBBs and lupine.

4.4.2 Wildlife

4.4.2.1 Bald and Golden Eagle Protection Act

The criteria used to determine the significance of impacts of the alternatives to bald and golden eagles is whether either alternative threatens to violate the Bald and Golden Eagle Protection Act, 16 U.S.C. 668-668(c), enacted in 1940, and amended several times. This relates to the CEQ's intensity criteria regarding whether the alternatives threaten to violate environmental mandates described in CEQ's NEPA regulations in 40 CFR 1508.27(b)(10). The Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

The BIA approval of FMP 2027 would not have significant impacts to bald eagles, assuming MTE use of BMPs that might include nest buffer zones and timing activities near nests to non-nesting months.

Bald eagle nesting dates vary, but generally egg-laying begins at the end February in the Midwest. Eaglets make their first unsteady flights about 10 to 12 weeks after hatching, and fledge (leave their nests) within a few days after that first flight. The time between egg-laying and fledging is approximately four months. However, young birds usually remain near the nest for several weeks after fledging because they are almost completely dependent on their parents for food until they disperse from the nesting territory approximately 6 weeks later. The entire breeding cycle, from initial activity at a nest through the period of fledgling dependency, is about 6 months, from February into August.

The USFWS recommends mitigation to avoid disturbing nesting and fledgling dependant bald eagles that includes (1) maintain natural forested (or vegetative) and visual buffers around nest trees, and (2) avoid certain activities during the nesting and fledgling season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. For human entry on foot near an

eagle nest during the breeding season, and the activity is visible or can be heard from the nest stay at least 330 feet (100 meters) from the nest. None of these activities near a nest, would disturb the eagles if the activity cannot be seen or heard from the nest. For forestry vehicles and motorized equipment, including snowmobiles, stay at least 330 feet (100 meters) from the nest. In open areas, where there is increased visibility and exposure to noise, stay at least 660 feet (200 meters) from the nest. (USFWS Midwest Region)

Using the environmental checklist, proposed forestry treatments are evaluated to determine if a given forestry treatment might affect Bald eagles. In most cases, a treatment can be mitigated or modified, or timed, to minimize or eliminate adverse effects on these species. If a proposed forestry treatment cannot be modified to minimize an adverse effect on Bald eagles, individual environmental assessments may be required for prescriptions near Bald eagle nests.

The No Action Alternative would not have significant impacts to Bald eagles, assuming use of mitigation including nest buffer zones or timing activities near nests to non-nesting months. The No Action Alternative could include emergency sale of timber on allotted lands held in trust; free-use cutting without a permit; fire management measures; trespass protection and prosecution; or insect and disease control. So the same mitigation measures are assumed for the No Action Alternative as for the Preferred Alternative.

4.4.2.2 Lake Sturgeon

The criteria for determining whether the alternatives have significant impacts to lake sturgeon is if the alternatives would substantially increase siltation on sturgeon spawning beds in the Wolf River downstream from Keshena Falls.

The BIA approval of FMP 2027 would not have significant impacts to lake sturgeon spawning beds, assuming implementation of mitigation described in FMP 2027. For mitigation of these risks, FMP 2027 includes buffer areas adjoining the Wolf River and soil erosion BMPs in tributary watersheds that could function to help reduce the risk of transport of soil erosion that could potentially cause siltation on sturgeon spawning beds. Further, MITW Tribal Resolution 07-02 has essentially created a one-quarter mile buffer strip on both banks of the Wolf River that prohibits logging which may reduce the risk of storm water transport of sediment from roads and stream crossings.

Similarly, the No Action Alternative includes authorization for limited forestry prescriptions that could potentially cause soil transport to the Wolf River. The same analysis for FMP 2027 applies to the No Action Alternative, except that the scale of risk of soil erosion transport to the Wolf River is much reduced compared to the Preferred Alternative.

4.4.3 Vegetation

The BIA approval of FMP 2027 would not have a significant effect on vegetation in the Menominee forest. FMP 2027 envisions continuing the sustained-yield forestry practices, but includes some changes in vegetation management from past forestry practices. For example FMP 2027 envisions a long-term shift from large areas of single species pine trees to a more diverse tree inventory. The forest will

continue to be managed as a working forest and support diverse communities of native trees and plants that have existed for millennia. MTE has staff that manage the introduction, spread and damage caused by invasive species through the use of integrated pest management principles. The No Action Alternative may result in little change to the forest vegetation, except that MTE would not be able to combat invasive species.

4.4.4 Agriculture

Neither alternative would have significant impacts on agriculture because there are no lands located in the Menominee forest that are designated agricultural land use.

4.4.4.1 Livestock

The BIA approval of FMP 2027 would not have a significant impact on livestock because according to a NRCS National Resource Inventory updated in 2000, there was no substantial land use for pasture land in Menominee County/Reservation (Menominee County Land Conservation Department, 2010).

4.4.4.2 Crops

The BIA approval of FMP 2027 would not have a significant impact on crops because according to a NRCS National Resource Inventory updated in 2000, there was no substantial land use for crop land in Menominee County/Reservation (Menominee County Land Conservation Department, 2010).

4.4.4.3 Prime and Unique Farmland

FMP 2027 would have no significant impacts to prime or unique farmland because the FMP 2027 includes no indication of the presence of prime or unique farmland soils in the designated sustained yield forest areas. Further, none of the sustained yield areas are currently used as farmland, so the FMP 2027 does not include removal of prime farmland from farming use.

4.4.5 Ecosystems and Biological Communities

The BIA approval of FMP 2027 would have no significant impact on ecosystems and biological communities. The forest would remain as forest and managed using sustained yield forestry practices. Much of the value of the ecosystems relates to wetlands and riparian areas that would be buffered from forestry prescriptions.

4.5 Cultural Resources

4.5.1 Historic, Cultural, Religious Properties

The Preferred Alternative – FMP 2027 and the No Action Alternative would not have significant impacts to listed historic properties or properties eligible for listing on the National Register. The criterion for determination of no significance of impact is the compliance with Section 106 of NHPA for each and every forestry prescription proposed by MTE between now and 2027. The area of proposed forestry prescriptions through 2027 is so extensive and complex that the BIA and the THPO cannot accomplish all the field work and reports by these principal investigators that are required for Section 106 compliance in time for the EA. Alternately, the BIA intends to conduct Section 106 consultation with the THPO, as needed each year until 2027, as MTE proposes individual location-specific forestry prescriptions. As in 2013, the BIA Regional Archeologist and forestry environmental coordinator would conduct site specific

Section 106 consultation with the THPO for each prescription proposed by MTE. The Section 106 consultation and compliance would be documented with correspondence attached to the BIA's Categorical Exclusion Exception Review (CEER) checklist document that would be signed by the Regional Archeologist and Regional Director before the BIA would approve specific MTE forestry prescriptions. The BIA conducted 43 of these consultations and CEER procedures in 2013.

If the THPO and the BIA determine that field reconnaissance is required for a specific site for a forestry prescription, the field work would be completed approximately 18 months to two years before MTE has scheduled implementation of that prescription so that the PI could prepare the report for the THPO's review and concurrence before the prescription would be implemented. If the site reconnaissance and report determine that adverse effects might be possible to historic properties, then mitigation would be agreed upon to avoid or otherwise protect the historic property.

4.5.2 Archeological Resources

Neither the BIA approval of FMP 2027 nor the No Action Alternative would have significant impacts to archeological resources that are listed or eligible for the National Register, assuming necessary BIA compliance with Section 106 for each prescription and implementation of mitigation described in FMP 2027. The analysis of impacts to archeological resources is identical to the analysis in EA Section 4.5.1 Historic, Cultural, and Religious Properties.

4.6 Socio-economic Conditions

4.6.1 Employment, Income and Poverty

4.6.1.1 Significance Criteria

The criterion for determining whether an alternative's impact to employment, income and poverty is significant is whether that alternative would increase unemployment rates in Menominee County/Reservation by more than one percent.

4.6.1.2 Preferred Alternative – FMP 2027

The BIA's approval of FMP 2027, the Preferred Alternative, would most directly contribute to the purpose and need for the proposal, summarized in Chapter 1, including continued employment for approximately 161 MTE employees at a median annual income of roughly \$30,000. Further, with BIA approval of FMP 2027, MTE could continue to explore increasing employment with specialty market products. BIA approval of FMP 2027 would also result in MTE continuing to contract with about 100 Forest Contractors, primarily tribal member-owned logging companies.

4.6.1.3 No Action Alternative

The No Action Alternative would result in significant adverse impacts to the purpose and need for this proposal for employment and income, as summarized in EA Chapter 1. Unemployment rates could increase by as much as 5 percent in Menominee County/Reservation. Unemployment rates would increase if BIA were to select the No Action Alternative because MTE could only conduct limited forestry prescriptions as described in EA Section 2.2. No normal timber sales would be authorized, so the stream of forestry revenues for MTE's operations would be dramatically reduced. MTE would need to

furlough a large portion of its current 161 employees and approximately 25 Forest Contractors along with 160 woods workers. MTE employees would lose approximately \$30,000 annually of median income plus benefits. This equates to annual worker income lost on the order of \$4.8 million.

4.6.2 Fiscal Effects to Menominee Tribe and Region

4.6.2.1 Significance Criteria

The criteria for determining whether an alternative's fiscal effects are significant to the MITW and the Region is whether that alternative would maintain current income levels for Menominee families, a priority component of the purpose and need for this proposal as described in detail in Section 3.6.5.

4.6.2.2 Preferred Alternative – FMP 2027

The BIA approval of FMP 2027 would have substantial beneficial fiscal effects to Menominee Tribe and the region. With BIA approval of FMP 2027, MTE would continue to have approximately \$118 million of positive economic impact in Menominee County/Reservation and the region. MTE would contribute profits to MITW for program services and community infrastructure described in Section 3.6.5 and also contribute to at least a modest standard of living for hundreds of Menominee families, a priority component of the purpose and need for this proposal. MTE's profits provided to MITW has typically varied in the range of approximately \$90,000 to \$370,000 per year, depending on availability of excess profits.

4.6.2.3 No Action Alternative

The No Action Alternative would result in significant adverse impacts to the purpose and need for this proposal for fiscal effects to the Menominee Tribe's programs and service, as summarized in Chapter 1. With the No Action Alternative, the current regional economic benefits to Menominee County/Reservation and the region of approximately \$118 million would cease. Because revenues would cease from the sale of forest products, MTE would have no profits to share with MITW to help pay for community programs and infrastructure, described in EA Section 3.6.5.

4.6.3 Demographic Trends

The BIA approval of FMP 2027 may have a less than significant effect on demographic trends related Tribal members living off-reservation that might explore the possibility of returning to live on the Reservation and work for MTE. The potential significance level for members returning to the Reservation would be that so many members would want to return that there would be inadequate capacity for them for housing, infrastructure and tribal services.

The No Action Alternative may have an effect to inhibit Tribal members living off-reservation to return to live on the Reservation because of increased unemployment in Menominee County/Reservation. There may also be emigration of members because of fewer jobs available on the Reservation.

4.6.4 Lifestyle and Cultural Values

4.6.4.1 Significance Criteria

The criteria for significance of impact to lifestyle and cultural values are related to the culturally appropriate Tribal programs and services described in Section 3.6.5. These programs reflect Menominee

values of honoring elders, veterans and families raising children. Also, the criteria for significance of impact relate to culturally important activities including traditional harvest and feast of lake sturgeon from the Wolf River and traditional hunting, fishing and gathering in the forest.

4.6.4.2 Preferred Alternative – FPM 2027

The BIA approval of FMP 2027 would not have significant adverse effects to Menominee lifestyle and cultural values, assuming MTE implements mitigation summarized in the FMP 2027. With BIA approval of FMP 2027, MTE would continue to contribute profits to MITW for program services and community infrastructure described in Section 3.6.5 Community Infrastructure. Mitigation to control soil erosion and siltation in the Wolf River would help minimize adverse impacts to traditional harvest and feast of lake sturgeon. FMP 2027 would facilitate continued traditional hunting, fishing and gathering in the forest.

4.6.4.3 No Action Alternative

The No Action Alternative would have substantial adverse effect on that portion of the lifestyle and cultural values related to the Tribal programs and services summarized in EA Section 3.6.5 Community Infrastructure. With the No Action Alternative, MTE revenues would cease from the sale of forest products so MTE would have no profits to share with MITW to help pay for community programs and infrastructure. The No Action Alternative would have no impact on culturally important activities including traditional harvest and feast of lake sturgeon from the Wolf River and hunting, fishing and gathering in the forest. But with reduced job availability in the forest, members might resort to other land uses of the forest such as housing, commercial or agricultural land use which would adversely impact lifestyle and cultural values.

4.6.5 Community Infrastructure, Public Services and Utilities

4.6.5.1 Significance Criteria

The criteria for significance of impact to community infrastructure, public services and utilities are related to the culturally appropriate MITW programs and services described in Section 3.6.5.

4.6.5.2 Preferred Alternative

BIA approval of FMP 2027 would have beneficial effects to the MITW's community infrastructure, public services and utilities. With BIA approval of FMP 2027, MTE would continue to contribute profits to MITW for program services and community infrastructure described in Section 3.6.5 and that also helps contribute to a modest standard of living for hundreds of Menominee families, a priority component of the purpose and need for this proposal. MTE's excess forestry revenues provided to MITW has typically varied in the range of approximately \$90,000 to \$370,000 per year, depending on profits.

4.6.5.3 No Action Alternative

The No Action Alternative would have adverse effect to Tribal community infrastructure, public services and utilities summarized in Section 3.6.5. With the No Action Alternative, MTE revenues would cease from sale of forest products so MTE would have no profits to share with MITW to help pay for community programs and infrastructure.

4.7 Resource Use Patterns

4.7.1 Hunting, Fishing, Gathering

BIA's approval of FMP 2027 and the No Action Alternative would have no significant impact to access to traditional hunting, fishing and gathering, assuming the MTE implements soil erosion BMPs as summarized in the FMP 2027. BMPs to control soil erosion transport to surface waters would help protect fishing in the Wolf River and other water bodies. Stopping logging may reduce the deer herd and other animals by reducing total area of early successional habitat created during stand rotations.

4.7.2 Timber Harvesting

BIA's approval of FMP 2027 would authorize MTE's continued harvesting of timber, but with updated goals, strategies and adaptability to changes in research and technology. FMP 2027 uses the latest sustainable forestry concepts intended to maintain forest growth, health and productivity, strategic and tactical planning, establish optimal harvest schedules, prepare for and administer harvests and manage fire risk. Sustainability is intended to result in a consistent volume logged each year which would help planning and marketing of products. Using sustainability concepts is also intended to help diversify tree species in stands to improve stand resiliency to disturbances, insects and disease. In short, it is intended that FMP 2027 will result in improved forest management and the mill would continue to represent roughly 14 % of the timber milling capacity in northern Wisconsin. Continuation of timber harvesting, but using improved technology and silviculture practices would result in a substantial beneficial impact to the Menominee members with regard to the purpose and need for the proposal as explained in Chapter 1.

The No Action Alternative would result in loss of MTE's authority to harvest timber except for emergency sale of timber on allotted lands held in trust following regulations at 25 CFR 163.14(b). Nearly all of the potential socio-economic benefits of harvesting timber as a trust resource would be lost. This would be a significant adverse impact to the Menominee members with regard to the purpose and need for the proposal.

4.7.3 Agriculture

BIA approval of FMP 2027 and the No Action Alternative would have no significant impact to agriculture on the Reservation because the agricultural areas are not located within sustained yield forestland.

4.7.4 Mining

BIA approval of FMP 2027 and the No Action Alternative would have no significant impact to mining or access to minerals on the Reservation.

4.7.5 Recreation

BIA approval of FMP 2027 would have no significant impact on recreational rafting in the Wolf River assuming MTE implements BMPs to control transport of soil erosion to the Wolf River. Siltation in the Wolf River would diminish the recreational experience and the value of the Wild and Scenic portion. The No Action Alternative would have little or no effect on recreational rafting. The corridor buffer strip would also help prevent impacts from either alternative.

4.7.6 Land Use Plans

With BIA approval of FMP 2027, MTE would be authorized to implement FMP 2027, which is the land use plan for the Menominee sustained yield forestland. With the No Action Alternative, MTE would not have authority to implement FMP 2027.

4.8 Other Values

4.8.1 Wild and Scenic Rivers

4.8.1.1 Significance Criteria

The criteria used to determine the significance of impacts of the alternatives to federally designated wild and scenic rivers is whether either alternative threatens to violate the Wild and Scenic Rivers Act, 16 U.S.C. 271 et seq (WSRA) with regard to the federally designated reach of the Wolf River. This relates to the CEQ's intensity criteria regarding actions that threaten to violate environmental mandates described at 40 CFR 1508.27(b)(10).

4.8.1.2 Preferred Alternative – FMP 2027

BIA has determined that neither the No Action Alternative nor the Preferred would result in significant impacts to the federally designated reach of the Wolf River on the Menominee Reservation.

BIA contacted the National Park Service (NPS), the entity with special expertise regarding the federal listing of the Wolf River under the WSRA. BIA contacted the NPS by telephone to seek their assistance in the determination of significance of impact and sent the environmental assessment to the NPS in Omaha, Nebraska. Based on the MITW's tribal resolution that designates a one-quarter mile zone on each river bank, NPS staff determined that there should be no issues under the WSRA specifically regarding the FMP 2027. A copy of the email memorandum and tribal resolution are included in Chapter 8 Consultation and Coordination.

As discussed in Section 3.8.1.3, the MITW has a tribal resolution that would simultaneously conserve the same quarter-mile area on either bank of the Wolf River as does the WSRA. The MITW tribal resolution also removes Reservation lands from the tribe's sustained yield forestry designation in compartment 223. The tribe's designation of these lands to non-sustained yield is for cultural purposes, which is not the same objective for the federal designation of the Wolf River under WSRA.

4.8.1.3 No Action Alternative

The No Action Alternative would also have no significant impacts to wild and scenic river designation on the Wolf River. The No Action Alternative also includes no action within one-quarter mile of each bank of the Wolf River because of the MITW's resolution removing those areas from sustained yield forestry practices. See the resolution in Section 8 Consultation and Coordination. Some silviculture prescriptions may be necessary in the corridor to control pests and maintain forest health.

4.8.2 Noise and Light

BIA approval of FMP 2027 would not significantly increase noise or light issues compared to existing conditions. The No Action Alternative would likely reduce noise and light problems.

4.8.3 Visual

BIA approval of FMP 2027 would not have significant impacts on visual qualities because of the Wolf River corridor and because MTE implements sound forestry practices that enhance the aesthetics of the forest, except for a short period after a harvest while the slash decays. MTE would implement the same buffering mitigation for the limited forestry activities permitted with the No Action Alternative.

4.8.4 Public Health and Safety

If BIA would approve FMP 2027, then MTE would have an ICS structure to respond to wildfire and natural disturbances such as tornados, straight line winds, snow storms, ice storms, extreme temperature and floods. Further, MTE would have revenues to help fund emergency preparedness planning and operations which would help minimize the risk of public health and safety issues.

With the No Action Alternative, MTE would have no revenue for emergency preparedness and response in the forest which could be a significant effect to public health and safety.

3.8.5 Invasive Species

With prevention, neither alternative will significantly increase the risk of introduction of non-native invasive species to the Reservation. The Preferred Alternative can introduce and transport invasive weeds. The No Action Alternative would restrict MTE's ability to maintain forest health and reduce the spread of invasive pests.

CHAPTER 5 - MITIGATION

The FMP 2027 includes descriptions of many different kinds of mitigation for various impacts. So FMP 2027 is hereby incorporated into this EA by reference and contains the most detailed descriptions of mitigation (MTE, 2012). The following is a mitigation summary for the Preferred Alternative, BIA approval of FMP 2027.

Endangered Species: Section 3.4.2 Endangered Species in FMP 2027 indicates that the Menominee Conservation Department and MTE are responsible to conduct surveys for the presence of the Karner blue butterfly (KBB) and the host plant wild blue lupine which the Fish and Wildlife Service has designated as critical habitat for KBB. Wild blue lupine and KBB exist within the Reservation in limited locations (Figures 3 and 4). Lupine has been mapped in the forest and best management practices are in place to protect lupine and the KBB.

Bald Eagle Nests: The USFWS's website contains information that recommends mitigation to avoid disturbing nesting and fledgling dependent bald eagles that includes (1) maintain natural forested (or vegetative) and visual buffers around nest trees, and (2) avoid certain activities during the nesting and fledgling season (February to mid-August). The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. For human entry on foot near an eagle nest during the breeding season, and the activity is visible or can be heard from the nest, stay at least 330 feet (100 meters) from the nest. None of these activities near a nest would disturb the eagles if the

activity cannot be seen or heard from the nest. For forestry vehicles and motorized equipment, including snowmobiles, stay at least 330 feet (100 meters) from the nest. In open areas, where there is increased visibility and exposure to noise, stay at least 660 feet (200 meters) from the nest (USFWS Midwest Region).

Wild and Scenic River; Visual Quality; Soil Erosion: MITW Tribal Resolution 07-02 requested that the BIA withdraw compartment 223 and one-quarter mile wide strips on each bank of the Wolf River from sustained yield forestry activity (Figure 1). The NPS finds that the quarter-mile buffer strip on each bank of the Wolf River is compatible and protective of the Wild and Scenic River portion of the Wolf River. Recreational users on the Wolf River would enjoy the visual quality of the corridor along the Wolf River. The Wolf River corridor is also a BMP to reduce the risk of soil being transported to the Wolf River and deposited as siltation.

Multiple Uses of Forest Lands: Chapter 3 of FMP 2027 is called Multiple Use Resource Management. This section indicates that treaties have reduced MITW land from 10 million acres during ancestral times to about 235,000 acres now. During that time, membership has increased, so there is increasing pressure on forestlands for hunting, fishing and gathering; recreation and other purposes. The Menominee governing body has extended limited hunting and fishing privileges to Menominee descendants. Non-member access is limited to Tribal work-related activity. Chapter 3 explains measures taken to ensure silviculture prescriptions maintain healthy fish, wildlife and vegetation.

Public Health & Safety During Wildfire and Natural Disasters: Chapter 7 of FMP 2027 is called Fire Management Program. Controlled burns are a useful tool to help reduce hazardous levels of fuels, among other purposes. Fires can also begin as the result of uncontrolled circumstances, such as lightning or arson. The FMP 2027 contains guidelines for preparedness, pre-suppression and suppression of wildfires. Chapter 16 of FMP 2027 is entitled Natural Disturbance and Emergency Support. This chapter summarizes a framework for the Incident Command System (ICS) and risks to public health and safety such as tornado, straight line winds, snow and ice storms, extreme temperatures and floods. One key issue during many natural disasters is debris, including fallen trees, or water that cuts off road access of members from necessary services and supplies. Chapter 16 sets priorities, objectives, response protocol and staff duties during emergency response to help protect public health and safety.

Wildlife Habitat: Chapter 9 of FMP 2027 covers Wildlife Habitat. This chapter identifies mitigation for protection of habitat during silviculture prescriptions to protect endangered species, snag trees for birds; mast production for deer, winter songbirds and other animals; and wetlands, seasonal ponds and other riparian areas. Table 9.3 provides examples of tree species for mast production and examples of species that use each kind of mast. Table 9.2 provides examples of wildlife use of various species of conifers. Section 9.8 explains mitigation to protect riparian areas and why these areas are important as wildlife habitat. Lake sturgeon are an important species for MITW members for cultural reasons and the fish are present in the Wolf River up to Keshena Falls. One key issue for maintaining lake sturgeon populations is to prevent siltation of the spawning beds near Keshena Falls. So MTE uses BMPs, such as

buffer strips, to control soil erosion that could lead to siltation in the Wolf River. Figure 1 shows the Wolf River corridor established by the MITW Legislature which includes a one-quarter mile buffer strip on each bank of the Wolf River.

Riparian Areas: Chapter 10 of BMP 2027 is Riparian Areas. Riparian areas are transitions from terrestrial to aquatic ecosystems. Mitigation is described for issues including sediment, overabundance of decomposing organic debris, invasive plants, chemicals, changes in water temperature and stream flow. The primary mitigation feature is a buffer strip around riparian areas.

Forest Soil Productivity: Chapter 11 of FMP 2027 is covers forest soil productivity. Issues include soil erosion due to soil variability and harvesting activity; compaction and rutting by equipment. Mitigation includes soil erosion BMPs and avoiding soil compaction.

Forest Roads Construction and Maintenance: Chapter 13 of FMP 2027 describes the process for constructing and maintaining forest roads and stream crossings needed for access for forest road construction and maintenance. Categories of mitigation mentioned in Chapter 13 include identifying erosion potential, soil compaction, environmentally and culturally sensitive resources, visual quality and spread of invasive species.

Invasive Species: Chapter 14 of FMP 2027 describes a cooperative approach among MTE, Menominee County and the MITW Environmental Services Department. Mitigation features include promoting public awareness and education regarding the risk of spreading invasive species, prevention and early detection and control using integrated pest management. Chapter 14 also describes monitoring and management controls and the partners and MTE personnel involved in implementing pest management.

CHAPTER 6 – ENVIRONMENTAL JUSTICE

6.1 Significance Criteria

According to the CEQ's Environmental Justice Guidance under NEPA, low-income populations in a project impacted area should be identified with the poverty thresholds from the Census Bureau. Additionally, minorities are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic Origin; or Hispanic. Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

For the purposes of this analysis, potential environmental justice impacts were considered significant if an alternative would:

- ☐ Cause disproportionately high and adverse human health or environmental effects to a minority and/or low-income group; or

- Prevent or inhibit a minority population from improving its status or ameliorating existing disproportionate effects.

6.2 Comparative Impact Assessment

The CEQ calls for this comparative assessment in the NEPA regulations in 40 CFR 1502.14, first paragraph. It is critical for the reader to recognize that this comparative assessment of environmental justice impacts plus the socioeconomic assessment in Section 4.6 most sharply define the issues to support BIA's contemplated decision whether to approve the FMP 2027. Of all the resource categories assessed in the EA, the socioeconomic and environmental justice assessments most directly address the purpose and need for the proposal as described in Chapter 1, being employment and income for MITW members supported by proper MTE forest management.

The Preferred Alternative has the greatest beneficial effect; while the No Action Alternative has significant adverse disproportionate impacts because of lost opportunities to improve employment, income and tribal services conditions for MITW members and other low income or minority populations, as follows:

The Preferred Alternative generates the greatest number of forestry jobs and forest contractor-owned businesses that are intended to provide a steady income to low income or minority individuals. The Preferred Alternative generates the greatest profits for the MITW to use fund a greater variety and depth of kinds of government services, as described in Section 4.6.4.

The No Action Alternative has the greatest significant adverse disproportionate effect of the options because of the lost opportunity to provide profits to support community infrastructure and serve low income and minority MITW members.

6.3 U.S. Census Data – Menominee County/Reservation

To determine if FMP 2027 is likely to have disproportionately high and adverse effects, Menominee County/Reservation was selected for obtaining the appropriate geographic boundary for U.S. Census data. That is because Menominee County and the Menominee Reservation have approximately the same boundaries, and all necessary socioeconomic data were available at this geographic scale.

The tribal population on the Menominee Reservation is considered an environmental justice population. The American Indian population is 85.1 % of the county population, while the same minority group only accounts for 1.1 % of the State of Wisconsin population. Additionally, the median household income in Menominee County/Reservation is lower, the poverty rate is higher, and the percent of the labor force that is unemployed is higher than the State of Wisconsin as a whole.

Category	Menominee County/Reservation	State of Wisconsin
American Indian & Alaska Native Population 2012	85.1%	1.1%
Median household income 2007-2011	\$32,017	\$52,374
Persons below poverty level 2007-2011	29.8%	12%
Unemployment 2010	7.5%	4.9%

Source: U.S. Census Bureau 2010

6.4 Preferred Alternative - FMP 2027

FMP 2027 would have substantial beneficial impacts disproportionately experienced by minority and low income people who are primarily MITW members living in Menominee County/Reservation. MTE provides jobs for 161 employees in a range of skills from manufacturing to professional. The mean wage of an MTE employee is \$14.50 per hour or roughly \$30,000 per year. MTE employees also have full health and dental benefits. The 25 Forest Contractors include approximately 160 workers. The existence and profitability these small logging businesses also depend upon MTE and FMP 2027 for availability of harvest units. With BIA approval of FMP 2027, MTE could also provide a portion of profits to the MITW to help continue to fund the community infrastructure and services described in Section 3.6.5.

6.5 No Action Alternative

The No Action Alternative would have significant disproportionate adverse environmental justice impacts to low income and minority people, primarily MITW members living in Menominee County/Reservation. The disproportionate adverse impacts are because the No Action Alternative would generate none of the beneficial effects that would be generated by the Preferred Alternative and the essential needs of the MITW as described in Chapter 1. The No Action Alternative would result in at least 161 MITW members losing their jobs with MTE in the forest products industry plus 25 Forest Contractors would lose their small businesses and their 160 employees would become unemployed. This would increase unemployment in Menominee County/Reservation by an additional 5.2 percentage points to a total unemployment rate of 13.7 percent. Without BIA approval of FMP 2027, MTE would have no profits to provide to MITW to help continue to fund the community infrastructure and services described in Section 3.6.5. The disproportionate adverse effects would also be felt by employees' families and communities.

CHAPTER 7 – CONSULTATION AND COORDINATION

7.1 Preparers of Environmental Assessment

William Kurtz
DOI, Bureau of Indian Affairs Midwest
Archaeologist /Forestry NEPA Coordinator

Tim Guyah
DOI, Bureau of Indian Affairs Midwest
Archaeologist

Marshal Pecore
MTE
Forest Manager

Joan Delabreau
MTE
Forest Resource Administrator

Paul Crocker
MTE
GIS Inventory Forester

Don Reiter
MITW
Conservation, Fish and Wildlife Department
Biologist; Fish & Wildlife Program Coordinator

Herb Nelson, P.E.
Pine Beach LLC
Environmental Scientist
Contractor to MTE

7.2 Documents of Consultation & Coordination:

7.2.1 Email Regarding NPS on Wild and Scenic River

From: William Kurtz <William.kurtz@bia.gov>
Subject: Wild and Scenic Rivers
Date: July 8, 2013 1:16:51 PM CDT
To: Herb Nelson HerbNelson@brainerd.net
Cc: Joan Delabreau jond@mtewood.com

Herb and Joan:

I talked to Angie Tornes of the NPS and she said there should be no issues for Wild and Scenic Rivers for the Forest Management Plan since the Tribe has the quarter of a mile buffer zone. She said she was well aware of Menominee and the Wolf River. She recommended that when the draft of the EA was done, to send a copy to:

Hector Santiago
National Park Service
601 Riverside Drive
Omaha, NE 68102

Hector is the new lead person for Wild and Scenic Rivers of the National Park Service.

Angie said her concern for the Wolf River was with the Tribe and its rafting operations and they

need an Access Plan, however that did not pertain to the Forest Management Plan.

If you have any other questions for Angie, her number is 414-297-3605.

Bill

William Kurtz
Archaeologist/NEPA
Bureau of Indian Affairs
Midwest Regional Office
Norman Pointe II
5600 West American Boulevard
Suite 500
Bloomington, MN 55437
(612)-725-4527

7.2.2 Menominee Nation Tribal Resolution number 07-02 on sustained yield land near the Wolf River;

7.2.3 Section 7 Endangered Species Act Determination

CHAPTER 8 – REFERENCES

CEQ. (2010, February 18). Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Washington, D.C.: President's Council on Environmental Quality.

Clements, J., & Marcouiller, D. (2008). *Regional Economic Impacts of the Menominee Tribal Enterprises Forestry and Mill Operations*. Madison, WI: University of Wisconsin - Madison/Extension.

Gary Sandefur, R. R. (1996). *Changing Numbers, Changing Needs: American Indian Demography and Public Health*. Washington, D.C.: National Research Council, Committee on Population.

Krohelski, J. T., Kammerer, P., & Conlon, T. (1994). *Water Resources of the Menominee Indian Reservation of Wisconsin; Water Resources Investigations Report 93-4053*. Madison, WI: U.S. Geological Survey.

Menominee County Land Conservation Department. (2010). *Land and Water Resource Management Plan for Menominee County/Reservation, WI*. Keshena, WI: Menominee County.

Menominee Historic Preservation Department. (1987). *Commemorating the State Sesquicentennial*. Keshena, WI: Menominee Indian Tribe of Wisconsin.

Menominee Indian Tribe of Wisconsin and Menominee Kenosha Gaming Authority. (2005). *Damages From Termination Accrue Into Unmet Needs*. Keshena, WI.

Menominee Indian Tribe of Wisconsin and Menominee Kenosha Gaming Authority. (2006). *Unmet Needs and Projected Benefits to the Tribe and its Members from Increased Income*. Keshena, WI.

Menominee Indian Tribe of Wisconsin. (2012, March 27). *Press Release: The Sacred Nama'o (sturgeon) return to the Menominee Nation*. Retrieved July 2013, 2013, from Menominee Indian Tribe of Wisconsin: Archived Press Releases.

Menominee Indian Tribe of Wisconsin. (2007). *Tribal Resolution 07-02 Request for Removal Out of Sustained Yield Land of Compartment 223 and an Area of One-Quarter Mile on Each Side of the Wolf River in its Entirety Forever*. Keshena, WI: MITW.

Menominee Indian Tribe of Wisconsin, Department of Administration. (2004 (Supplemented June 2008)). *Facts and Figures Reference Book*. Keshena, WI: Menominee Indian Tribe of Wisconsin, Department of Administration.

Menominee Tribal Enterprises. (2012). *Forest Management Plan (Revised 1973) 2012 - 2027*. Keshena, WI: Menominee Tribal Enterprises.

Peroff, N. C. (1982). *Menominee Drums. Tribal Termination and Restoration, 1954-1974*. Norman, OK: University of Oklahoma Press.

Ryan Baumtrog, S. C. (July 2008). *The Unmet Needs of the Menominee Nation: Challenges and Opportunities*. La Follette School of Public Affairs at The University of Wisconsin - Madison.

Sanderfur, G. a. (1994). *Growing Up With a Single Parent*. Cambridge, MA: Harvard University Press.

U.S Census Bureau. (1990). *Table C1. Median Household Income by County: 1969, 1979, 1989*. Retrieved from Statistical Abstract: www.census.gov/hhes/www/income/histinc/county/county1.html

U.S Department of the Interior, Bureau of Indian Affairs. (1965). *The Status of Termination of the Menominee Tribe, page 6097*.

U.S Fish & Wildlife Service. (n.d.). *U.S. Fish & Wildlife Service Endangered Species Midwest Region*. Retrieved July 9, 2013, from Wisconsin County Distribution of Federally-listed Endangered, Threatened, Proposed and Candidate Species : <http://www.fws.gov/midwest/endangered/insects/kbb/index.html>

U.S. Bureau of the Census. (2000 Census). *Census 2000 Summary File 1, Matrices PCT12 and P1*. Retrieved from Census 2000 Summary: www.census.gov/population/www/socdemo/race/cp-5.html

U.S. Census Bureau. (2005). *2005 Estimates from Bureau of the Census. Small Area Income and Poverty Estimates*. Retrieved from 2000 Census of the Population: www.census.gov/prod/cen2000/phc-3-pt.1.pfd

U.S. Census Bureau. (n.d.). *State & County QuickFacts for Menominee County/Reservation, Wisconsin*. Retrieved from <http://quickfacts.census.gov/qfd/states/55/55078.html>

U.S. Department of the Interior, Bureau of Indian Affairs. (March 31, 1972). *"The General Economic Situation of the Menominee Indian Tribe of Wisconsin," Report to the House Committee on Appropriations and Interior and Insular Affairs Committee, page 7.*

USDA NRCS. (1998). *Soil Survey of Menominee County/Reservation*. Washington, D.C.: USDA NRCS in Coop with Menominee Tribe and University of WI.

USEPA. (1991, January). *Cross-Cutting Environmental Laws - A Guide for Federal/State Project Officers*. Washington, D.C.: U.S. Environmental Protection Agency.

USFWS. (2008, April 15). *Karner Blue Butterfly Range in Wisconsin*. Retrieved July 9, 2013, from USFWS Endangered Species: Karner Blue Butterfly (*Lycaeides melissa samuelis*) : http://www.fws.gov/midwest/endangered/permits/hcp/kbb_wi/kbbWIrange_map.html

USFWS Midwest Region. (n.d.). *Bald Eagle Conservation Measures: Measures to Avoid Disturbing Nesting Bald Eagles During Recreational Activities*. Retrieved July 10, 2013, from Bald Eagle: <http://www.fws.gov/midwest/eagle/conservation/recreation.html>

USFWS. (n.d.). *Wisconsin County Distribution of Federally-listed Endangered, Threatened, proposed and Candidate Species*. Retrieved July 9, 2013, from State and County Distribution Lists; Federally-listed Threatened, Endangered, Proposed and Candidate Species: <http://www.fws.gov/midwest/endangered/lists/pdf/WisconsinCtyListMarch2013.pdf>

Figures

Figure 1 – Map of Harvest Schedule Status & Acreage Total 2012-2027

Figure 2 – Map of Karner Blue Butterfly Range

Figure 3 – Map of Lupine Survey Results

Figure 4 – Map of Lupine Survey Results