



*St. Marys River
Area of Concern
Workshop Summary of
Canadian Discussions*

Updating Delisting Criteria

March 9, 2010
Sault Ste. Marie, Ontario

*FINAL
March 31, 2010*



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Preamble

On March 9th, 2010, 13 people representing municipal, provincial and federal government agencies as well as a citizen's group, the Binational Public Advisory Council (BPAC), which represents community interests from both the Canadian and American side of the St. Marys River watershed, attended a facilitated workshop at the Quality Inn Hotel, Sault Ste. Marie, to discuss Ontario-specific options for updating the delisting criteria for the St. Marys River Area of Concern (AOC). Michelle Selzer from the Michigan Department of Natural Resources and Environment joined the workshop via teleconference in the morning to present highlights and best advice from the Michigan delisting criteria development experience.

The project leads, including Kate Taillon and Mark Chambers from Environment Canada and Michelle McChristie from the Ministry of the Environment provided a summary of the status of the AOC and the rationale for the direction proposed for updating the delisting criteria in the 2002 Remedial Action Plan (RAP). The workshop participants were invited to review and discuss possible updates, as well as provide the project leads with the best advice for further delisting criteria development.

The participants focussed their discussions on reviewing the existing Stage 2 RAP delisting criteria and those approved in Michigan for 11 Beneficial Use Impairments (BUIs) (see side bar for the full list of BUIs) in order to discuss development options and revisions for potentially Ontario-based, specific criteria by answering the following questions:

1. Do the revised delisting criteria maintain the intent of the original delisting criteria?
2. Can the Michigan delisting criteria be applied?
3. Are the revised delisting criteria specific, measurable, achievable, relevant and time oriented? (SMART test)
4. How can the revised delisting criteria be improved?

This report is the synthesis of the workshop discussions.

ST. MARYS RIVER AOC BENEFICIAL USE IMPAIRMENTS (BUIs)

Theme 1 - Contaminated Sediments

1. Degradation of Benthos
2. Restrictions on Dredging Activities

Theme 2 - Fish and Wildlife

3. Restrictions on Fish & Wildlife Consumption
4. Fish Tumours & Other Deformities
5. Degradation of Fish & Wildlife Populations
6. Loss of Fish & Wildlife Habitat

Theme 3 - Water Quality

7. Eutrophication & Undesirable Algae
8. Beach Closings (closures)
9. Degradation of Aesthetics

Theme 4 - Non-Official (not IJC listed)

10. Ambient Water Quality
11. Ambient Air Quality



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INTRODUCTION

St. Marys River is a 112 km connecting channel between Lake Superior and Lake Huron. The Area of Concern (AOC) extends from the head of the river at Whitefish Bay (Point Iroquois - Gros Cap) downstream through the St. Joseph Channel to Humburg Point (Quebec Bay) on the Ontario side and to the straits of Detour on the Michigan side.

Environmental concerns in the St. Marys River include impacts on water quality and river sediment from effluent of local industries, as well as discharges from municipal storm sewers and wastewater treatment plants. While recent improvements in storm sewer systems, wastewater and effluent treatment, and industrial processes have significantly reduced the water quality impacts of these discharges, bottom sediments along parts of the river are contaminated. Other environmental concerns are impacts to fish and wildlife habitat due to shoreline alteration, industrialization, urban development, and shipping activities.

Canada and the United States have pledged their cooperation to restore the shared upper connecting channel AOCs under the terms of the Great Lakes Water Quality Agreement. The St. Marys River AOC is managed under a binational governance structure created under the Four Agency Letter of Commitment that was signed in April 1998 by Environment Canada (EC), Michigan Department of Environmental Quality (MDEQ), Ontario Ministry of the Environment (MOE) and the U.S. Environmental Protection Agency (EPA).

In 1988, the Binational Advisory Council (BPAC), made up of members from Canada and the United States, was created. Its role is to inform the RAP Team about public views and opinions and to assist with water use goals, planning methodology, technical data, preferred remedial options, problem identification, plan recommendations, and plan adoption. The BPAC is dedicated to ensuring that the river water quality and the ecosystem are improved and protected for all users of the river (www.issu.edu/bpac/).

AREA OF CONCERN

An AOC are geographic areas where a change in the chemical, physical or biological integrity of the Great Lakes system has caused or is likely to cause the impairment of any of the 14 beneficial uses of the area's ability to support aquatic life.

There are 43 AOCs in the Great Lakes basin: 17 on the Canadian side (5 are shared binationally on connective river systems) and 26 on the U.S. side
(source IJC www.great-lakes.net/)

ST. MARYS RIVER AOC BENEFICIAL USE IMPAIRMENTS (BUIs)

Of the 14 BUIs, these nine are impaired for the St. Marys River AOC (as of 2009):

- Restrictions on Fish and Wildlife Consumption
- Eutrophication and Undesirable Algae
- Degradation of Fish and Wildlife Populations
- Beach Closings
- Fish Tumours and Other Deformities
- Degradation of Aesthetics
- Degradation of Benthos
- Restrictions on Dredging Activities
- Loss of Fish and Wildlife Habitat

While not impaired, this BUI requires further assessment for status in the St. Marys River:

- Bird or Animal Deformities and Reproduction Problems

While not on the official IJC list of BUIs, these are of concern by the public:

- Ambient Water Quality
- Ambient Air Quality

These beneficial uses are not impaired:

- *Tainting of fish and wildlife flavour*
- *Restrictions on drinking water consumption; taste & odour problems*
- *Added costs to agriculture and industry*
- *Degradation of phytoplankton or zooplankton populations*

The Stage 1 Remedial Action Plan (RAP) report issued in 1992 to the International Joint Commission (IJC) described the underlying causes of environmental degradation in the St. Marys AOC.

The Stage 2 RAP report (2002) identified water use goals and delisting criteria for each of the BUIs and recommended remedial actions by various partner agencies and organizations to restore, protect and monitor environmental quality in the AOC.

The Stage 2 RAP report created BUI delisting criteria, but the partner agencies found many of them to be too high-level, outdated and not measurable, which makes tracking and assessing the status of the BUIs difficult. There was a past attempt to revise the Stage 2 delisting criteria, but they too were not measurable or quantifiable.

In 2010-2011, one of the priorities for the St. Marys River RAP is the development of an Implementation Annex that will identify and evaluate the remaining priority actions for the AOC. This will require an assessment of the current BUI status according to the delisting criteria.

The purpose of the workshop was to generate preliminary ideas and advice for the future direction of the St. Marys River delisting criteria. At the workshop, there was representation from a variety of government agencies and a non-government public advisory council. These participants were asked to review potential Ontario-specific delisting criteria and assist the project leads to draft delisting criteria revisions based on the following considerations: local, site-specific circumstances; linking to federal and provincial regulations or guidelines; Michigan criteria where appropriate; and incorporating approved specific, measurable, achievable, relevant and time-oriented targets (SMART test), e.g., benchmarks that serve as indicators of the impairment of AOCs, for program success.

Through interactive and facilitated discussions the following themes and questions were addressed:

1. Do the revised delisting criteria maintain the intent of the original delisting criteria?
2. Can the Michigan delisting criteria be applied?
3. Are the revised delisting criteria specific, measurable, achievable, relevant and time-oriented (SMART test)?
4. How can the revised delisting criteria be improved?

The discussions provided important content input and direction for a government-based technical team that will be established to further revise the criteria, based on consensus from this workshop and future discussions with specialists and community members. Prior to implementing the revised criteria, BPAC will have the opportunity for review and comment.

The following section reflects the participant discussions.

REMEDIAL ACTION PLAN

Remedial Action Plans (RAP) aim to restore beneficial uses in the watersheds of AOCs.

- Stage 1 RAP process - environmental conditions and problems defined
- Stage 2 RAP process - proposed remedial actions and their methods of implementation are identified
- Stage 3 RAP process - ongoing monitoring for effectiveness of proposed actions, i.e., evidence that uses have been restored

ST. MARYS RIVER AOC BENEFICIAL USE IMPAIRMENTS (BUIs)

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DISCUSSION SUMMARY

During the morning introductions, participants were asked to provide best advice for the team leads to take into consideration when changing the delisting criteria. These comments, as well as those provided by Michelle Selzer (Michigan Department of Natural Resources and Environment) during her presentation pertaining to the Delisting Criteria for Michigan AOCs, have been provided in Appendix 1.

After introductions and presentations, participants were asked to address the potential revisions to the delisting criteria for all eleven Beneficial Use Impairments (BUIs) associated with the St. Marys River AOC. It was presented in worksheet format, which enabled participants to review and compare the 2002 Stage 2 RAP criteria, Michigan-based criteria, and illustrative examples for what Ontario-specific criteria could entail. Through facilitated discussion, questions pertaining to the BUIs generated comments, suggestions and additional questions for future consideration. The following is a synthesis of the discussions and proposed delisting criteria revisions for each BUI, and the groups' consensus where applicable.

THEME 1: CONTAMINATED SEDIMENTS

Delisting Criteria 1 - Degradation of Benthos

Revised Illustrative Delisting Criteria Example

- i. If and when deemed necessary, implementation of a contaminated sediment management plan that reduces risk of exposure to persistent toxic substances within the AOC; and/or*
- ii. For areas not subject to navigational or operational dredging, acute and chronic toxicity, benthic community composition and abundance are comparable to suitable reference sites. (proposed for areas where dredging may occur)*

LISTING CRITERIA

**Initial Reason for Impairment -
Degradation of Benthos**

- Exceedences of Lowest Effect Level for several metals along St. Marys River from Algoma slag dump to Lake George Channel;
- Exceedences of Severe Effect Level for iron at several sites and for arsenic, nickel and manganese at one site at Algoma slag dump; and
- High levels of total organic carbon along the river, with exceedences of Severe Effect Level for PAHs.

Questions and Comments on Illustrative Example

- What were the standards for identifying "exceedences" and "high level" concentrations? What was the baseline data? The delisting criteria needs to provide a chart with historical (baseline) and current data (list numbers) from the various studies to identify the sources of concern, to explain the baseline standards, how science has changed over the years (what is now acceptable), and changes in data to show if there has been an improvement. Currently, the use of the term "exceedence" does not qualify why it was originally used as delisting criteria.
- What is in a contaminated sediment management plan?
 - Scope, timing, goals & objectives, monitoring, responsibility (who), point sources/location (industry, municipal, etc.), land use changes (conditions and requirements on dredging and disposal, capacity of component), resources

- (funding, people/contact, BMPs) and a tool box of resources (e.g., realtor/township guide).
- How close are we to developing a contaminated sediment management plan?
 - The contaminated sediment technical team will decide whether or not a management plan is required. Analysis of Environment Canada's benthic monitoring (including data from 2009) and its fate and flow study will assist in the discussions.
 - If a contaminated sediment management plan is deemed necessary, 2013 will be the earliest year to implement it, because we need time to be able to assess and compile the plan, i.e., what are the underlying issues to target (identify problem areas and how to manage them) and the possible options; then we must choose an option, provide a detailed environmental risk assessment, consult with the public, and finalize the plan.
- We need to look at the bigger picture to address the problem of sediments that have not been dredged and removed from the site. These contaminated sediments cannot be disturbed because we don't want the impact from these sites downstream.
- Control point sources and deal with historic contamination, and once a contaminated sediment management plan is complete which identifies what is to be achieved, develop strategies to measure effectiveness.
- Address the goals for the contaminated sediment management plan by identifying them in the criteria for each BUI.
- There are also money issues to be considered; the importance of money should be footnoted in the SMP.
 - Information and costs change so we may not know the dollar value now and it may take a couple of years to get a program cost estimate; therefore, need to develop the options first.

Criteria 1 - Revision Discussion

Criterion # 1 i - Contaminated Sediment Management Plan (CSMP)

- The CSMP was identified during a previous BPAC brainstorming exercise and was accepted by a variety of agencies; what's wrong with incorporating Michigan criteria to the first paragraph?
- Over time contaminated sediments are topped with clean sediment; however, these areas are found within areas that may be dredged in the future for recreational purposes, e.g., boat slips. If the benthos and top sediment layers are clean, what is being done to protect the buried contaminated sediment from disturbances? Therefore, "if and when deemed necessary" is not appropriate language.
- How does this criterion differ?
 - Basically it is the same proposed during Stage 2 but a lot shorter. Propose rewording first criteria to read - "when a contaminated sediment management plan has been implemented..."
- Need quantifiable goals to support Criteria 1 i
- It is not going to be a one size fits all scenarios; therefore, both criteria may be needed. The CSMP may help to tease out the detail for measuring the second criteria.
- Address what the plan will do, i.e., recovery treatment strategies for contaminated sediment sites such as remediation and natural recovery and how untreated sites will be addressed in the future; the CSMP has to be comprehensive including identifying the measure of success.
- The contaminated areas are different and therefore the outcomes will not be the same.

- The players have to be at the table during the development of the contaminated Sediment Management Plan (e.g., part of the implementation annex)
- Must have a CSMP in place in order to move forward
- Incorporate a contingency plan with follow-up monitoring and timing windows into the CSMP to provide another level of protection from the unknown, i.e., “cleanup money”, “insurance policy”, or “penalties” to address future problems such as incidental industrial and/or municipal discharges or exceedences. This could be provided as an explanatory note under monitoring requirements.
 - In the case of Michigan, if an activity it is not in the State’s regular monitoring program, local communities need to find a way to fund it for area-specific criteria/issues.

Criterion # 2 ii - Reference Sites for Dredging

- There are 400 reference sites
- Need to better characterize potential management areas and confirm findings, e.g., BEAST (a federal benthic assessment of sediment program)
- In order to reduce the risk, identify the current risk and the goals to address the risk, as well as identify the location and rationale for choosing suitable reference sites.
- Add a list of specific sites that are subject to dredging in the watershed
 - Only two sites identified in Michigan; however, in Ontario it is not how many sites but the actual size of the contaminated area that is a concern.
- The CSMP should address both the areas that will be and will not be dredged.

Consensus Discussion - Criteria 1 - Degradation of Benthos

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
 - a. Yes.
2. *Can the revised delisting criteria be measured?*
 - a. Discussion focused on changes that would be necessary to this revised criteria - see below
3. *Can the Michigan delisting criteria be applied?*
 - a. A revised (new) Ontario-specific delisting criteria would be acceptable
4. *How can the revised delisting criteria be improved?*
 - a. The delisting criteria need to be quantifiable and comprehensive, and provide a follow-up contingency plan.
 - b. The criteria would include the implementation of a Sediment Management Plan, and the supplementary criterion # 1 ii) which identifies where dredging occurs in Ontario.
 - c. Include maintenance - strategies to deal with contaminated sediments, e.g., in order to dredge you would have to implement Administrative Controls.

Suggested Criteria: Criteria # 1 i - “When a Contaminated Sediment Management Plan that reduces risk of exposure to persistent toxic substances within the AOC is in place”.

Or

- *“A contaminated sediment plan that reduces risk of exposure to persistent toxic substances with the AOC has been implemented”.*

...and the supplementary Criteria # 1 ii which identifies where dredging occurs.

Delisting Criteria 2 - Restrictions on Dredging

Discussions focused on the prospect of removing this BUI since the issues may already be covered by other BUI categories.

Revised Illustrative Delisting Criteria Example

Contaminated sediment is covered by the Degradation of Benthos BUI and by provincial and federal guidance on dredging restrictions.

- i. Open water disposal of contaminated dredged material is not allowed since 1992. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach identifies the requirements for disposal within a landfill, confining structure of a lake fill, or confined disposal facility.*

The impacts from contaminated sediment (concerns over sediment quality) is covered under the Degradation of Benthos BUI.

- ii. Contaminated sediments were the original driver to the Dredging BUI, but contaminant concentrations alone are not conclusive evidence of ecological degradation; rather biological responses to these contaminants are the primary concern, which is addressed by the Degradation of Benthos BUI.*

LISTING CRITERIA

Initial Reason for Impairment -

Restriction on Dredging

- Levels of some contaminants were above concentrations which permit open water disposal (refer to Degradation of Benthos BUI)

Questions and Comments

- Need the contaminated sediment management plan (CSMP) in place in order to agree or disagree with the removal of this BUI
- Consider including this BUI as a criteria in the CSMP
- If dredging isn't used as a point of interest, the benthos BUI may not be an issue
- Dredging is already regulated and enforced through federal and provincial policy, which include disposal requirements/restrictions of the dredgeate (dredged materials)
- There is a fear that this will be a perpetual BUI that may never be addressed
- Michigan had similar concerns regarding the removal of this BUI because it only applies to dredging activities within the navigational channel, which is no longer contaminated due to continuous sediment removal. This BUI would apply to areas with contaminated sediment, e.g., boat slip dredging for recreational purposes, shoreline development, etc. This BUI would therefore never be delisted.

Criteria Revision Discussion

- The delisting criteria could be the same as the Benthos BUI
- Need an Administrative Control Plan, which provides a step-by-step guideline for the proponent and permitting agencies and may be valuable to clarify other issues

Consensus Discussion - Criteria 2 - Restrictions on Dredging

- 1. If open water disposal of contaminated dredged material is not allowed anymore (the basis of original concern), is the BUI outdated?*

2. *If degradation of Benthos BUI more fully addresses concerns over sediment quality (the basis of the original concern), is the BUI redundant?*
3. *Is what is being proposed for other AOCs applicable for St. Marys River?*

The above mentioned questions did not receive direct response; however, the following comments generated consensus:

- ✓ *Keep the BUI because of public perception of this issue (e.g., private waterfront landowners)*
- ✓ *Have an Administrative Control plan in place to address contaminated sediment management options and dredging. Consider an action oriented criteria (a promise to do something better for the future vs. results oriented) that would be linked with the Contaminated Sediment Management Plan (CSMP)*

Suggested Criteria: No rewording of Criteria provided.

THEME 2 - FISH AND WILDLIFE

Delisting Criteria 3 - Restrictions on Fish and Wildlife Consumption

Revised Illustrative Delisting Criteria Example

- i. *Fish consumption advisories in the AOC are the same or less restrictive than the associated Great Lake or appropriate control site.*

Or if the advisory in the AOC is more stringent than the associated Great Lake or control site:

- ii. *A trend analysis on fish consumption advisories and a comparison study on fish tissue concentrations show the AOC is similar to the associated Great Lake or appropriate control site.*

Questions and Comments

- Are the fish guidelines the same between countries?
 - No; different criteria and sampling criteria (Canada-dorsal fin sampling vs. U.S.-whole fish/stomach sampling)

Criteria Revision Discussion

Criterion 3 i - Fish Consumption Advisories

- The majority of fish coming out of St. Marys River are transients (e.g., salmonids which have been produced and impacted from contaminants in other areas) that are from elsewhere in the Great Lakes basin. Therefore, examine local/resident fish populations such as yellow perch, "river" walleye (may be mixing with North Channel walleye), northern pike, and lake herring (lake advisory for this species) to determine local specific issues derived from contaminants in the river (this is based on the assumption that resident fish are feeding on local sources).
 - Need to consider timing of sampling.
 - Sampling fish post-spawning may guarantee resident population.
 - Compare resident fish with other populations to identify sources of toxicity.
- Criteria should ensure that monitoring and reporting are for river residents only.
 - Need to mention that sport fish can either be river residents or transients (temporary residents or visitors).
- There are natural sources of mercury contamination in fish, e.g., cinnabar (a form of mercury), and if these local sources of mercury are biologically available delisting may never occur.
 - Need to monitor the potential sources of mercury.
- Criteria must be geared towards human-made contaminant sources (local and broad-scale point sources).

Criterion 3 ii - Trend Analysis

- We are lowering the bar with this criteria; it seems to suggest that if conditions gets worse everywhere else than it is okay.

LISTING CRITERIA

Initial Reason for Impairment - Restrictions on Fish and Wildlife Consumption

- Elevated levels of mercury (Hg), polychlorinated biphenyls (PCBs), mirex and pesticides;
- Contaminant levels for some (e.g., Hg) are elevated throughout the Great Lakes, and may not be due to local contamination sources. However, significant levels of locally derived contaminants remain an issue in the SMR; and
- There are no AOC-specific advisories in effect for wildlife consumption.

- However, if we don't include the second criteria we are stating that the Canadian side remains impaired and the American side is not, and it therefore will never be delisted.
- The data (tissue contaminant concentrations) behind the consumption advisory is most important because it tracks trends over time.
- Concentrate criteria on comparing the contaminant in fish tissue that causes the advisory in the first place because advisories may become more restrictive over time.
- Get rid of advisory language and just stick to fish tissues since that is what you are comparing.

Consensus Discussion - Criteria 3 - Restrictions on Fish and Wildlife Consumption

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
 - a. Yes
2. *Can the revised delisting criteria be measured?*
 - a. Yes
3. *Can the Michigan delisting criteria be applied?*
 - a. Yes
4. *How can the revised delisting criteria be improved?*
 - a. *Yes, according to the following suggestions:*
 - i. *Keep Criteria 3 i. but reword as - (river resident) fish tissue concentrations in the AOC are the same or less restrictive than the associated Great Lake or appropriate reference site (area not impacted)*
 - ii. *Take out Criteria 3 ii. - add fish consumption advisory as an additional qualifier in Criteria 3 i. after the tissue concentration.*

Suggested Criteria: River resident fish tissue concentrations in the AOC are the same or less restrictive than the associated Great Lake or appropriate reference site (area not impacted).

- *Additional qualifier: fish consumption advisory*

Delisting Criteria 4 - Fish Tumours and Other Deformities

Revised Illustrative Delisting Criteria Example

- i. *Prevalence of total liver neoplasms within fish (e.g., white suckers) is 4% or less, based on sample size of 100 or more.*

Questions and Comments

- The 4% (prevalence #) is based on a Paul Baumann sampling protocol in the Great Lakes. He looked at 8 AOCs and determined that a 5% liver neoplasm prevalence should still maintain a fish tumour BUI; and that all locations with a tumour prevalence of 4% or higher should be required to do an additional survey.
- It is the expected prevalence of tumours and other in naturally occurring populations free of contaminants (i.e., background noise).
- White suckers sampled from the St. Marys River (1985-90) exhibited tumour prevalence in excess of 9% (sample size of 185).
- The Michigan delisting criteria states "*No reports of fish tumors or deformities due to chemical contaminants which have been verified through observation and analysis by the MDNRE for a period of five years*"; what if no one reports fish tumours within the timeframe specified, does this mean it can then be delisted? Who are looking for these deformed species and are findings getting reported?
 - Environment Canada has sampled for tumour prevalence in white sucker and bullhead.
- If Environment Canada collected fish from the Canadian side, would Michigan review our data?
 - Yes; Lake Superior State University received a grant to collaborate and review Canadian data.
- Are fish tumours and deformities a big issue?
 - Tumour prevalence was really bad in the brown bullhead population.
 - Most consumers observed abnormalities in flesh tissues but are not, however, looking for deformities in the liver or other organs.
 - Lake Ontario has more observable physical deformities than St. Marys River.
- This is an opportunity for the St. Marys River Fisheries Task Group to include its data (every 3 years monitoring using gill nets monitor the population from top to bottom).
 - This would require training for field crew.
 - Need to sample at end of growing season to get the big fish.
 - Bullheads and carp are also available in the system for sampling; the data might therefore be more representative if it includes other bottom feeders.
- Would the 4% be applicable to other fish?
 - According to the Great Lakes Commission (*Overview of U.S. Great Lakes Areas of Concern*, March 2002) a prevalence rate for hepatic neoplasms greater than 5% is an indicator of environmental degradation; therefore, 4% is quite stringent.

LISTING CRITERIA

Initial Reason for Impairment - Fish Tumours and Other Deformities

- Incidences of hepatic and liver cancers in white suckers and brown bullhead. However, assessment was based on old data (1985-1990) and further assessment was recommended; and
- Likely cause is exposure to contaminants such as PAHs in contaminated sediments.

Criteria Revision Discussion

- The criteria are very specific. What about considering sampling other species and sampling timing windows, as well as whether this should be geographic specific? Need broader quantifiable criteria that extend to all fish species.
- It is sensed that through this process there is an overall fear to delist a criterion. If the scope of work has been accomplished (for any criterion) and/or the initial goals have been met, let us not be afraid of delisting it.

Consensus Discussion - Criteria 4 - Fish Tumours and Other Deformities

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
 - a. *Yes (somewhat more specific). Need broader quantifiable criteria that extend to resident fish species in St. Marys River.*
2. *Can the revised delisting criteria be measured?*
 - a. *Yes*
3. *Can the Michigan delisting criteria be applied?*
 - a. *Yes, in part*
4. *How can the revised delisting criteria be improved?*
 - a. *Include fish species that are residents in the river (i.e., not transients that live and have been impacted from contaminants in other areas outside the AOC)*

Suggested Criteria: No specific rewording of Criteria provided, however, consider the following based on the suggestions above:

- *Prevalence of total liver neoplasms within all river resident fish species is 4% or less, based on a sample size of 100 or more.*

Delisting Criteria 5 - Degradation of Fish and Wildlife Populations

Part 1 - Fish and Wildlife Body Burdens

Revised Illustrative Delisting Criteria Example

- There is no statistically significant difference in concentrations of persistent toxic substances in fish, birds, and/or other wildlife from within the AOC to those from bordering areas; and*
- Confirmation that secondary treatment at the pulp mill and steel mill has improved effluent quality and complies with provincial regulations.*

Questions and Comments

- This BUI is linked to contamination and sea lamprey invasion in Ontario and linked with habitat degradation on the Michigan side.
- This BUI has lumped two fish and wildlife delisting criteria (Degradation of Fish and Wildlife Populations and Bird or Animal Deformities and Reproduction Problems), which does not address the tissue contamination issue.

LISTING CRITERIA

Initial Reason for Impairment - Degradation of Fish and Wildlife Populations

- PCBs in white sucker and carp above Great Lakes Water Quality Objectives (GLWQOs);
- PAHs and PCBs high in white suckers due to contaminated sediments;
- Pulp mill effluent and resin acid (i.e., docosahexaenoic acid (DHA));
- High level of fish stocking in response to sea lamprey; and
- For “Dynamics of Populations” and “Body Burdens” for wildlife, the Stage 2 report indicated further assessment was required.

- A Watershed Management Plan would be implemented before the BUI would be delisted
- Only fish issues have been identified and addressed
- Can we infer that the wildlife will be healthy, if the lower levels of the food chain are healthy?
 - When environmental conditions can support desirable fish and wildlife populations; however, what level of abundance do we expect? Are we looking at individual vs. population effects?
 - Defer to Ministry of Natural Resources (MNR) fisheries zone management goals
 - Concerned with the lack of data on wildlife and there may not be enough resources to accumulate this data
- Environment Canada Canadian Wildlife Service does not consider St. Marys River as having wildlife issues in comparison to other areas.
 - If experts suggest that there are no issues, then shouldn't we just accept this assessment?
- Are all industries meeting effluent quality guidelines?

Criteria Revision Discussion

Criterion 5 i - Persistent Toxins

- Aren't there indicator species we could use to avoid examining all species populations? Therefore, should add "selected indicator species" to the criteria.
 - Leave the species listing up to the experts because there are groups already looking at wildlife deformities, e.g., gull data.
- The Michigan criteria do not consider how the persistent toxic substances are affecting the fish and wildlife.
 - May have higher concentrations in these species tissue without having an adverse effect/impact on them.
- Is this BUI quantifiable?
 - Yes, parts of it. There are protocols to determine reproductive success in fish such as feminization of males in cyprinid fish species; however, you require lots of money to define these targets.

Criterion 5 ii - Secondary Treatment

- This second criteria should be removed. This is an action-oriented vs. quantifying criteria and we want to avoid these in order to address the underlying conditions. However, BPAC won't allow it when there is a need to address issues that have been listed in the Stage 2 report.

Consensus Discussion - Criteria 5 - Fish and Wildlife Body Burdens

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
2. *Can the revised delisting criteria be measured?*
 - a. *Yes.*
3. *Can the Michigan delisting criteria be applied?*
 - a. *No.*
4. *How can the revised delisting criteria be improved?*
 - a. *Yes. Consider focusing on the first criteria and relating it back to the original Stage 2 delisting criteria.*
 - i. *There should also be quantifiable goals in this criteria (e.g., Environmental Effects Monitoring Program, which looks at the environmental effects on fish in close proximity to pulp and paper mills)*

- ii. Include “tissue contamination concentrations” in the first criteria statement, as well as a qualifier regarding “no exceedence of minimum levels”.

Suggested Criteria: No specific rewording of Criteria provided, however, consider the following based on the suggestions above:

- *There is no statistically significant difference in tissue contamination concentrations and no exceedence of minimum levels of persistent toxic substances in fish, birds, and/or other wildlife from within the AOC to those from the bordering areas.*

Part 2 - Dynamics of Fish Populations

Revised Illustrative Delisting Criteria Example

- iii. *Data indicates a healthy self-sustaining fish community exists relative to the amount and quality of habitat available in the AOC;*

OR

- iv. *Monitoring data from the St. Marys River Fisheries Task Group and the Sea Lamprey Control Centre indicate their respective goals have been met.*

Questions and Comments

- Sea lamprey is not an AOC specific issue; lake-wide management plans are now in place which deals with lake-wide issues such as invasive species.
- Is there a target for a healthy and self-sustaining population?
 - Scientists examine species specific parameters such as mortality rate, age-class structure (e.g., data is available for five principle fish species in the river for up to 2006);
 - Need to identify parameters that would classify a healthy population.
- The fish community objectives for Lake Superior and Lake Huron may help word this criteria, e.g., 5% of sea lamprey-salmonid/lake trout wounding in 100 fish; species surviving to spawning age; females able to spawn twice before being removed from the population; etc.

Criteria Revision Discussion

- Criterion 5 iii has issues relative with the amount and quality of habitat; quality and quantity of habitat need to be defined (e.g., in terms of standard population measures such as mortality rates, year class, index of biotic integrity, etc).
 - If there are limiting factors for a healthy fish population, these factors will not be affected by habitat since this is addressed separately.
- Criterion 5 iv has timeline issues; there may be some trouble meshing different timelines and project goals.
- Link these two criteria. St. Marys River Fisheries Task Group could be responsible for the assessments only (contact: Neal Godby, Chair), which occur every 3 years (frequency of sampling; however, monitoring is dependent upon agency resources; there are 4-5 agencies currently involved).

Consensus Discussion - Criteria 5 - Dynamics of Fish Populations

1. Do the revised delisting criteria maintain the intent of the original Delisting Criteria?
2. Can the revised delisting criteria be measured?
3. Can the Michigan delisting criteria be applied?
 - a. None.
4. How can the revised delisting criteria be improved?
 - a. Consider linking the two criteria (monitoring data with quantity and quality of habitat).
 - b. Consider timeline issues and the relative amount of quality habitat available.

Suggested Criteria: No rewording of Criteria provided.

Delisting Criteria 6 - Loss of Fish and Wildlife Habitat

Revised Illustrative Delisting Criteria Example

- i. *The amount and quality of physical, chemical and biological habitat required to achieve Lake Superior Fish Community Objectives have been established and protected; and*
- ii. *The International Lake Superior Board of Control achieves the goals set under the water level regulations endorsed by the International Joint Commission and its International Upper Great Lakes Study.*

OR

- iii. *Data indicates a healthy and self-sustaining fish community exists relative to the amount and quality of habitat available in the AOC.*

LISTING CRITERIA

**Initial Reason for Impairment -
Loss of Fish and Wildlife Habitat**

- Shoreline alteration, industrialization, urbanization, shipping activities and new shoreline cottage development; and
- Flow-control structure at the head of the rapids has resulted in changes to the biological integrity and productive potential of the remaining rapids habitat.

Criteria Revision Discussion

Criterion 6 i - Lake Superior Fish Community Objectives

- Create a geographic specific watershed management plan, which addresses specific issues and identifies actions that were acknowledged in the Stage 2 report.
 - By 2012 a source water protection plan, approved by the MOE, will be initiated by the Sault Ste. Marie Region Conservation Authority
 - Sounds similar to a Sediment Management Plan
- Need to look at site specific habitat in the St. Marys River to address/compensate locally specific issues, e.g., loss of habitat (rapids, wetlands, tributaries). In the river, habitat loss is associated with manipulated water levels (hydro dams and natural events), e.g., northern pike need high and sustained water levels for a specific amount of time in order to spawn and rear young; however, when water levels are low, rearing sites are minimized and the affects are notable in population sizes. Therefore, looking at Lake Superior Fish Community objectives may not apply to St. Marys River because they are area specific to Lake Superior.
- There is a need to review the actions recommended in the stage 2 for completeness and current relevancy

Criterion 6 ii - International Lake Superior Board of Control and Quantity and Quality of Habitat

- Need to know the baseline habitat information, especially to sustain no net loss habitat since the Stage 2 report.

Consensus Discussion - Criteria 6 -Loss of Fish and Wildlife Habitat

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
2. *Can the revised delisting criteria be measured?*
3. *Can the Michigan delisting criteria be applied?*
4. *How can the revised delisting criteria be improved?*

Suggested Criteria: No consensus was derived and no rewording of Criteria was provided; however, the following suggestions were provided:

- *Create small working groups to review what has not been addressed today in order to attain consensus, which includes Municipal and Conservation Authority planners in the working groups.*

THEME 3 - WATER QUALITY

Delisting Criteria 7 - Eutrophication and Undesirable Algae

Revised Illustrative Delisting Criteria Example

- i. Total phosphorus concentrations within the AOC are similar to and/or do not exceed the median of reference site conditions;*
- ii. No persistent water quality problems exist within the AOC (harmful algal blooms, oxygen stress); and*
- iii. Effluent from the East End Water Pollution Control Plant is in compliance with treatment standards for phosphorous, nitrogen and organic matter.*

LISTING CRITERIA

Initial Reason for Impairment - Loss of Fish and Wildlife Habitat

- Shoreline alteration, industrialization, urbanization, shipping activities and new shoreline cottage development; and
- Flow-control structure at the head of the rapids has resulted in changes to the biological integrity and productive potential of the remaining rapids habitat.

Questions and Comments

- Eutrophication is a current problem because there are still point and non-point sources pollution from leaky sewage and septic systems; however, things have improved greatly since the 1980s.
- The U.S. thought this BUI could be delisted.
 - Assessments on the Canadian side seem to suggest that we are close to delisting.
 - If the BPAC and Michigan think this BUI has been addressed, we could suggest that these issues be addressed in other BUIs?
 - What are the conditions that get an area listed in Michigan?
- The goal is to reduce the total phosphorous.
 - What is the background TP?
 - There are a variety of sources of P that may not be monitored (e.g., Lake Simcoe largest source is atmospheric deposition).

Criteria Revision Discussion

Criterion 7 i

- Consider comparing our Total Phosphorous (TP) concentrations with the Provincial Water Quality Objectives (PWQO) to determine where we stand, with the understanding that in some areas the PWQO can never be reached. So, if Canada's TP concentrations are below the PWQOs we consider Criterion 7 ii, if not, we deal with a reference site study as stated in the first criteria.

Criterion 7 iii

- Third criteria out.

Consensus Discussion - Criteria 7 - Eutrophication and Undesirable Algae

1. Do the revised delisting criteria maintain the intent of the original Delisting Criteria?
2. Can the revised delisting criteria be measured?

3. *Can the Michigan delisting criteria be applied?*
4. *How can the revised delisting criteria be improved?*

Suggested Criteria: No consensus was derived. This BUI is not settled.

Delisting Criteria 8 - Beach Closings

Revised Illustrative Delisting Criteria Example

- i. *There are no exceedences of the geometric mean for E. coli levels from controllable point sources (series of five samples within a one month period is less than 100 per 100 ml);*
- ii. *A Storm Water Management Master Plan/Strategy is developed and implemented to address storm water quality and quantity concerns; and*
- iii. *A Source Water Protection Plan is developed and implemented to mitigate, eliminate and prevent significant threats to water within the AOC*

OR

- iv. *Public beaches meet the following:*
 - ✓ *Prominent sources of fecal pollution that could contaminated beach or recreational waters are known;*
 - ✓ *Less than 20% of the geometric means of water samples collected over the swimming season exceed the Provincial Water Quality Objectives (100 E. coli per 100 ml), or is similar to a suitable non-AOC reference site when assessed over a period of at least three to five years; and*
 - ✓ *Any sever exceedences of the Provincial Water Quality Objectives is rare and predictably associated with local events such as significant rainfall events.*

LISTING CRITERIA

**Initial Reason for Impairment -
Beach Closings**

- E. coli bacteria densities in excess of the Provincial Water Quality Objective (PWQP) and Michigan Water Quality Standard (MWQS) occur in Ontario and Michigan water downstream of storm sewers, combined sewer overflows, industrial outfalls, and the East End Water Pollution Control Plant.

Questions and Comments

- There are several storm sewers and industrial outflows in the watershed. Primary sources of E. coli are from storm water sewers and wildlife (e.g., geese & other birds - an uncontrollable source) due to shoreline use changes, e.g., lawns to shores which attract geese.
- Water flow in the Northern Channel is slower than the shipping channel because it is less deep and therefore movement of muck to the surface and downstream is more noticeable.
- Are there areas that are monitored for beach closures by the CA?
 - No, this is the Health Units' jurisdiction
 - Bell's Point, Mark's Bay Beach, Ojibwe Park and Kinsmen Park are a few examples of public beaches in the area

Criteria Revision Discussion

Criterion 8 iii - Storm Water Management Plan (SWMP) and Source Water Protection Plan

- Not sure how many times E. coli is sampled by the Health Unit; therefore, may never meet the five sample target in Criterion 8 i.

- A SWMP typically deals with source water protection and would be extended over a period of time and incorporate a variety of implementation strategies.
 - The word implementation would prevent timely efficiency and “eliminate significant threats” addressed in Criterion 8 iii may not occur.
 - There is, however, a need to eliminate the severity of impacts.

Criterion 8 iv

- These three sub-criteria dealing with Public Beaches (bottom examples) should be the template used to word the criteria because they address the issues.
 - Define “source” (associated with rain) or reword in first criteria
 - Clarify what the < 20% means in the second criteria
 - Define rare in third criteria

Consensus Discussion - Criteria 8 - Beach Closings

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
2. *Can the revised delisting criteria be measured?*
3. *Can the Michigan delisting criteria be applied?*
4. *How can the revised delisting criteria be improved?*
 - a. *Eliminate the first 3 criteria, but apply to the last criteria.*

Suggested Criteria: No rewording of the Criteria was provided; however, the following suggestions were provided:

- *These three sub-criteria dealing with Public Beaches (bottom examples) should be the template used to word the criteria because they address the issues.*
 - *Define “source” (associated with rain) or reword in first criteria*
 - *Clarify what the < 20% means in the second criteria*
 - *Define rare in third criteria*

Delisting Criteria 9 - Degradation of Aesthetics

Revised Illustrative Delisting Criteria Example

- i. *Waters within the AOC are free from substances at concentrations capable of producing persistent objectionable deposits, visible films or sheens, unnatural colours, turbidity, or odours;*
- ii. *Confirmation that the pulp mill and steel mill are in compliance with regulations for discharge limits and prevention of environmental spills; and*
- iii. *Enforcement of regulations governing the prevention of pollution from shipping sources (e.g., oil spills).*

LISTING CRITERIA

Initial Reason for Impairment -
Degradation of Aesthetics

- Largely related to sewage effluent and oil spills from ships.

Criteria Revision Discussion

- Criterion 9 i looks quite similar to Michigan’s criteria.

- Need quantifiable/measurable standards because how do you measure “free from” and odour
- Define “persistent”
- Need to identify the best indicators of water aesthetics
- Consider noise standards
- Consider terminology in current sewer use by-law or specific numbers where possible
- Criterion 9 ii should identify all industries.
 - Identifying generic industries would have to be in perpetuity
 - Sometimes industries, however, fall out of compliance because of technology or policy changes, and require time to upgrade to meet new targets.
- Take out criteria 2 and 3

Consensus Discussion - Criteria 9 - Degradation of Aesthetics

1. *Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
 - a. *Yes*
2. *Can the revised delisting criteria be measured?*
 - a. *It can be improved with reference to the specific guidelines, municipal by-laws, etc., pertaining to aesthetics.*
3. *Can the Michigan delisting criteria be applied?*
 - a. *Yes - Criteria 9 i resembles Michigan’s criteria.*
4. *How can the revised delisting criteria be improved?*
 - a. *Remove Criteria 9 ii and iii, and reword Criteria based on comments suggested in 9 i.*

Suggested Criteria: No rewording of Criteria was provided; however, the following suggestions were provided:

- *Keep criterion 9 i because it looks quite similar to Michigan’s criteria; however, it needs to be revived to include:*
 - *Need quantifiable/measurable standards because how do you measure “free from” and odour*
 - *Define “persistent”*
 - *Need to identify the best indicators of water aesthetics*
 - *Consider noise standards*
 - *Consider terminology in current sewer use by-law or specific numbers where possible*

THEME 4: NON-OFFICIAL

Delisting Criteria 10 - Ambient Water Quality

Discussions focused on the prospect of removing this BUI, or keeping it and developing delisting criteria.

Revised Illustrative Delisting Criteria Example

Remove this BUI because it is not a formally recognized BUI and it is redundant as other BUIs address water quality issues.

OR

The BUI will be considered restored when:

- i. A Source Water Protection Plan is developed and implemented to mitigate, eliminate and prevent significant drinking water threats around the AOC; and*
- ii. Water treated for human consumption in the AOC meets provincial standards set under the Safe Drinking Water Act, 2002 and its regulations.*

Questions and Comments

- There is connectivity between air and water quality and all the other environmental factors and BUIs in the area.
- St. Marys River water is still not potable.
- Need to address removing this BUI with the BPAC because of potential public issue.
- Could this BUI address issues that are not addressed in other BUIs?
- It is a riverine system; therefore, water quality is always being washed through it. However, the water quality coming into the river from Lake Superior should be equal to the water going out to Lake Huron.
- This BUI may be kept as a qualifier for the whole process.
 - This won't impose a new data collection requirement.

Criteria Revision Discussion

Criteria 10 i and ii - Source Water Protection Plan and Treated Water

- Criterion i is addressed in other BUIs; therefore delete the Source Water Protection Plan criteria.

Consensus Discussion - Criteria 10 - Ambient Water Quality

- 1. Do the revised delisting criteria maintain the intent of the original Delisting Criteria?*
- 2. Can the revised delisting criteria be measured?*
- 3. Can the Michigan delisting criteria be applied?*
- 4. How can the revised delisting criteria be improved?*

Suggested Criteria: No consensus was derived. Need to do more homework, such as consult with BPAC, with regards to why this BUI is listed.

NON-OFFICIAL LISTING CRITERIA

Initial Reason for Impairment -

Ambient Water Quality

- Not a formally-recognized BUI. However, Stage 2 report does list it as "impaired" in the BUI table (p. iii) and in the delisting criteria section (p. 32).

Delisting Criteria 11 - Ambient Air Quality

Discussions focused on removing this BUI, or keeping it and developing delisting criteria.

Revised Illustrative Delisting Criteria Example

Remove this BUI because the Stage 2 report does not list it at all in the BUI table (p. iii). But, it does flag it as a BUI in the delisting criteria section (p. 33).

OR

BUI will be considered restored when:

- i. Confirmation that local industry is in compliance with regulations governing emissions of criteria air contaminants, persistent organic pollutants, heavy metals, and other toxics.*

Questions and Comments

- No other AOC has dealt with Air Quality
- The data collection burden will not be a priority for Environment Canada because other programs deal with air pollution. It is not one of the IJC's 14 delisting criteria.
- The Source Water Protection Plan is not looking at air quality either. However, should keep this BUI since the Ministry of the Environment is already gathering monitoring data.
- Air is a transboundary issue; there will be temporal and spatial variances in quality.
- Air quality was identified by BPAC because of local human-health issues pertaining to burn barrels and wood burning stoves in the area which contribute PAHs into the atmosphere; Environment Canada has an existing program that deals with wood burning stoves and burn barrels.
- Need to provide rationale for removing this BUI and identify other agency programs that are addressing air quality issues
- This process may not be the best vehicle to examine this issue, i.e., particulate deposition is a local concern.
- Provide an annex that addresses non-AOC specific issues and RAP specific activities and resources and outlines complementary programs that will address additional issues
- Consider keeping this BUI in the document to address public concerns but it should not hinder the delisting of the area just because it is a community-based issue.

Criteria Revision Discussion

- Keep this BUI.

Consensus Discussion - Criteria 11 - Ambient Air Quality

1. Is this BUI appropriate?

a. Yes.

2. Does the revised delisting criterion maintain the intent of the original Delisting Criteria?

3. Can the revised delisting criterion be measured?

4. How can the revised delisting criterion be improved?

Suggested Criteria: No rewording of Criteria was provided.

NON-OFFICIAL LISTING CRITERIA

Initial Reason for Impairment - Ambient Air Quality

- Not a formally-recognized BUI. However, while local sources may be within compliance, air pollution continues to pose challenges on a regional basis.

BEST ADVICE

During the morning presentations and wrap-up discussions, the following key messages and personal recommendations were provided by the participants as “best advice” that should be taken into consideration when updating the delisting criteria for St. Marys River AOC:

- Create separate technical committees for each BUI and include local experts to further develop these criteria.
- Develop baseline information prior to the listing/delisting of an AOC. There are a number of “hot spots” in the Great Lakes that have not been listed.
- Delisting an AOC needs to be driven by the ecosystem not the economy.
- Develop a timeline to finalize the delisting criteria, achieve the program goals, and identify which remedial actions need to be initiated. Also, the concept of “zero discharge” has been a goal for Lake Superior in the past; so include it this time to ensure that water leaving the AOC is of no less quality as the water entering it.
- Don’t worry about the exact wording but ensure that you capture the intent of what the BPAC has already agreed to during Stage 2 RAP and with Michigan.
- The SMART: specific, measurable, achievable, relevant and time oriented objectives are important.
- St. Marys River is in good condition from a biological perspective; however, there are still large issues that need to be addressed in order to manage the system effectively.

Best Advice from Michigan (Michelle Selzer) for Delisting Criteria:

- Need criteria that can be applied state-wide or province-wide, but also recognize the need for establishing local criteria when an equivalent state-wide criterion is not relevant. However, the State has minimal resources and has existing monitoring programs in place to address State-wide BUIs. Therefore, additional resources may not be available for local BUI criteria initiatives;
- A St. Marys River BPAC technical group and the larger BPAC improved Michigan’s approach, as well as feedback from government and partner agencies;
- State-wide criteria should be linked with existing monitoring programs (no need for additional resources);
- Most criterion are quantitative and recognize that all AOCs are unique and will require a case-by-case review;
- Think about why the AOC was listed in the first place and what major issues remain while establishing criteria; focus on those issues that caused the area to be listed in the first place;
- Utilize existing resources for monitoring;
- Create achievable criteria, i.e., do they make sense; and
- Look at the broader issues and ecosystem.

APPENDIX 1 - PARTICIPANT RECOMMENDATIONS

During the morning session portion of round-table introductions, each workshop participant was asked to respond to the following question: “What are the things we must consider when changing the delisting criteria?” The following points are the recommendations provided to update delisting criteria for the St. Marys River AOC.

Round Table Introductions

- Strive for the very best clean-up - delisting criteria and actions are created and implemented in order to try to increase the health of the river
- The delisting criteria are not the end all of the process; need more implementation to manage and remediate existing issues - we need to clean up the river
- Focus on the human impact of the river, e.g., fish advisories. Consider the best practices for the river in order to give the best quality of the river to this and future generations.
- Treat St. Marys River as a binational resource
- Focus criteria at a broader scale and possibly new threshold targets, i.e., not human health-centric but ecosystem health-centric (bottom-up)
- Need to focus on the current ecosystem and its current carrying capacity
- Criteria need to have a spectrum of measurable results in order to have indisputable evidence that targets have been accomplished.
- Criteria needs quantifiable targets
- Focus criteria on realistic expectations
- Criteria needs to address and prioritize existing and new challenges
- Create a standardized approach by examining other delisting criteria from other AOCs and make St. Marys River specific criteria as similar as possible so that the public understands the targets
- Keep building the delisting criteria on sound science and public opinion
- Need a group of people creating sound decisions not mathematical equations
- We need delisting criteria so we know what we’re striving for and where we stand (i.e., understand the current status of the BUIs). Basing them on measurable targets will mean it’s not left up to interpretation or subjective opinion.
- Identify Ontario specific issues in order to rationalize changes to the delisting criteria
- The current delisting criteria have been approved; therefore, they may not require any revisions
- Hold true to the intentions of all the hard work that has been done to date by agencies and the public in the RAP process
- Need to wrap up this process to move implementation forward

APPENDIX 2 - WORKSHOP AGENDA

Updating Delisting Criteria for the St. Marys River AOC

Tuesday, March 9th

Quality Inn [Suite 104], 180 Bay St., Sault Ste. Marie, Ontario [Front Desk: 705-945-9264]

8:30 **Reception** - refreshments

9:00 **Welcome** (*Kate Taillon -Environment Canada / Michelle McChristie - Ontario Ministry of the Environment*)

9:05 **Overview of Session** (*Randy French*)

9:10 **Round Table Introduction**

Everyone will have 1 minute to introduce themselves (name and organization only) and answer the following: "What are the things we must consider when changing the delisting criteria?"

9:30 **Status of St. Marys River Area of Concern** (*Mark Chambers - Environment Canada*)

Mark will provide a summary presentation on the status of the St. Marys River AOC, and review the rationale and process for updating the delisting criteria to provide context for our discussions.

9:50 **Delisting Criteria for Michigan AOCs** (*Michelle Selzer [via telephone] - Michigan Department of Natural Resources & Environment*)

Michelle will provide highlights on the Department's experience in developing delisting criteria for Michigan AOCs, including the St. Marys River.

10:15 **Break**

10:30 **Updating the Delisting Criteria**

The purpose of this session is to review and update the current delisting criteria approved in 2002. We will take a look at the current RAP 2002 delisting criteria for themes 1 and 2 (see sidebar), review the criteria that were approved for Michigan, and discuss options for Ontario:

- 1. Do the revised delisting criteria maintain the intent of the original delisting criteria?*
- 2. Can the Michigan delisting criteria be applied?*
- 3. Are the revised delisting criteria specific, measurable, achievable, relevant, and time-oriented? (SMART test)*
- 4. How can the revised delisting criteria be improved?*

12:00 **Lunch**

1:00 **Updating the Delisting Criteria**

Continue discussion on Themes 3 and 4.

2:30 **Break**

2:45 **Talk Show Session**

Let's reflect on what we heard today. What are the key messages or statements that need to be reinforced?

3:00 **Thanks and Next Steps**

DELISTING CRITERIA TO BE UPDATED

Theme 1 - Contaminated Sediments

1. Degradation of benthos
2. Restrictions on dredging

Theme 2 - Fish and Wildlife

3. Restrictions on fish and wildlife consumption
4. Fish tumours and other deformities
5. Degradation of fish and wildlife populations
6. Loss of fish and wildlife habitat

Theme 3 - Water Quality

7. Eutrophication & undesirable algae
8. Beach closings
9. Degradation of aesthetics

Theme 4 - Non-official

10. Ambient water quality
11. Ambient air quality

APPENDIX 3 - LIST OF PARTICIPANTS

- | | |
|---|--|
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Facilitators

- | | |
|---|--|
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