



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
GREAT LAKES NATIONAL PROGRAM OFFICE
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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Steven E. Chester, Director
Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan Street
P.O. Box 30473
Lansing, Michigan 48909-7973

Dear Mr. Chester:

This letter is the U.S. Environmental Protection Agency's official response to the letter from Mr. Frank J. Baldwin, Acting Chief of your Water Bureau, on August 20, 2008, requesting the delisting of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) in the Manistique River, Michigan Area of Concern (AOC). As Mr. Baldwin's request points out, and the supplied data support, the restoration criteria established for the Loss of Fish and Wildlife Habitat BUI by the Manistique River Public Advisory Council following the process in the state's *Guidance for Delisting Michigan's Great Lakes Areas of Concern* have been met in the Manistique River AOC since, 1) "The Degradation of Benthos BUI has been removed according to the *Guidance*" (November 2006) and, 2) "The reach of the Manistique River within the AOC supports a diverse fish community." Based upon this review and the supporting data, and upon our shared desire to show progress as we move all of the Great Lakes Areas of Concern toward restoration of all beneficial use impairments and formal delisting, EPA approves the request for the delisting of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment in the Manistique River AOC. EPA will notify the International Joint Commission of this significant positive change in the environmental health of the Manistique River AOC.

We congratulate all of the parties involved in this Federal/State/local partnership which has been instrumental in achieving this important environmental improvement that will benefit the citizens of the Manistique River AOC, the State of Michigan, and the Great Lakes Basin. We look forward to the continuation of this important and productive relationship with the Michigan Department of Environmental Quality and the Manistique River AOC Public Advisory Council as we work together to fully restore all of Michigan's AOCs.

If I or my staff can be of further service to you, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Walter W. Kowalick" with a stylized flourish at the end. Below the signature, the word "for" is written in a smaller, cursive script.

Lynn Buhl
Great Lakes National Program Manager

cc: Representative Bart Stupak
Frank Baldwin, Michigan Department of Environmental Quality
Julie Sims, Michigan Department of Environmental Quality
Roger Eberhardt, Michigan Department of Environmental Quality
Corey Barr, City of Manistique
Mayor Dave Peterson, City of Manistique
Gary Gulezian, USEPA – Great Lakes National Program Office
Anthony Kizlauskas, USEPA – Great Lakes National Program Office
Mark Elster, USEPA – Great Lakes National Program Office
Pete Christich, USEPA – Office of International Activities
Dr. Karen E. Vigmostad, Great Lakes Regional Office, International Joint Commission



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

August 20, 2008

Mr. Gary Gulezian, Director
Great Lakes National Program Office
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (G-17J)
Chicago, Illinois 60604-3507

Dear Mr. Gulezian:

The purpose of this letter is to request the U.S. Environmental Protection Agency (U.S. EPA), Great Lakes National Program Office's (GLNPO) concurrence with the removal of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) in the Manistique River Area of Concern (AOC). The Michigan Department of Environmental Quality (MDEQ) has evaluated the restoration of this BUI based on the process in the state's *Guidance for Delisting Michigan's Great Lakes Areas of Concern*, which is consistent with the U.S. Policy Committee's *Delisting Principles and Guidelines* document. The MDEQ has determined that the Manistique River AOC has met the restoration criteria for the Loss of Fish and Wildlife Habitat BUI and that the BUI should be removed from the list of impairments in the Manistique River AOC.

Enclosed please find supporting documentation for the removal of the Loss of Fish and Wildlife Habitat BUI in the Manistique River AOC, including the recommendation briefing paper from the MDEQ's technical staff and a letter of support from the Manistique River Public Advisory Council.

We look forward to our continuing partnership in the AOC Program, and working closely with the U.S. EPA, GLNPO in the delisting of AOCs. If you need further information or assistance, please contact Ms. Julie Sims, Aquatic Nuisance Control and Remedial Action Unit, Surface Water Assessment Section, Water Bureau, at 517-373-2732, or you may contact me.

Sincerely,

Frank J. Baldwin, Acting Chief
Water Bureau
517-335-4176

Enclosures

cc/enc: Ms. Diana Klemans, MDEQ
cc: Mr. Mark Elster, U.S. EPA
Mr. Tony Kizlauskas, U.S. EPA
Ms. Vicki Thomas, U.S. EPA
Mr. James K. Cleland, MDEQ
Mr. Richard Hobria, MDEQ
Ms. Julie Sims, MDEQ

Briefing Paper
**Removal of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment for
the Manistique River Area of Concern**

Issue or Request

Based upon the review of Remedial Action Plan (RAP) documentation and consultation with agency staff, we would like to request removal of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) in the Manistique River Area of Concern (AOC), per the process outlined in the *Guidance for Delisting Michigan's Great Lakes Areas of Concern (Guidance)* (Michigan Department of Environmental Quality [MDEQ], 2006, page 7, attached).

Background/Facts

The Manistique River flows southwest through Schoolcraft County in Michigan's central Upper Peninsula, discharging into Lake Michigan at the city of Manistique. The AOC is the last 1.7 miles of the river, from the dam in Manistique to the mouth of the harbor at Lake Michigan (Michigan Department of Natural Resources [MDNR], 1987). The AOC currently has four BUIs determined under Annex 2 of the Great Lakes Water Quality Agreement, including Restrictions on Dredging, Restrictions on Fish and Wildlife Consumption, Beach Closings, and Loss of Fish and Wildlife Habitat. The Degradation of Benthos BUI was removed in November, 2006 (MDEQ, 2007). This document only addresses the Loss of Fish and Wildlife Habitat BUI. According to the 1987 RAP, the Loss of Fish and Wildlife Habitat BUI was mentioned as a possible use impairment that would be investigated as part of the RAP. It stated that studies of the Manistique River and harbor in the mid-1970's indicated a reduction in number and variety of bottom dwelling organisms in the AOC as compared to an area upstream of the AOC. This reduction was attributed to chemical and/or physical degradation of benthic habitat due to toxic levels of contaminants in the sediments and deposition of undesirable materials on the river and harbor substrates from historic pulping operations and sawmills located within the AOC (MDNR, 1987).

Loss of Fish and Wildlife Habitat BUI Restoration Criteria

On February 15, 2006, the Manistique River Public Advisory Council (PAC) adopted the state's restoration criteria outlined in the *Guidance* to evaluate the status of their BUIs. For 12 of the 14 possible BUIs, the *Guidance* includes measurable targets for demonstrating restoration success. However, for the Degradation of Fish and Wildlife Populations and Loss of Fish and Wildlife Habitat BUIs, the state determined that it was not practical to have statewide targets for habitat or fish and wildlife population restoration because of the local nature of these impairments. As such, the *Guidance* outlines a process that the local PACs can use to set locally-derived restoration targets for the BUIs (see attachment: Loss of Fish and Wildlife Habitat and Degradation of Fish

and Wildlife Populations criteria-setting process; pages 45-48 of the *Guidance for Delisting Michigan's Great Lakes Areas of Concern.*)

The Manistique River Habitat Committee was formed to clearly identify and document the historical cause for listing the Loss of Fish and Wildlife Habitat BUI and to set restoration targets for the Manistique River AOC following the steps outlined in the *Guidance*. The Habitat Committee was comprised of representatives from the MDEQ, MDNR, Manistique Papers, the Schoolcraft County Sports Fisherman Association, United States Environmental Protection Agency (U.S. EPA), United States Fish and Wildlife Service, and the City of Manistique. The Habitat Committee met in Manistique on two occasions and held three additional conference calls.

At the September 8, 2006, PAC meeting, the criteria developed by the Habitat Committee was presented for discussion and approval by the PAC. A few minor clarifications to the criteria were made at that time and all present concurred that the criteria as presented and edited were sufficient for the Loss of Fish and Wildlife Habitat BUI in the Manistique River AOC. Following the meeting, the PAC chair formally submitted the final criteria to the MDEQ.

Since the Habitat Committee used the process outlined in the *Guidance* to establish their criteria and MDEQ staff was closely involved in the development process, the criteria submitted were approved as such (see attachments: Manistique River AOC PAC Meeting Minutes, September 8, 2006; September 14, 2006, letter from Merilee Blowers to Julie Sims; Removal Criteria for the Manistique River Area of Concern: Loss of Fish and Wildlife Habitat Beneficial Use Impairment; and October 2, 2006, E-mail from Julie Sims to Richard Hobria.)

The Habitat Committee established two criteria for restoration of the Loss of Fish and Wildlife Habitat BUI.

Because the Loss of Fish and Wildlife Habitat BUI was primarily listed as impaired due to degradation of benthos, the Habitat Committee recommended that this BUI be considered restored when:

- The Degradation of Benthos BUI has been removed according to the *Guidance*.

Because of the importance to the local community for the aquatic habitat in the AOC to sustain a healthy fish population, the Habitat Committee also recommended that this BUI be considered restored when:

- The reach of the Manistique River within the AOC supports a diverse fish community.

Because it was determined by the Habitat Committee that the restoration criteria had been met, the steps outlined in the *Guidance* regarding planning, developing scope of work, and reporting did not need to be completed.

Analysis

Assessment of the Degradation of Benthos BUI

In November 2006, the MDEQ and the PAC assessed the status of the Degradation of Benthos BUI per the criteria outlined in the *Guidance* and the U.S. EPA concurred with the removal of the BUI (U.S. EPA, 2006).

Assessment of the Fish Community Diversity

In July 2007, a summary of MDNR fisheries surveys for the Manistique River was completed, which documented that the Manistique River AOC has diverse habitat characteristics that support a diverse fish community (MDNR, 2007). Surveys conducted from 1956 to May 2006 generally targeted game fish or fish large in body size. Non-game or small-bodied fish species (e.g., minnows and shiners) were generally not collected during the survey. Therefore, results from these surveys did not likely reflect the full community diversity in the Manistique River AOC. However, in October 2006, the MDNR conducted a survey specifically targeted toward collecting representatives from all observed fish species in all available habitats.

The fisheries surveys from 1956 to 2006 documented a range of 5 to 16 species per survey with a total number of 26 species for all surveys during this time period (Table 1). During the 2006 sampling effort, which consisted of 2 surveys (May and October) a total of 18 species were captured (MDNR, 2007). According to Mr. Kramer, the number of species observed in the Manistique River is consistent with what is expected for this type of system. Larger rivers, such as the Menominee River, located in Northern Lake Michigan, support a greater number of species. Likewise, smaller rivers, such as the Sturgeon River, also located in Northern Lake Michigan, support fewer species of fish. The Manistique River, although not comparable to another river in Northern Lake Michigan, is consistent with fish diversity expectations relative to its size and location.

The Manistique River provides a wide variety of habitats for fish with suitable temperature regime, pH, nutrient availability, and habitat complexity. The variety of habitat observed in this system has been linked to the number and variety of species present. Both shallow and deepwater habitats are present in the lower river, and substrate consists of a wide variety of materials including bedrock, cobble, sand, and silt. Water flow through the lower river is also highly variable, ranging from backwater habitats to shallow high-gradient habitats. This wide diversity and variety of habitat provides the foundation for the diverse fish community found in the lower Manistique River (MDNR, 2007).

Common Name	Scientific Name	1956	1964	1969	1978	1984	1993	1994	2006 (May)	2006 (Oct.)
alewife	<i>Alosa pseudoharengus</i>	X	X		X		X	X		X
black crappie	<i>Poxomis nigromaculatus</i>									X
blackside darter	<i>Percina maculata</i>									X
bluntnose minnow	<i>Pimphales notatus</i>	X								X
brown bullhead	<i>Ameiurus nebulosus</i>		X							X
brown trout	<i>Salmo trutta</i>			X						
central mudminnow	<i>Umbra limi</i>									X
chinook salmon	<i>Oncorhynchus</i>					X	X			X
coho salmon	<i>Oncorhynchus kisutch</i>			X		X				
common carp	<i>Cyprinus carpio</i>				X		X		X	
emerald shiner	<i>Notropis atherinoides</i>									X
golden shiner	<i>Notemigonus crysoleucas</i>									X
johnny darter	<i>Etheostoma nigrum</i>	X								
lake whitefish	<i>Coregonis clupeaformis</i>			X						
northern logperch	<i>Percina caprodes</i>	X								
northern pike	<i>Esox lucius</i>		X		X	X	X	X		X
mimic shiner	<i>Notropis volucellus</i>	X								
pumpkinseed sunfish	<i>Lepomis gibbosus</i>								X	X
rock bass	<i>Ambloplites rupestris</i>	X			X		X		X	X
shorthead redhorse	<i>Moxostoma macrolepidotum</i>				X	X				
smallmouth bass	<i>Micropterus dolomieu</i>				X		X	X	X	X
spottail shiner	<i>Notropis hudsonius</i>	X								
steelhead	<i>Oncorhynchus mykiss</i>			X	X	X		X	X	
walleye	<i>Sander vitrius</i>		X	X	X	X	X	X	X	X
white sucker	<i>Catostomus commersonii</i>	X	X		X	X	X		X	X
yellow perch	<i>Perca flavescens</i>		X				X		X	X

* X = Observed

The fish community in the lower Manistique River is strongly linked to Lake Michigan. As evidence, the fish species identified in the MDNR fisheries surveys utilize both riverine and lake habitats. For example, chinook salmon and steelhead will utilize riverine environments as young juveniles, migrate to Lake Michigan, and then return to the river to spawn as adults. Other species such as black crappie, pumpkinseed sunfish, and rock bass predominantly utilize the lower river habitat during their entire life cycle (MDNR, 2007).

Fish size, mobility, and sensory capabilities allow fish to exploit a diverse prey base covering multiple habitats in a waterbody (MDNR, 2007). Therefore, fish feeding habits can be categorized into guilds. As one possible index of fish community diversity, species captured during the May and October 2006 MDNR fisheries surveys were classified into one of three feeding guilds: (1) species that are primarily piscivores; (2) species that are primarily planktivores and/or insectivores; and (3) species that are primarily benthivores. Of the species collected, 4 species were classified as piscivores, 12 species were classified as planktivores-insectivores, and 4 species were classified as benthivores. Table 2 demonstrates the wide array of species within the three feeding guilds and reflects the diversity of forage and habitat in the lower river (MDNR, 2007).

Piscivores (fish feeders)	Planktivores-insectivores (zooplankton/insect feeders)	Benthivores (bottom feeders)
chinook salmon	alewife	brown bullhead
northern pike	black crappie	common carp
smallmouth bass	blackside darter	shorthead redhorse
walleye	blunt nose minnow	white sucker
	central mudminnow	
	emerald shiner	
	golden shiner	
	pumpkinseed sunfish	
	rock bass	
	steelhead	
	yellow perch	

Based on the MDNR fisheries surveys, the Habitat Committee concluded that the lower Manistique River provides diverse physical habitat characteristics, which in turn supports a diverse fish community. The habitat found in the AOC also supports the forage resources needed to maintain the current fish community and a healthy riverine environment (MDNR, 2007). This means the restoration criteria for this BUI approved by the Habitat Committee has been met and no further work on fish and wildlife populations is needed in the AOC.

Recommendation

Julie Sims, MDEQ liaison for the Manistique River AOC, has consulted with other MDEQ technical staff, U.S. EPA staff, the Manistique River Habitat Committee, and the Manistique River PAC on the assessment, status and removal recommendation of this BUI. A public meeting was held on November 13, 2007, to discuss this recommendation with the stakeholders. The Manistique River PAC, the community, and the MDEQ, MDNR, and U.S. EPA staff expressed their support for recommending the removal of this BUI (see attachments: October 29 and November 12, 2007, DEQ Calendar public notice; Manistique River AOC Public Meeting Minutes/Comments; November 13, 2007; Manistique River AOC Public Meeting Sign-in Sheet; Handout presented at the public meeting: Removal Recommendation, Loss of Fish and Wildlife Habitat BUI, Manistique River Area of Concern; and December 18, 2007, letter from Corey Barr to Richard Powers.)

Therefore, the MDEQ AOC Program staff recommends that the Chief of the MDEQ, WB, approve the recommendation to remove the Loss of Fish and Wildlife Habitat BUI. Consistent with the Guidance, we also recommend submittal of a letter from the Chief of the WB to the U.S. EPA, Great Lakes National Program Office, requesting the removal of this BUI from the Manistique River AOC.

Prepared by: Julie Sims, Environmental Quality Analyst
Aquatic Nuisance Control and Remedial Action Unit
Surface Water Assessment Section
Water Bureau
Michigan Department of Environmental Quality
August 20, 2008

Attachments

Tracking Restoration of Beneficial Use Impairments; page 7 of the *Guidance for Delisting Michigan's Great Lakes Areas of Concern*

Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations criteria-setting process; pages 45-48 of the *Guidance for Delisting Michigan's Great Lakes Areas of Concern*

Manistique River AOC PAC Meeting Minutes, September 8, 2006

September 14, 2006, letter from Merilee Blowers to Julie Sims

Removal Criteria for the Manistique River Area of Concern: Loss of Fish and Wildlife Habitat Beneficial Use Impairment

October 2, 2006, E-mail from Julie Sims to Richard Hobrla

October 29 and November 12, 2007, DEQ Calendar public notice

Manistique River AOC Public Meeting Minutes/Comments, November 13, 2007

Manistique River AOC Public Meeting Sign-in Sheet

Handout presented at the public meeting: Removal Recommendation, Loss of Fish and Wildlife Habitat BUI, Manistique River Area of Concern

December 18, 2007, letter from Corey Barr to Richard Powers

References

MDEQ. 2006. *Guidance for Delisting Michigan's Great Lakes Areas of Concern*. MI/DEQ/WB-06/001.

MDEQ. 2007. *The Michigan Department of Environmental Quality Biennial Remedial Action Plan Update for the Manistique River Area of Concern*.

MDNR. 1987. *Remedial Action Plan for the Manistique River Area of Concern*. Michigan Department of Natural Resources, Surface Water Quality Division. Lansing, MI.

MDNR, 2007. Memo to Manistique River Files. *Summary of MDNR Fisheries Surveys for the Manistique River*. Darren Kramer, MDNR Fisheries Biologist. July 19, 2007.

U.S. EPA. 2006. Letter from Mary A. Gade, Great Lakes National Program Manager, U.S. EPA, to Steven E. Chester, Director, MDEQ, regarding the concurrence with the removal of the Degradation of Benthos BUI in the Manistique River AOC.

Tracking Restoration of Beneficial Use Impairments

This section describes actions and policy for applying restoration criteria to the BUIs in AOCs and documenting progress toward removal. The MDEQ is committed to a partnership with the PACs and the U.S. EPA in this effort.

- a) Restoration criteria are applied when BUIs identified for each AOC are ready for assessment. State AOC staff conduct periodic qualitative reviews of the status of each AOC's BUIs as reported in RAP updates to gauge readiness.
- b) The State's restoration criteria are applied to all BUIs except where locally developed criteria are approved. The PACs have the ability to establish restoration criteria that are functionally equivalent to the statewide criteria. Any locally developed criteria must be submitted to Chief of the MDEQ Water Bureau for approval. The PACs are expected to demonstrate how any locally developed criteria are equivalent to the statewide criteria. Approval is based on meeting or exceeding the State's criteria.
- c) State assessments required for each BUI are integrated into the criteria.
- d) Local targets that require assessment beyond what is required for the statewide criteria (e.g., more frequent, different parameters, etc.) are the responsibility of the local PAC, including reporting results to the MDEQ. The MDEQ assists as resources allow.
- e) The MDEQ maintains the official delisting file for each AOC with all finalized BUI restoration/removal records, finalized memos/letters, RAPs, and finalized RAP updates. These files are maintained in the MDEQ Lansing offices and are available to the public.
- f) RAP updates are prepared at least every 2 years for each AOC, and are the primary tool for documenting and communicating progress to the public and agencies. These documents are brief, user-friendly updates (about 10 pages) on recent remedial actions and assessments in the AOC. They are prepared by the MDEQ in consultation with the PAC and U.S. EPA. RAP updates are posted on the AOC web site.

Loss of Fish and Wildlife Habitat ***Degradation of Fish and Wildlife Populations***

These 2 BUIs are being considered together in recognition of the integral relationship between them. For the purpose of assessing restoration, both of these BUIs will use the same criteria-setting process.

Significance in Michigan's Areas of Concern

Twelve AOCs in Michigan have identified Loss of Fish and Wildlife Habitat as a BUI in their RAPs (all except Deer Lake and Torch Lake). Nine AOCs in Michigan have identified Degradation of Fish and Wildlife Populations as a BUI including: Kalamazoo River, Muskegon Lake, White Lake, Menominee River, St. Marys River, Saginaw River/Bay, Clinton River, Rouge River, and River Raisin. Little quantitative information was available in the 1980s regarding habitat loss and population degradation, when impairments were first determined. Therefore, there is wide variability in these impairments among the AOCs due to both real variability in habitat and populations as well as variability in initial assessments.

Michigan Restoration Criteria and Assessment

Restoration of this BUI requires that a local aquatic habitat or population restoration plan be developed and implemented. The plan must be part of the RAP for the AOC, and contain at least the following components:

- A. A short narrative on historical fish and wildlife habitat or population issues in the AOC, including how habitat or populations have been impaired by water quality.
- B. Description of the impairment(s) and location for each aquatic habitat or population site, or for multiple sites where determined appropriate at the local level to address all habitat or population issues identified in the RAP and RAP updates.
- C. A locally derived restoration target for each impacted habitat or population site. Sources of information for targets may include data from social science surveys, if appropriate. Habitat restoration targets may be based on restoration of fish and wildlife populations, if appropriate.
- D. A list of all other ongoing habitat or population planning processes in the AOC, and a description of their relationship to the restoration projects proposed in the plan.
- E. A scope of work for restoring each impacted aquatic habitat or population site. The scope of work should describe specific habitat or population restoration action(s) to be completed, including:

1. Timetable
2. Funding
3. Responsible entities
4. Indicators and monitoring
5. Evaluation process based on indicators
6. Public involvement

F. A component for reporting on habitat or population restoration implementation action(s) to the MDEQ.

Removal of this BUI will be based on achievement of full implementation of actions in the steps above. Habitat values and populations need not be fully restored prior to delisting, as some may take many years to recover after actions are complete. Actions already implemented in AOCs may be reported and evaluated as long as the reports contain all the elements above.

Rationale

Practical Application in Michigan

While most Michigan AOCs have habitat impairments and/or populations degradation, none were designated as impaired primarily as a result of these. The AOCs vary widely in their levels of habitat or population degradation, historical habitat or population types, and current needs for habitat or population restoration. The extent of habitat or population restoration necessary in an AOC will be determined at the local level and documented in the RAP.

The habitat or population restoration plan will determine the type and extent of the restoration necessary to address habitat loss or population degradation issues identified in the RAPs. Individual, AOC-specific restoration plans and criteria will be developed and implemented through a federal/state/local partnership.

Sources of water quality contamination must be controlled before habitat or population restoration is conducted. In some circumstances, habitat degradation is actually contributing to water quality problems, rather than vice versa. In those instances, the workplan should discuss this issue and the remedial actions should be targeted accordingly.

1991 IJC General Delisting Guideline: Loss of Fish and Wildlife Habitat

When the amount and quality of physical, chemical, and biological habitat required to meet fish and wildlife management goals have been achieved and protected.

IJC Delisting Guideline: Degradation of Fish and Wildlife Populations:

When environmental conditions support healthy, self-sustaining communities of desired fish and wildlife at predetermined levels of abundance that would be expected from the amount and quality of suitable physical, chemical and biological habitat present. An effort must be made to ensure that fish and wildlife objectives for AOCs are consistent with Great Lakes ecosystem objectives and Great Lakes Fishery Commission fish community goals. Further, in the absence of community structure data, this use will be considered restored when fish and wildlife bioassays confirm no significant toxicity from water column or sediment contaminants.

The IJC general delisting guideline for the BUI is presented here for reference. The Practical Application in Michigan subsection above describes application of specific criteria for restoration based on existing Michigan programs and authorities.

State of Michigan Program and Authorities for Evaluating Restoration

Habitat or population restoration projects to address these use impairments will be implemented by a variety of programs at the federal, state, and local level, as determined in the restoration planning process. For the development of local habitat or population restoration plans and criteria, the MDEQ, in consultation with MDNR Fisheries and Wildlife Divisions, commits to partnering with local AOC groups to determine what those actions should be, and make available to the PACs the existing monitoring and reporting elements in state programs as applicable.

Michigan assesses water bodies throughout the state on a 5-year basin rotation plan according to the MDEQ's "Strategic Environmental Quality Monitoring Program for Michigan's Surface Waters" (MDEQ, 1997) and "Michigan Water Quality Strategy Update" (MDEQ, 2005). Each year, a set of targeted watersheds are sampled at selected sites for conventional and toxic pollutants, and biological and physical habitat/morphology indicators. The set of watersheds sampled rotates each year, with each major watershed in the state revisited every 5 years (see Appendix 1 for maps of the basin rotations). One element of the strategy is expanded and improved monitoring of biological integrity and physical habitat.

This element includes all monitoring conducted for fish and benthic invertebrate community structure, nuisance aquatic plants, algae, and slimes, and assessment of physical habitat. Because biological communities integrate the cumulative effects of multiple environmental stresses, this element is an important tool for evaluating water quality. The MDEQ's goal in conducting the watershed surveys is to assess 80% of the stream and river miles in Michigan over a 5-year period.

The specific objectives of biological integrity and physical habitat monitoring are to:

1. Determine whether waters of the state are attaining standards for aquatic life.
2. Assess the biological integrity of the waters of the state.
3. Determine the extent to which sedimentation in surface waters is impacting indigenous aquatic life.
4. Determine whether the biological integrity of surface waters is changing with time.
5. Assess the effectiveness of best management practices and other restoration efforts in protecting and/or restoring biological integrity and physical habitat.
6. Evaluate the overall effectiveness of MDEQ programs in protecting the biological integrity of surface waters.
7. Identify waters that are high quality, as well as those that are not meeting standards.
8. Identify the waters of the state that are impacted by nuisance aquatic plants, algae, and bacterial slimes.

The biological integrity and physical habitat element consists of several components that, in combination, provide data necessary to achieve the following objectives:

- Rapid biological assessment of wadeable streams;
- Rapid assessment procedure for nonwadeable rivers; and
- Trend monitoring procedure for biological communities.

Rapid, qualitative biological assessments of wadeable streams and rivers are conducted using the SWAS Procedure 51, which compares fish and benthic invertebrate communities at a site to the communities that are expected at an unimpacted, or reference, site. This is a key tool used by the MDEQ to determine whether waterbodies are attaining Michigan WQS. However, this procedure cannot be used on nonwadeable rivers. The MDEQ has been partnering with Michigan State University to develop and validate a procedure for assessing aquatic communities in nonwadeable rivers which the State plans to begin implementing in 2006.

The State will support efforts in all AOCs with this BUI to complete the items the checklist above. Support may be both direct, with partnership commitments from the MDEQ and MDNR to specific elements as appropriate, as well as indirect through grants to local AOC partners. Depending on available resources, support for local development of habitat or population restoration plans and criteria may be spread out among AOCs over multiple years.

Manistique River Area of Concern
Public Advisory Council Meeting
Loss of Fish and Wildlife Habitat Beneficial Use Impairment Removal Criteria
September 8, 2006
Manistique City Hall
3:00-4:00 PM

Participants:

Julie Sims, MDEQ, SWAS
Roger Eberhardt, MDEQ, OGL
Bill Taft, MDEQ, SWAS
Darren Kramer, MDNR, Fisheries
Sheila Aldrich, Manistique City Manager
Duane Waters, PAC member
Margaret Waters, PAC member
Michael Dougivito, Habitat Committee Member
Tony Kizlauskas, EPA, GLNPO

1. Review of Agenda

No changes to the agenda.

2. Progress on removing the Degradation of Benthos Beneficial Use Impairment was discussed. The paperwork is complete and under MDEQ management review.
3. The work of the Manistique AOC Habitat Committee, including the process to date, individuals involved, and draft documentation prepared for establishing criteria for removal of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment was presented and discussed with the PAC.

In the review of the process there was short discussion of why the dam, flume, and sea lamprey passage are not part of the Area of Concern program. There was also discussion of how much variety the slips create in the overall habitat for all aquatic life in the lower river.

The criteria as presented are based on: 1) removal of the Degradation of Benthos BUI and 2) a diverse fish community in the lower river. The original criteria statement on the diverse fish community included language about specific location and flow. The PAC supported a more general statement:

“The reach of the Manistique River in the Area of Concern supports a diverse fish community.”

It was noted that the fish diversity in the river at the present is likely what was typical of the area prior to development. Further, the nicely varied habitat and proximity to Lake Michigan has led to the diversity and abundance of fish in the AOC being in the top 5% of sites sampled in the Upper Peninsula over the past 20 years.

There was a short discussion of conducting fish population comparison studies with other sites similar to Manistique from data already in hand. The idea was rejected because of the difficulty of finding a similar site and the fact that we don't need comparison data to determine diversity. The MDEQ and MDNR will provide fish sampling data in a report to the AOC program. This may include 2006 data that the MDNR is collecting this fall.

All present concurred that the criteria as presented and edited were sufficient for the Loss of Fish and Wildlife Habitat BUI in the Manistique River AOC.

4. The next step is for the PAC to send a letter or email to the Water Bureau with the locally established criteria. Data is being collected on the fish diversity in the reach of the Manistique River in the Area of Concern. Once the data is assessed and sufficient to support the approved criteria, the DEQ with assistance from the DNR Fisheries will begin writing a report to support removal of this BUI.

Manistique River Habitat Committee Participants

Julie Sims, Michigan Department of Environmental Quality
Roger Eberhardt, Michigan Department of Environmental Quality
Bill Taft, Michigan Department of Environmental Quality
Jim Pawloski, Michigan Department of Environmental Quality
George Madison, Michigan Department of Natural Resources
Darren Kramer, Michigan Department of Natural Resources
Mike Herman, Michigan Department of Natural Resources
Jessica Mistak, Michigan Department of Natural Resources
Merilee Blowers, Manistique Papers
Rich Aldrich, Manistique Papers
Tony Kizlauskas, U. S. Environmental Protection Agency
Neil Grossnickle, Schoolcraft County Sports Fisherman Association
Dan Clark, Schoolcraft County Sports Fisherman Association
Ken Golat, Schoolcraft County Sports Fisherman Association
Keith Aldrich, Schoolcraft County Sports Fisherman Association
David Demers, Schoolcraft County Sports Fisherman Association
Michael Dougovito, Prior City Council Member
Sheila Aldrich, City of Manistique
Deborah Dougivito, City of Manistique
Cheryl Kaye, U. S. Fish and Wildlife Service
David Gerzcak, U. S. Army Corp of Engineers

Prepared by: Julie Sims, Environmental Quality Analyst
Aquatic Nuisance Control and Remedial Action Unit
Water Bureau
Michigan Department of Environmental Quality
September 12, 2006

September 14, 2006

Ms. Julie Sims
Water Bureau
Michigan Department of Environmental Quality
P.O. Box 30273
Lansing, MI 48909-7773

Dear Ms. Sims,

Pursuant to the Guidance for Delisting Michigan's Areas of Concern (*Guidance*), the Manistique River Public Advisory Council (PAC) has concurred with criteria developed by the Manistique River Habitat Committee for restoration of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment. The criteria and documentation for development are attached. The Habitat Committee followed the process for development of the criteria approved by the Water Bureau in the *Guidance*.

The attached criteria includes a description of the significance in the Manistique River, a brief history of the impairment, the Loss of Fish and Wildlife Habitat removal criteria, a list of references and list of participants involved in the development process.

The PAC appreciates the flexibility in the *Guidance* to develop criteria relevant to our AOC and the support of the Michigan Department of Environmental Quality and the U. S. EPA Great Lakes National Program Office in development of the criteria.

I look forward to the assessments of this use impairment using our new criteria.

If you have any questions, feel free to contact me.

Sincerely,

Merilee Blowers, Chair
Manistique River Public Advisory Council

cc: Tony Kizlauskas, U.S. EPA
Manistique River Public Advisory Council Members

Removal Criteria for the Manistique River Area of Concern:

Loss of Fish and Wildlife Habitat Beneficial Use Impairment

Significance in the Manistique River Area of Concern

The Manistique River Area of Concern (AOC) is the last 1.7 miles of the river, from the dam in Manistique to the mouth of the harbor at Lake Michigan. Impacts to the biota in the Manistique River AOC were first indicated in the mid -1950's. These impacts were attributed primarily to deposit of wood fibers and organic waste from sawmill and paper mill operations, and sanitary waste from the City of Manistique. Later studies also identified chemical wastes contributing to the degradation (MDNR, 1987). Additionally, fisheries management goals in Manistique have been closely tied to dam and flume operations, since the structures were built in the original river channel and have greatly reduced fish habitat. These structures also were blocking sea lamprey and salmon from migrating up the river (Triad Engineering Inc. and Terrafirma Environmental, Inc., 2002).

Sea lamprey reproduction is an important issue in the Manistique River. Adult lamprey find their way around the dam and flume upriver to spawning areas in large numbers each year. Larval lamprey find excellent habitat in the areas above the dam to live, grow, and eventually transform into parasites that go back downstream to Lake Michigan and feed on valuable commercial and recreational fish. Currently the Manistique River is the single largest source of sea lamprey to northern Lake Michigan, with numbers great enough that serious damage is being done to the fish populations there. Periodic treatments of the Manistique River reduce the number of larvae, but adult lamprey passage at the dam and flume remains a key problem. Though not mentioned in the original 1987 Remedial Action Plan, sea lamprey were highlighted as a problem in the 1996 RAP update (MDEQ, 1997). The U.S. Fish and Wildlife Service sea lamprey control program, with funding from the Great Lakes Fishery Commission, conducts treatments of the river and is continuing to work with other agencies and partners to develop proposals for actions. The agencies and partners are committed to finding and implementing solutions. Because this issue is not directly related to the Loss of Fish and Wildlife Habitat beneficial use impairment and is being addressed by other programs in place, it will not be part of remedial actions under the Area of Concern program. Thus, the Area of Concern boundary remains the river up to, but not including, the dam in Manistique.

Restoration Criteria

In the 1987 Remedial Action Plan (RAP), Loss of Fish and Wildlife Habitat is mentioned as a possible use impairment that will be investigated as part of the RAP. It states that studies of the Manistique River and harbor in the mid-1970's showed a reduction in numbers and variety of bottom dwelling organisms in the AOC as compared to an area upstream of the AOC. This reduction was attributed to chemical and /or physical degradation of benthic habitat due to toxic levels of contaminants in the sediments and deposition of undesirable materials on the river and harbor substrates (MDNR, 1987).

Studies done in 1969 and 1976-78 reported the presence of pulp fibers and woody debris on the substrate in some of the channels and continuing into the harbor. The presence of these materials was attributed to historical pulping operations at Manistique Papers and historical sawmill operations that operated on the lower Manistique River. With the closing of the sawmills, improved wastewater treatment at Manistique Papers and the change to recycled magazines as a source of paper fiber, the discharge of the wood fiber was eliminated. Additionally, problems impacting aquatic life were identified due to benthos contaminated with PCBs and heavy metals (Triad Engineering Inc. and Terrafirma Environmental, Inc., 2002).

In order to clearly identify and document what the historical impairments were and to set delisting targets in the Manistique River AOC according to the *Guidance for Delisting Michigan's Great Lakes Areas of Concern* (MDEQ, 2006), a habitat committee was formed. The Manistique River Habitat Committee is comprised of representatives from the Michigan Department of Environmental Quality, Michigan Department of Natural Resources, Manistique Papers, the Schoolcraft County Sports Fisherman Association, United States Environmental Protection Agency, United States Fish and Wildlife Service and the City of Manistique. The committee met in Manistique twice and held three additional conference calls.

The committee has recommended that this BUI will be considered restored when:

1. Degradation of Benthos BUI has been removed according to the Guidance for Delisting Michigan's Great Lake Areas of Concern.
2. The reach of the Manistique River in the Area of Concern supports a diverse fish community.

Removal of this BUI will be based on achievement of the above restoration criteria. Currently, the Degradation of Benthos BUI is going through the removal process and data is being collected on the fish diversity in the reach of the Manistique River in the Area of Concern.

References

Michigan Department of Environmental Quality. 1996. Manistique River Area of Concern. Manistique, Michigan: Remedial Action Plan Update for the Michigan Department of Environmental Quality, Surface Water Quality Division. Lansing, MI.

----. 2006. *Guidance for Delisting Michigan's Great Lakes Areas of Concern*. MI/DEQ/WB-06/001.

MDNR. 1987. Remedial Action Plan for the Manistique River Area of Concern. Michigan Department of Natural Resources, Surface Water Quality Division. Lansing, MI.

Triad Engineering Incorporated and Terrafirma Environmental, Inc. 2002. *Remedial Action Plan Update, Manistique River and Harbor Area of Concern, Manistique, Michigan*. Prepared for Great Lakes Commission and Michigan Department of Environmental Quality. September 2002.

From: Julie Sims
To: Richard Hobria
Date: Mon, Oct 2, 2006 4:09 PM
Subject: Manistique River AOC - Loss of Fish and Wildlife Habitat Delisting Targets

Hi Rick,

The Manistique River Habitat Committee convened under the Manistique River Area of Concern Public Advisory Council (PAC) has finalized criteria for removal of the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) in the Manistique River Area of Concern. The local criteria and documentation from Merilee Blowers, chair of the PAC, are attached.

The Habitat Committee used the process approved by the Water Bureau in development of the criteria. The local PAC has the authority under the Guidance for Delisting Michigan's Areas of Concern to finalize and approve criteria for removal of the Loss of Fish and Wildlife Habitat BUI, so these do not need further action by the Water Bureau.

If you have any questions, feel free to contact me.

November 13, 2007

PUBLIC MEETING REGARDING THE POTENTIAL REMOVAL OF THE BENEFICIAL USE IMPAIRMENT (BUI), LOSS OF FISH AND WILDLIFE HABITAT, IN THE MANISTIQUE RIVER AREA OF CONCERN (AOC), SCHOOLCRAFT COUNTY. The Manistique River is a Great Lakes AOC and in order to be 'delisted' as an AOC, all BUIs must be restored. The purpose of the public meeting is to discuss the restoration status of the fish and wildlife habitat and to obtain comments on removal of this BUI for the Manistique River AOC. The public meeting will be held November 13, 2007, at 6:00 p.m. at the City Hall, 300 North Maple Street, Manistique, Michigan. Comments on the removal recommendation may also be submitted to Julie Sims, Department of Environmental Quality, Water Bureau, P.O. Box 30273, Lansing, Michigan 48909-7773, by December 13, 2007. Information regarding the status assessment of the BUI may be obtained by contacting the WB. Information Contact: **Julie Sims**, Water Bureau, at 517-373-2372, or E-mail: simsj@michigan.gov.

**Manistique River Area of Concern
Public Meeting
City Hall
300 North Maple Street
Manistique, MI 49854
Tuesday, November 13, 2007
6pm-7pm**

Purpose: Removal Recommendation for the Loss of Fish and Wildlife Habitat Beneficial Use Impairment in the Manistique River Area of Concern

Attendees:

Julie Sims, Michigan Department of Environmental Quality (MDEQ)
Michelle Selzer, MDEQ
Tony Kizlauskas, US Environmental Protection Agency - Great Lakes National Program Office (GLNPO)
Darren Kramer, Michigan Department of Natural Resources, Fisheries Division
Sheila Aldrich, Manistique City Manager
Keith Aldrich, Schoolcraft County
Corey Barr, Water/ Wastewater Superintendent, Public Advisory Council (PAC) Chair
Deborah A. Dougovito, City of Manistique
Rich Aldrich, Manistique Papers, Inc.
Kyle Reque, Manistique Downtown Development Authority
John Filaramo, City of Manistique

Welcome and Review of Agenda, Julie Sims

Removal Recommendation of the Loss of Fish and Wildlife Beneficial Use Impairment for the Manistique River Area of Concern, Julie Sims and Darren Kramer

- I. Background on Loss of fish and Wildlife Habitat (see Removal Recommendation handout)
- II. Assessment of Restoration (see Removal Recommendation handout)
- III. Recommendation (see Removal Recommendation handout)

The Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) in the Manistique River Area of Concern is recommended for removal.

Local Public Advisory Council, Corey Barr

Manistique River AOC is used as an example of how to get things done and remove BUIs. This came up several times at the SPAC meetings attended.

Public Questions/Comments, Julie Sims

PAC members: Which BUIs are next?

Sims response: Monitoring to assess *E. coli* in Manistique River was completed in summer of 2007 and the Beach Closings will be next after revisions to the *Guidance for*

Delisting Michigan's Great Lakes Areas of Concern are concurred with by the USEPA – GLNPO. Hope to hold public meeting in spring on Beach Closings BUI.

The MDEQ is working with other agency staff to potentially assess the Restrictions on Dredging BUI across the State this year. MDEQ is also working with the Michigan Department of Community Health on obtaining funds to develop a Manistique River AOC fish consumption advisory brochure. If funds are obtained, the agencies would like to have it available for the annual fishing derby in July and will be looking for input from the community on the development of the brochure.

Next Steps, Julie Sims

Once a letter of acceptance for the removal recommendation is received from the Public Advisory Council and the public comment period closes on December 13, 2007, the Water Bureau will send a letter to the GLNPO requesting concurrence. Once the GLNPO has concurred, the Loss of Fish and Wildlife Habitat BUI will be formally removed.

Meeting adjourned at 6:45 PM

Contact:

Julie Sims, AOC Liaison
Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan St.
P.O. BOX 30273
Lansing, MI 48909-7773

Phone: (517) 373-2732
Fax: (517) 335-4381
simsj@michigan.gov

December 18, 2007

Richard Powers, Chief
Water Bureau
Michigan Department of Environmental Quality
P.O. Box 30273
Lansing, Michigan 48909

Dear Mr. Powers,

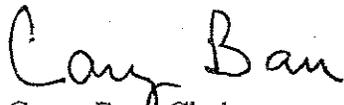
The Public Advisory Council (PAC) for the Manistique River Area of Concern concurs with the recommendation to remove the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI). On February 15, 2006, the Council accepted the Michigan Department of Environmental Quality's (MDEQ) criteria for removing all five of the impairments in the Area of Concern when each is restored. Since then, the PAC, along with other agencies, developed and approved criteria to remove the Loss of Fish and Wildlife Habitat BUI.

A technical team that included local stakeholders and members of the PAC have documented that the locally developed criteria have been met and a removal recommendation document was prepared. A public meeting on the removal recommendation of that BUI was held in Manistique on November 13, 2007. The MDEQ and Michigan Department of Natural Resources staff presented supporting information on the removal recommendation. The Council accepts the agency's recommendations and concurs with removing the Loss of Fish and Wildlife Habitat BUI in the Manistique River Area of Concern.

It is encouraging to the Council to see positive action being taken on removal of restored use impairments in the Area of Concern. The Council strongly encourages the agencies to continue with assessment of the remaining three use impairments in the Area of Concern, with a goal of delisting the site as soon as feasibly possible.

Thank you for your time on this issue that is so important to the citizens of Manistique. If you have any questions, please feel free to contact me.

Sincerely,



Corey Barr, Chair
Manistique Public Advisory Council
City of Manistique

Cc: Julie Sims, Michigan Department of Environmental Quality