UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 16 2

REPLY TO THE ATTENTION OF: R-19J

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

Dear Mr. Chester:

This letter is the U.S. Environmental Protection Agency's (EPA) official response to the letter from Mr. Richard Powers, Chief of your Water Bureau on September 20, 2006 requesting the delisting of the Degradation of Benthos Beneficial Use Impairment in the Manistique River, Michigan Area of Concern (AOC). As Mr. Powers' request points out, and the supplied data support, the statewide restoration criteria for the Degradation of Benthos Beneficial Use Impairment have been met in the Manistique River AOC since *"All remedial actions for known contaminated sediment sites with degraded benthos are completed and monitored according to the approved plan for the site."*

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 Degradation of Benthos 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 of 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,

Mary A. Gade
Great Lakes National Program Manager

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

September 20, 2006

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 – Great Lakes National Program Office's (U.S. EPA-GLNPO) concurrence with the removal of the Degradation of Benthos 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 statewide restoration criteria for the Degradation of Benthos 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 Degradation of Benthos 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,

Richard A. Powers, Chief
Water Bureau
517-335-4176

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

Briefing Paper
Removal of the Degradation of Benthos 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 Degradation of Benthos 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) (MDEQ, 2006, page 8, 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). On February 15, 2006, the Manistique River Public Advisory Council (PAC) adopted the delisting targets included in the Guidance to evaluate the status of their BUIs. The AOC has five BUIs determined under Annex 2 of the Great Lakes Water Quality Agreement, including Restrictions on Dredging, Loss of Fish and Wildlife Habitat, Restrictions on Fish Consumption, Beach Closings, and Degradation of Benthos. This briefing paper only addresses the Degradation of Benthos BUI.

In the original 1987 RAP, the Degradation of Benthos BUI in the Manistique River AOC was identified primarily due to deposit of wood fibers and organic waste from the saw mill and paper mill operations, and chemical waste and sanitary waste from the city of Manistique (MDNR, 1987). The Michigan Department of Environment Quality (MDEQ) and the PAC have assessed the status of the impairment per the criteria outlined in the Guidance and recommend removal of this BUI.

Analysis

According to the Guidance, the restoration criteria for the Degradation of Benthos BUI in the Manistique River AOC requires that:

> *All remedial actions for known contaminated sediment sites with degraded benthos are completed (except for minor repairs required during operation and maintenance) and monitored according to the approved plan for the site. Remedial actions and monitoring are conducted under authority of state and federal programs, such as Superfund, Resource Conservation and Recovery Act, Great Lakes Legacy Act, or Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.*

The attached excerpt from the Guidance (pages 27-29) includes the rationale for the delisting criteria. Remedial actions and source control activities have been summarized to document restoration of this BUI:

1977

Manistique Wastewater Treatment Plant (WWTP) was upgraded to secondary (biological) treatment. Manistique Papers, Inc. upgraded its wastewater treatment facilities to provide secondary treatment of process wastewater from its paper making operations. Manistique Papers dredged and filled the deinking wastewater settling lagoon (MDNR, 1987).

1986

Manistique Papers, Inc. placed an erosion barrier along the west bank of the main river channel upstream from U.S. 2 to control erosion of polychlorinated biphenyl (PCB) impacted soils from the former deinking lagoon (MDNR, 1987).

1993

The United States Environmental Protection Agency (USEPA) placed a 110-foot by 240-foot temporary cap over sediments in the vicinity of a combined sewer outfall that discharges directly to the Manistique River (MDEQ, 1996).

1996

Washed gravel was placed in the North Bay area (located on the west side of the river upstream and adjacent to the U.S. Route 2 highway bridge) to improve the river bottom as habitat for fish as well as to contain contaminated residuals (Triad Engineering Inc. and Terrafirma Environmental, Inc., 2002).

1999

The temporary cap was removed (Triad Engineering Inc. and Terrafirma Environmental, Inc., 2002). According to Corey Barr, Water/Wastewater Superintendent for the city of Manistique, the Manistique WWTP biological control process was updated from rotating biological contactors to activated sludge that also significantly increased the hydraulic capacity of the plant (C. Barr, personal communication, May 24, 2006).

2000

Dredging of impacted sediments was completed, and confirmation sediment sampling for PCBs was initiated. The completed dredging depth in the navigational channel was to bedrock, with depths ranging from approximately 20 to 22 feet (Weston Solutions, Inc., 2005a).

1995-2000

The Manistique Harbor and River AOC 2002 RAP Update estimates that 141,000 cubic yards of PCB and heavy metal impacted sediment were successfully removed from the harbor and river system from 1994 to 2000. Additionally, during dredging activities of PCB impacted sediments, approximately 31,100 cubic yards of wood chips, sawdust, and other solid materials were removed (Triad Engineering Inc. and Terrafirma Environmental, Inc., 2002).

2001

The confirmation sampling was completed to ensure that the ten parts per million (ppm) average PCB concentration goal for the harbor and river was met (Weston Solutions, Inc., 2005a), per the USEPA Removal Action Recommendation (USEPA, 1994). Superfund personnel collected a comprehensive round of sediment samples at 400 locations on a random grid spacing. The sampling data had an average PCB concentration of 7.7 ppm in the top six inches of sediment (Weston Solutions, Inc., 2005a).

2004

According to the postdredging site investigation conducted in September 2004, natural resedimentation processes have resulted in average PCB concentrations in the surface sediments throughout the harbor and river of 0.71 ppm (Weston Solutions, Inc., 2005a).

Julie Sims, MDEQ liaison for the Manistique River AOC, has reviewed the Superfund reports documenting that all remedial actions are complete and monitored. Monitoring indicates that remediation goals have been met. Ms. Sims has also consulted with other MDEQ, Water Bureau (WB), Surface Water Assessment Section, technical staff regarding the redesignation of this BUI. Based on the most recent reports released by USEPA, Superfund, staff recommend removal of the degradation of benthos BUI.

The redesignation of the Degradation of Benthos BUI was also discussed with the Manistique River PAC at their regular meeting on March 26, 2006, and with the Manistique City Council on March 27, 2006. In addition, a public meeting was held on July 12, 2006, to discuss the redesignation of this BUI with the Manistique River AOC community. The community, the PAC, and Manistique City Council expressed their support for recommending removal of this BUI to the USEPA, Great Lakes National Program Office (see attachments: July 20, 2006, e-mail from Merilee Blowers to Julie Sims; June 26 and July 10, 2006 DEQ Calendar public notice; Manistique River AOC Public Meeting minutes; and a handout from the public meeting titled Removal Recommendation, Degradation of Benthos BUI, Manistique River AOC).

<u>Recommendation</u>

Based upon review of the data (Weston Solutions, Inc., 2005a) and input from other MDEQ staff, the USEPA project staff, the PAC, the public, and the Manistique City Council, we recommend removal of the Degradation of Benthos BUI. We also recommend submittal of a letter from the chief of the WB to the USEPA requesting removal of the Degradation of Benthos BUI in the Manistique River AOC, consistent with the Guidance.

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
September 18, 2006

Attachments:
Removal of Beneficial Use Impairments; page 8 of the Guidance for Delisting Michigan's Great Lakes AOCs
Degradation of Benthos; pages 27-29 of the Guidance for Delisting Michigan's Great Lakes AOCs
July 20, 2006, e-mail from Merilee Blowers to Julie Sims
June 26 and July 10, 2006 DEQ Calendar public notice
Manistique River AOC Public Meeting Minutes
Handout: Removal Recommendation, Degradation of Benthos BUI, Manistique River AOC

References

Barr, C. Personal communication, May 24, 2006.

MDEQ. 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.

MDEQ. 2006. *Guidance for Delisting Michigan's Great Lakes Areas of Concern*. Report No. 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 Inc. 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.

USEPA. 1994. *Removal Action Recommendation, Manistique River/Harbor Area of Concern, Manistique, Michigan.* August, 1994.

Weston Solutions, Inc. 2005a. *Data Evaluation Report.* Revision 1. 19 May 2005, U.S. EPA Contract No. 68-W700026, Work Assignment No. 236-TATA-05FV, Document Control No. RFW236-2A-ASJY.

Removal of Beneficial Use Impairments

This section describes the actions and policies for removing a BUI and documenting these activities in MDEQ's AOC file. The BUIs can be removed individually, in groups, or all at the same time. The MDEQ is committed to a partnership with the local PACs and U.S. EPA in this effort.

a) When the MDEQ AOC coordinator, in consultation with the PAC, determines a BUI is ready for final review of restoration according to the applicable criteria, a team of relevant MDEQ and MDNR (as applicable) agency staff is convened to review the documentation and support or not support removal of the BUI. Deliberations are documented with a briefing memo by the MDEQ AOC coordinator to the Director of the MDEQ.

b) The team consults with the PAC during the review and a public meeting is held in the AOC. When the public review is completed, the Director of the MDEQ requests a letter of support from the PAC for the removal of the BUI.

c) When the technical and public review is complete, a letter is sent from the Director of the MDEQ to U.S. EPA to document removal of the BUI(s) and the support of the PAC. The letter requests concurrence with the removal from U.S. EPA. The letters from MDEQ, the PAC and U.S. EPA are part of the permanent AOC file.

d) Once documented as removed, there is no further assessment of the BUI in order to delist an AOC. While BUIs which have been removed are not re-assessed as part of the AOC program, waters of the state continue to be monitored as part of MDEQ's regular 5-year Basin Cycle Monitoring and other state monitoring programs.

e) After removal of a BUI, if additional contamination is found in an AOC during routine or other program monitoring, it is addressed on a case-by-case basis by the MDEQ under existing programs. This is not a cause for delaying delisting unless the contamination is indicative that the original BUI was not resolved.

f) All local, state, and federal partners cooperate on publicizing the BUI restoration, as appropriate.

Degradation of Benthos

Significance in Michigan's Areas of Concern

Thirteen AOCs in Michigan have identified Degradation of Benthos as a BUI (all except Deer Lake). This impairment usually results from the biologically-based affects of sediment contamination and is closely related to the restrictions on dredging impairment. This impairment deals with only the surficial layer of sediments where organisms live.

Michigan Restoration Criteria and Assessment

This BUI will be considered restored when:

- An assessment of benthic community, using either MDEQ's SWAS Procedure #51 for wadeable streams or MDEQ's pending rapid assessment procedure for non-wadeable rivers yields a score for the benthic metrics which meets the standards for aquatic life in any 2 successive monitoring cycles (as defined in the two procedures).

OR, in cases where MDEQ procedures are not applicable and benthic degradation is caused by contaminated sediments, this BUI will be considered restored when:

- All remedial actions for known contaminated sediment sites with degraded benthos are completed (except for minor repairs required during operation and maintenance) and monitored according to the approved plan for the site. Remedial actions and monitoring are conducted under authority of state and federal programs, such as the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), Resource Conservation and Recovery Act, Great Lakes Legacy Act, or Part 201 of Michigan's National Resource and Environmental Protection Act (NREPA) of 1994.

Rationale

Practical Application in Michigan

The AOC program addresses the worst contaminated sites in the Great Lakes. Those AOCs that have degradation of benthos from sediment contamination have specific sites that are being remediated with regulatory programs. Once these specific sites have been remediated, the benthos in the AOC will no longer be among the worst in the Great Lakes so the use impairment can be considered restored. The reasons for identifying degradation of benthos varies across Michigan's AOCs. Benthos in some AOCs are degraded due to non-

contaminated sediment deposition, or hydrologic changes in the waterbody. In other AOCs, benthos are degraded due to the effects of contaminated sediments.

The restoration criteria for Degradation of Benthos allows for two different approaches for evaluating restoration success. The first approach employs MDEQ procedures for evaluating benthic community structure in wadeable and non-wadeable streams. Rapid, qualitative biological assessments of wadeable streams and rivers are conducted using 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 MDEQ to determine whether waterbodies are attaining Michigan WQS. However, this procedure can not be used on non-wadeable rivers. The MDEQ has been partnering with Michigan State University to develop and validate a procedure for assessing aquatic communities in non-wadable rivers that the State implemented beginning in 2006. If these procedures are applicable to an AOC, data collected under the monitoring program will be used to evaluate whether benthos has been restored according to the criteria. Where biological assessments are not applicable, the second approach will be used to determine removal of this BUI.

The second approach focuses on benthic degradation from chemical contamination. Contaminated sediments are the primary cause for benthic impairments in AOCs. Sediment remediation and assessment will be accomplished through established programs such as federal Superfund, Resource Conservation and Recovery Act, Great Lakes Legacy Act, and Michigan's NREPA Part 201. Criteria are site specific and are usually based on sediment chemistry or sediment toxicity. In addition to dredging contaminated sediments for remediation, regulatory programs sometimes adopt natural attenuation as the method for addressing contaminated sediments. In both cases, when the final remedial measures are completed, and monitored according to site plans, the BUI will be considered restored. Removal of the BUI will not be contingent on full recovery of the benthic community, which may take many years or even decades.

1991 IJC General Delisting Guideline

When the benthic macroinvertebrate community structure does not significantly diverge from unimpacted control sites of comparable physical and chemical characteristics. Further, in the absence of community structure data, this use will be considered restored when toxicity of sediment-associated contaminants is not significantly higher than controls.

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 Programs/Authorities for Evaluating Restoration

Michigan conducts remedial actions on contaminated sediments under NREPA Part 201 and other state regulatory authority. The State also cooperates with federal programs that remediate contaminated sediments and restore benthos, such as the U.S. Superfund, the Resource Conservation and Recovery Act, and the Great Lakes Legacy Act programs. In addition, the State has a permit program for dredging and filling of lakes, streams, and wetlands. Through these programs, biologically based effects of contamination could be determined as part of any assessment. Remediation which addresses biological effects occurs on a site-specific basis.

The MDEQ has benthic data from wadeable stream surveys (SWAS Procedure #51) gathered as part of the 5-year rotating basin monitoring in the state. In addition, the State will be starting a monitoring program for benthos in non-wadeable streams as part of the 5-year basin monitoring program beginning in 2006. Data from these surveys, as well as other relevant state monitoring data (e.g. MDNR surveys or special studies by DEQ for lake systems) will be used as applicable for monitoring and assessing restoration of this impairment.

In addition, U.S. EPA GLNPO and the U.S. Geological Survey are working together to identify procedures for developing delisting criteria for BUIs associated with contaminated sediments. The MDEQ will incorporate this guidance, as available and applicable, into the assessment of whether the State's restoration criteria for Degradation of Benthos BUI have been met in Michigan AOCs.

Some local AOC communities also have programs for monitoring water quality and related parameters which may be applicable to this BUI. If an AOC chooses to use local monitoring data for the assessment of BUI restoration, the data can be submitted to the MDEQ for review. If the MDEQ determines that the data appropriately address the restoration criteria and meet quality assurance and control requirements, they may be used to demonstrate restoration success.

From: "Blowers, Merilee" <MBlowers@Ma.Kruger.com>
To: 'Julie Sims' <simsj@michigan.gov>
Date: 7/20/2006 10:30:12 AM
Subject: PAC Letter

Hi Julie,

Attached is the PAC support letter which I have addressed to Mr. Powers, if you would like me to address it to you instead let me know (I realize you told me that it can be addressed to you as well)- I had it already addressed to him in my file.

Please contact me if you have any questions.

Thanks.

Merilee Blowers

Wastepaper Buyer

Phone Number: (906) 341-4223

Fax Number: (906) 341-4217

Manistique Papers, Inc.

453 S. Mackinac Avenue

Manistique, MI 49854

July 19, 2006

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

Dear Mr. Powers,

The Public Advisory Council for the Manistique River Area of Concern concurs with the recommendation to remove the Degradation of Benthos Beneficial Use Impairment. On February 15, 2006, the Council accepted the Water Bureau's criteria for removing all five of the impairments in the Area of Concern when each is restored. Those Council members available attended the public meeting on the removal recommendation for the Degradation of Benthos impairment held in Manistique on July 12, 2006. Michigan Department of Environmental Quality and U.S. EPA staff presented supporting information on the removal recommendation. The Council accepts the agency's recommendations and concurs with removing the Degradation of Benthos Beneficial Use Impairment 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 four use impairments in the Area of Concern, with a goal of delisting the site as soon as 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,

Merilee Blowers, Chair
Manistique Public Advisory Council
Manistique Papers

Cc: Julie Sims, Michigan Department of Environmental Quality

Manistique River Area of Concern
Public Meeting
Courthouse, Room #1
300 Walnut St.
Manistique, MI 49854
Thursday, July 12, 2006
3pm-4pm

Purpose: Removal Recommendation for the Degradation of Benthos Beneficial Use Impairment in the Manistique River Area of Concern

Attendees:

Julie Sims, MDEQ
Roger Eberhardt, MDEQ, Office of the Great Lakes
Jena Sleboda, US EPA Superfund
Tony Kizlauskas, US EPA GLNPO
Darren Kramer, MDNR Fisheries
Merilee Blowers, PAC Chair
Sheila Aldrich, Manistique City Manager
Corey Barr, Water/ Wastewater Superintendent
Duane Waters
Mike Dougovito
Bill Rogers
Margaret Waters
Deborah Dougovito

Welcome and Introductions, Julie Sims, Michigan Department of Environmental Quality

Review of Agenda, Julie Sims

Meeting called to order at 3:00 PM

Removal Recommendation of the Degradation of Benthos Beneficial Use Impairment for the Manistique River Area of Concern, Julie Sims

I. Background, Roger Eberhardt, Michigan Department of Environmental Quality (See attached Powerpoint presentation #1)

II. Remedial Actions and Source Control to Address the Beneficial Use Impairment

- USEPA Superfund Actions, Jena Sleboda, U.S. Environmental Protection Agency (See attached Powerpoint presentation #2)

- Overview, Julie Sims (See attached Powerpoint presentation #3 and attached Removal Recommendation handout)

III. Assessment of Restoration, Julie Sims (See attached Powerpoint presentation #3 and attached Removal Recommendation handout)

Summary of assessment is that all remedial actions for sediments in the Area of Concern are complete.

IV. Recommendation, Julie Sims (See attached Powerpoint presentation #3 and attached Removal Recommendation handout)

The Degradation of Benthos Beneficial Use Impairment in the Manistique River Area of Concern is recommended for removal.

Local Public Advisory Council, Merilee Blowers, Public Advisory Council Chair, Manistique Papers

The public advisory Council will be sending a letter of support for the removal recommendation to Rich Powers, Chief of the Water Bureau in the Michigan Department of Environmental Quality before the end of the public comment period.

Public Questions/Comments, Julie Sims

The Public Advisory Council requests that their letter read acceptance/concurrence with the MDEQ recommendation and not approval.

There will be continued Superfund sampling in the sediments to ensure continued recovery of the site, including 100 sample locations in 2006, another 100 samples in 2007, and a comprehensive sampling in 2008 including 500 sample locations.

The MDEQ will communicate to the Public Advisory Council when the impairment is officially removed.

Brief discussion of timeline and process for removal of other beneficial use impairments.

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 July 26, 2006, the Water Bureau will send a letter to U.S. EPA-Great Lakes National Program

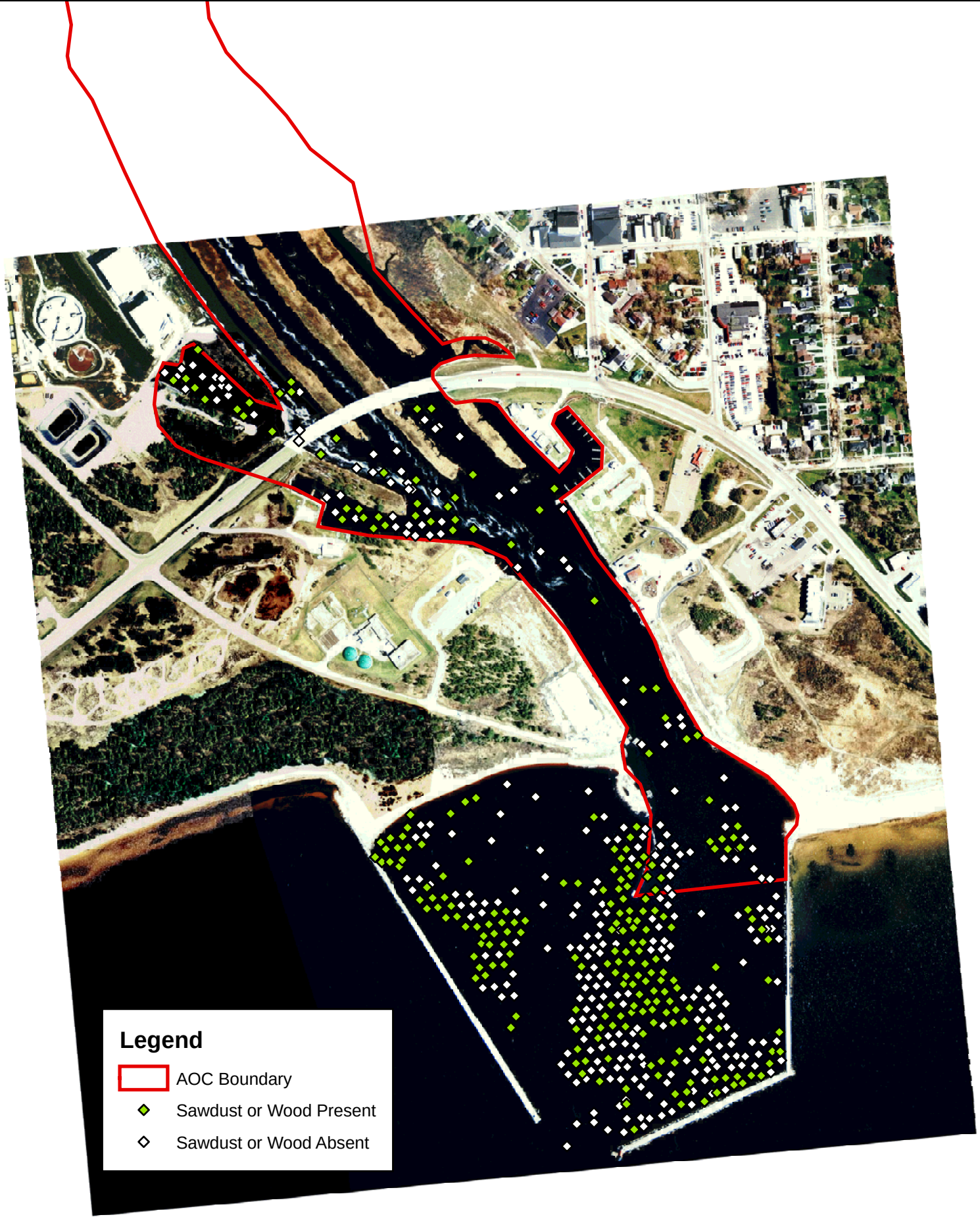
Office requesting concurrence. When U.S. EPA concurs, the Degradation of Benthos Beneficial Use Impairment will be formally removed.

Meeting adjourned at 4:00 PM

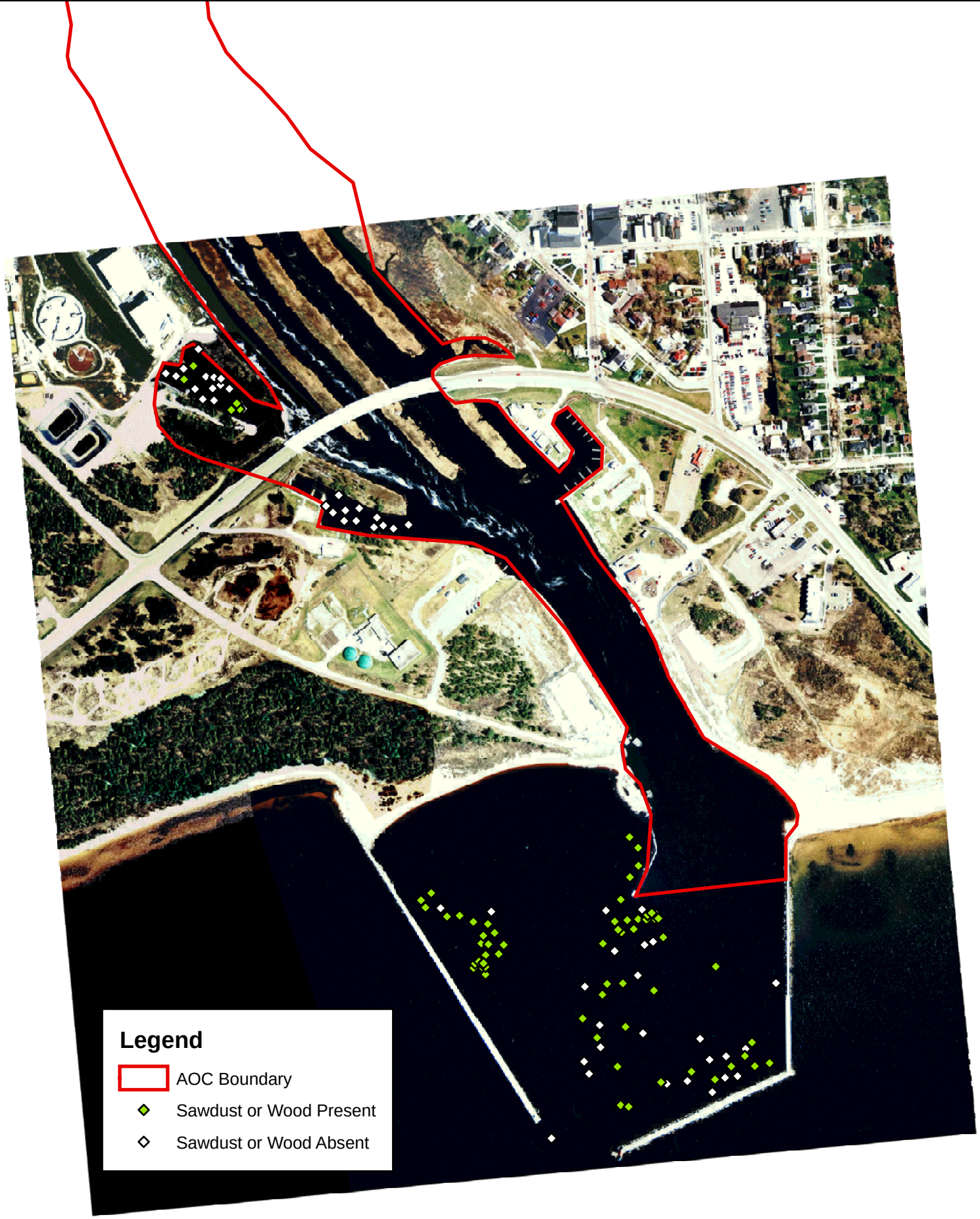
Contact:

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

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



Presence of Wood or Sawdust in Manistique AOC Sediments in 2004



Presence of Wood or Sawdust in Manistique AOC Sediments in 2005