

**-DRAFT-**  
**St. Louis River Area of Concern**  
**Proposed Removal Recommendation for the**  
**Degradation of Aesthetics**  
**Beneficial Use Impairment**

**Purpose**

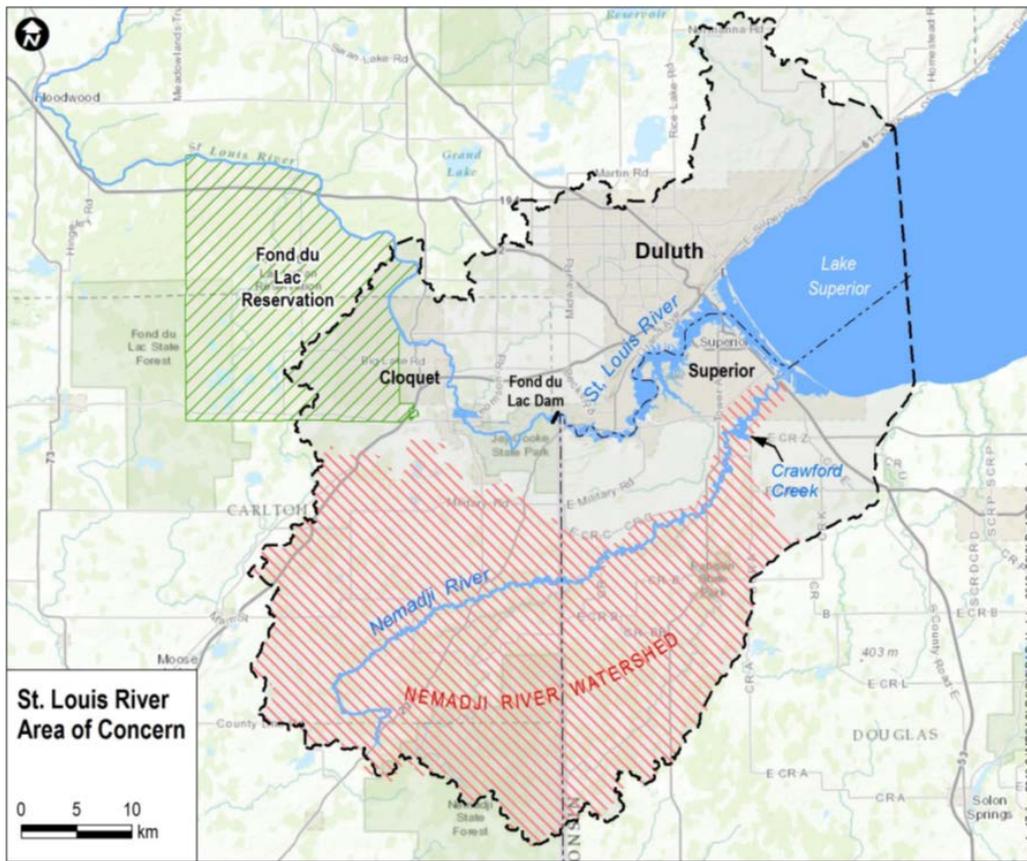
The purpose of this document is to recommend removal of the Degradation of Aesthetics Beneficial Use Impairment (BUI) in the St. Louis River Area of Concern (AOC). This document provides information supporting the recommendation and documents the actions completed to meet the BUI removal target.

**Geographical Description and Background**

The St. Louis River creates a 12,000 acre freshwater estuary at the western extent of Lake Superior, forming the Twin Ports of Duluth, MN and Superior, WI. Due to industrial and urban development, legacy contaminants, organic waste, loss of aquatic habitat, and degraded water quality conditions, the lower St. Louis River was designated as an Area of Concern in 1987 under the US-Canada Great Lakes Water Quality Agreement. A Stage I Remedial Action Plan (RAP) identified a series of nine beneficial use impairments (MPCA and WDNR, 1992). Steady progress has been made through development and implementation of the Stage II RAP, RAP updates, and stakeholder developed BUI removal targets. In 2011, regional stakeholders worked with AOC Coordinators to begin development of the Implementation Framework (2013 RAP). Developing the 2013 RAP included assessing BUI status, defining measurable BUI targets, and prioritizing management actions for each BUI. The 2013 RAP is the roadmap for implementing management actions required for BUI removal and delisting the AOC.

The St. Louis River AOC is spatially large and geographically complex, spanning the Minnesota and Wisconsin state line and including tribal interests (Figure 1). The AOC is jointly managed by its delegated authorities, the Minnesota Pollution Control Agency (MPCA) and the Wisconsin Department of Natural Resources (WDNR). Additional partnerships and stakeholders include: St. Louis River Alliance (SLRA), Fond du Lac Band of Lake Superior Chippewa (FDL), and Minnesota Department of Natural Resources (MNDNR).

Figure 1. Extent of the St. Louis River AOC, Portions of Carlton County and St. Louis County, MN, Douglas County, WI and the Fond du Lac Reservation.



***St. Louis River AOC Beneficial Use Impairments***

- Fish Consumption Advisories
- Degraded Fish and Wildlife Populations
- Fish Tumors and Other Deformities
- Degradation of Benthos
- Restrictions on Dredging
- Excessive Loading of Sediment and Nutrients
- Beach Closing and Body Contact Restrictions
- **Degradation of Aesthetics**
- Loss of Fish and Wildlife Habitat

## Rationale for BUI Listing and Problems Identified

The rationale for listing was provided in the 1992 Stage I Remedial Action Plan (1992 RAP) as follows:

*The aesthetic values of the St. Louis River AOC are impaired in some locations (Pictures 1, 2). A systematic collection of evidence and data is recommended to determine the specific locations of degraded areas and the sources and types of degrading materials (i.e., oil slicks, chemical and tar residues, taconite pellets on shorelines, rotting grain scum on water surface, etc.). Hog Island Inlet and Stryker Bay are two areas that have repeated reports of oil, chemical, and tar residues on the water's surface. Complaints have also been registered about smells emanating from the sediments and water of Newton Creek and Hog Island Inlet. Shoreline aesthetics will be addressed separately and will be remediated through actions taken with riparian interests (MPCA and WDNR, 1992).*



Picture 1: Scum on the water surface, 1950's, MPCA files.



Picture 2: Oil Sheen, 1968. Photo by John Pegor.

The aesthetic problems were further defined in the 1995 Stage II Remedial Action Plan (1995 RAP) and three major problems were identified:

**Problem 1: oil, chemical, and tar residues polluting the river at Superfund sites and other areas with contaminated sediment.**

Four sources were identified in the 1995 RAP as contributing to oil, chemical, and tar residues: Hog Island Inlet, St. Louis Interlake/Duluth Tar Superfund Site, U.S. Steel Superfund Site, and boating practices discharging oil, gasoline, and cleaning solvents into the water. Repeated reports of oil, chemical, and tar residues on the water's surface at Hog Island Inlet and St. Louis Interlake/Duluth Tar had been received. Complaints had also been registered about smells emanating from sediments and the water at Newton Creek and Hog Island Inlet and reports of oil sheens on the water surface of the Wire Mill Pond on the U.S. Steel Superfund Site.

**Problem 2: grain and grain dust blowing into the river during ship loading operations.**

As part of ship loading operations, nuisance amounts of grain and grain dust was blowing into the water of the St. Louis and Superior Bays. The excessive grain and grain dust was found in a layer of decomposing black, anaerobic sediment and also washed up on the shore.

**Problem 3: large accumulations of foam occurring on the river downstream of Cloquet, MN.**

Large accumulations of foam were found on the river near the community of Fond du Lac and at other locations downstream of Cloquet, Minnesota. The 1995 RAP noted that public perception was that the large amount of foam was caused by pollution.

**Final Delisting Target and BUI Blueprint Development**

The Final Delisting Target for the Degradation of Aesthetics BUI, as established by stakeholders in 2008 is as follows:

*There are no verified persistent occurrences of objectionable properties in the surface waters of the St. Louis River Estuary during the previous five year period. "Persistent occurrences" are defined as objectionable properties that occur more than two times per year and are greater than ten days in duration (MPCA and WDNR, 2011).*

In 2011 a team of local partners and experts worked with agency staff to develop a comprehensive overview of the history, issues, and status of each BUI in the form of BUI Blueprints. The Degradation of Aesthetics BUI Blueprint was used to develop the BUI removal strategy. The blueprint is in Appendix D of the 2013 RAP.

**BUI Removal Strategy**

The 2013 RAP interpreted the 2008 delisting target and established a removal strategy:

*For the purpose of interpreting the 2008 target, objectionable properties mean a nuisance condition. A nuisance condition is defined as the presence of significant amounts of floating solids, scum, visible oil film, material discoloration, obnoxious odors, deleterious sludge deposits, oil slicks, chemical and tar residues, taconite pellets on shorelines, decomposing grain scum on the water surface, or other offensive or harmful effects (MPCA and WDNR, 2013).*

The 2013 RAP removal strategy identified five remaining management actions necessary for BUI removal:

1. Review and compile existing complaint logs and files to assess existence of persistent occurrences of objectionable properties for the five year period 2009 to 2013.
2. Demonstrate improvements in federal and state regulation that pertains to aesthetic issues.

3. Implement action to address the oil sheens at the US Steel site.
4. Prepare a justification document related to reported odors at Hog Island/Newton Creek remediation site.
5. Meet with the SLRA Board of Directors and any concerned stakeholder groups and present the BUI removal strategy.

The removal strategy contained in the 2013 RAP was presented to the St. Louis River Alliance Board of Directors as outlined in the RAP. The Board of Directors voted on January 21, 2014 to support the BUI removal strategy with no additional actions required for BUI removal. Documentation of the presentation and meeting minutes are attached in Appendix A.

### **Progress Made to Improve Aesthetic Conditions**

There have been significant environmental improvements on the St. Louis River for over 30 years. In conjunction with environmental improvements, the public perception of the aesthetic quality of the St. Louis River has also improved. The St. Louis River Alliance conducted an informal aesthetics survey of river users in 2011 and found that citizens that have been using the river for over 10 years stated the river has been getting cleaner and is improving as a fishery (SLRA, 2011).

In 2014, the SLRA held a photo contest on the St. Louis River and received over 150 submissions, many highlighting the aesthetic beauty of the river (Pictures 3, 4).



Picture 3: Kayaking on the St. Louis River, Barb Aker, submitted 2014.



Picture 4: Birds-eye view of a hard working harbor, June Jobin Kallestad, submitted 2014.

On June 15, 2014 Duluth, MN was crowned Outside Magazine’s [“best outdoors town in the country”](#). The outdoor activities that take place on and around the St. Louis River led to this designation and include: hiking, skiing, biking, kayaking, and fishing (Kraker, 2014). The majority of the photos displayed throughout this national contest were of the beautiful St. Louis River at its outlet to Lake Superior (Picture 5). The City of Duluth’s [Vision for the St. Louis River Corridor as An Outdoor Recreation Destination and Environmental Education Hub](#) is a priority for this community centered on the river and estuary (City of Duluth, 2014).



Picture 5: From Duluth's Skyline Parkway, motorists have a bird's-eye view of the Aerial Lift Bridge and Park Point. Pioneer Press file photo, Beth Gauper.

Over \$420 million has been invested since 1978 to upgrade infrastructure, remediate contaminated sites, and protect and restore habitat in the AOC (MPCA and WDNR, 2013) The most significant improvement to the aesthetic quality of the river is due to the construction of wastewater treatment facilities. Improved municipal wastewater treatment and increased control of wet weather overflows have contributed to water quality improvements and healthier fish and wildlife populations. In addition, thousands of acres of habitat have been protected or restored across the AOC and multiple contaminated sites associated with aesthetic impairments have been remediated, including Hog Island inlet and Newton Creek in Wisconsin (Picture 6) and the St. Louis River Interlake/Duluth Tar Superfund site in Minnesota (Picture 7).



Picture 6: Hog Island Inlet remediation site, post remediation and restoration, Paul Hlina



Picture 7: St. Louis River Interlake/Duluth Tar Superfund Site, post remediation and restoration.  
Dan Musser, Bay West Environmental Consultant, 2013

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## **Summary of Remedial Actions and Source Controls Implemented to Address the Aesthetic Problems Identified**

### **Management actions addressing all aesthetic problems identified (oil/chemical/tar residues, grain dust, and foam):**

- 1) Complaint logs and files for the AOC have been reviewed and compiled for the five year period 2009-2013:

Complaint file logs and spill reports were reviewed from state natural resources agencies, the U.S. Coast Guard, and state and local units of government surrounding the St. Louis River by WDNR and MPCA staff. The U. S. Coast Guard National Response Center is the primary database containing all reported occurrences pertaining to aesthetics. A review of this database for the period of 2009-2013 did not result in any aesthetic complaints constituting a persistent occurrence of a nuisance condition. In addition to the U.S. Coast Guard database, local entities were contacted to ensure aesthetic complaints not reported to the National Response Center had been reviewed. The agencies contacted included: Minnesota Department of Health, St. Louis County, City of Duluth, Wisconsin Department of Health Services, Douglas County Department of Health, City of Superior, and FDL Resource Management. Documentation of this process and responses received are included in Appendix B. A review of these complaint venues did not identify a persistent occurrence of a nuisance condition except for notification of sheening and petroleum odors received by WDNR from restoration workers at Hog Island Inlet in 2009. This complaint has been addressed by the BUI removal strategy and documentation is provided as Appendix C.

- 2) Demonstrate improvements in federal and state regulations that pertain to aesthetic issues:

Regulatory programs and criteria developed since the AOC was listed have evolved over time to address environmental degradation and legacy industrial discharges to the river; a contributing source to aesthetic impairments in the AOC (MPCA and WDNR, 2013). Federal and State laws and regulations that have contributed toward alleviating sources of aesthetic impairments are documented in Appendix D. Regulations limiting the discharge of pollutants are included in the National Pollution Discharge Elimination System established under the Clean Water Act of 1972 with permitting authority delegated to the MPCA and WDNR. Other activities that may result in the discharge of a pollutant into waters of the United States require certification from the state in which

the discharge originates under the Clean Water Act Section 401 Water Quality Certifications.

**Problem 1: Management actions completed to address oil, chemical, and tar residues polluting the river at Superfund sites and other areas with contaminated sediment; boating practices discharging oil, gasoline, and cleaning solvents into surface waters.**

1) Source control of boating practices discharging oil, gasoline, and cleaning solvents into the water:

The U.S. Coast Guard Auxiliary performed actions to address aesthetic issues associated with boating practices. These activities included public outreach at boat shows and other locations educating boaters on requirements to keep oil out of the environment, conducting harbor patrols, and working with marina owners to ensure they are providing required trash receptacles (MPCA and WDNR, 1995). The U.S. Coast Guard Marine Safety Office – Duluth has provided marinas with information regarding pollution prevention practices and spill response procedures (SLRA, 2001).

The Clean Marina Initiative was developed through the Coastal Nonpoint Control Program administered by the National Oceanic and Atmospheric Administration. The Clean Marina Initiative is a voluntary, incentive based program that encourages marina operators and recreational boaters to protect water quality by engaging environmentally sound operating and maintenance procedures. The Wisconsin Clean Marina Program was started in 2011 and is administered by the Wisconsin Marine Association, with assistance from University of Wisconsin Sea Grant Institute. The Minnesota Clean Marina Program was started in 2012 and is an independent nonprofit organization. Although these have been recently established in Minnesota and Wisconsin, both programs are actively reaching out to marinas and have started to certify marinas in their respective states. Within the AOC, Barkers Island Marina has pledged to keep Wisconsin's waterways free of harmful chemicals, excess nutrients, and debris and is committed to actively pursue designation as a Wisconsin Clean Marina.

2) Site specific remedial actions:

- **Newton Creek and Hog Island Inlet:**

In 2005, contaminated sediment cleanup at the Newton Creek and Hog Island Inlet site was completed. In 2009, WDNR was notified of sheening and petroleum odors found in the wetland isthmus area located outside of the remedial action site. WDNR conducted follow-up sampling of sediment and air quality in 2011 and

confirmed that residual levels of contamination found in the isthmus are below remedial action levels established for the site. The remedial action completed at this site has addressed the historic aesthetic problems. A justification document has been developed as part of the degradation of aesthetics BUI removal strategy to verify the site does not pose a human health or ecological risk. This document is attached as Appendix C.

- **St. Louis River Interlake/Duluth Tar Superfund Site:**  
In 2011, St. Louis River Interlake/Duluth Tar Superfund Site remediation and restoration was completed. This site was contaminated with tar, coke plant waste and other harmful industrial wastes. Remediation at the site included excavation of four large tar seeps, excavation of contaminated soils, environmental dredging, in-situ capping, a containment disposal facility for contaminated sediment and institutional controls (MPCA, 2013). The remedial action completed at this site has addressed the historic aesthetic problems.
- **U.S. Steel Superfund Site:**  
The U.S. Steel Superfund site is included in the state of Minnesota Superfund Program, the National Priorities List and is addressed under multiple BUIs. The aesthetic impairment at this site includes oil sheening that is emanating from contaminated sediments. A justification document has been developed to summarize remedial actions and oil sheen control at this site and is attached as Appendix E.
- **Crawford Creek Remediation Site:**  
Crawford Creek is a remediation site located within the AOC boundary that has persistent sheening and blobs of non-aqueous phase liquid (NAPL) on the water surface due to contact with contaminated sediments and floodplain soils. The sheens and NAPL in Crawford Creek create aesthetic conditions similar to those that were prevalent at other aesthetically impaired sites in the AOC. Efforts to address the sheens and NAPL present in Crawford Creek are not included in the actions to remove this BUI as Crawford Creek is a tributary of the Nemadji River which empties into the St Louis River estuary over seven river miles below its confluence with Crawford Creek (Figure 1). This BUI removal target identifies surface waters of the St. Louis River Estuary and therefore; the removal target is not inclusive of tributary waters such as Crawford Creek (MPCA and WDNR, 2011). WDNR recognizes the importance of remediating the contaminated sediment and restoring habitat at the Crawford Creek site before the AOC can be delisted. The required actions necessary

to address the contaminated sediment and floodplain soil associated with sheening and NAPL are included under management action 9-12 of the Loss of Fish and Wildlife Habitat BUI (MPCA and WDNR, 2013).

**Problem 2: Management actions completed to address grain and grain dust blowing into the river during ship loading operations**

1) Best Management Practices (BMPs) and air quality permit levels have been established at local grain elevators and ore docks:

The State and Federal Clean Air Pollution Act and associated amendments (Clean Air Act) regulate the amount of particulates in the air through National Ambient Air Quality Standards. Loading and storage facilities are issued permits based on calculated emissions as outlined in Wisconsin Administrative Code air pollution control chapters NR400 -NR499 and Minnesota Administrative Rules-Air Emission Permits statute number 7007.0250. Since 1990, several total suspended particulate (TSP) monitors have been installed at facilities in the Duluth-Superior Harbor to detect excessive nuisance dust and monitor the effectiveness of BMPs in use. BMPs include using mineral oil to reduce grain dust, properly sized loading spouts, and enclosed loading operations. The data from TSP monitors 035 and 036 at two grain facilities operated by Cenex Harvest States in Superior, WI show a decreasing trend in daily TSP measured as  $\mu\text{g}/\text{m}^3$  1996 - 2012 (Figure 2 and 3). TSP has been replaced as a national ambient air quality standard, but is still relevant to show the decrease of larger particles in the air that may have contributed to this aesthetic impairment. Air quality monitoring data have been used to maintain air quality compliance for facilities and demonstrate the BMPs have effectively controlled the nuisance dust conditions.

Figure 2. Total Suspended Particulate Monitoring Data 11/05/1996 to 12/29/2012. Site 035, Superior, WI.

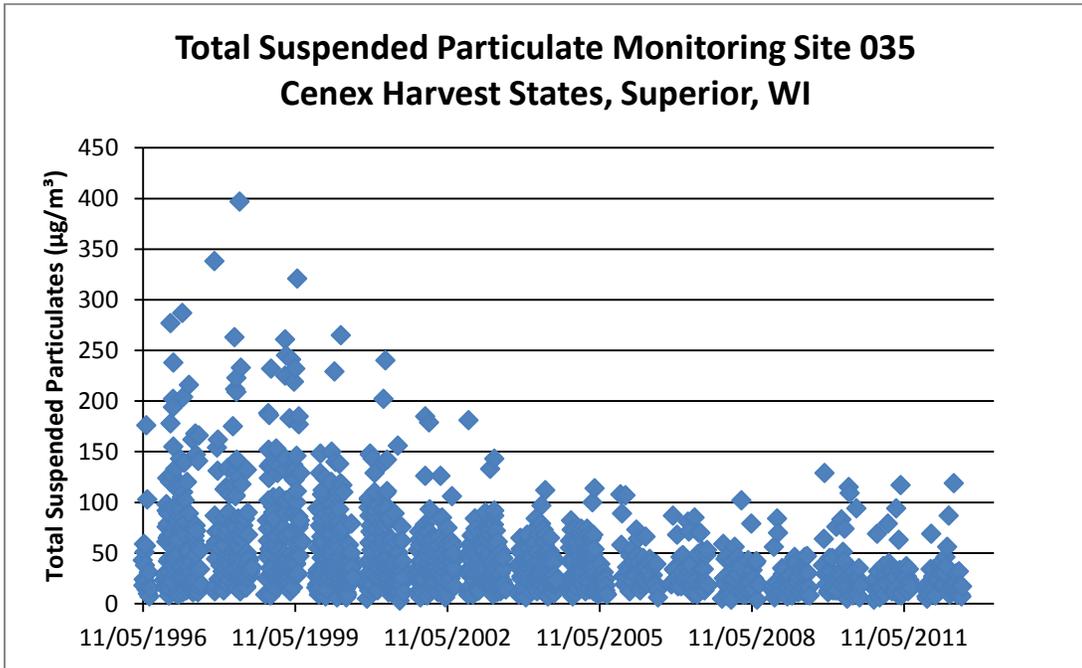
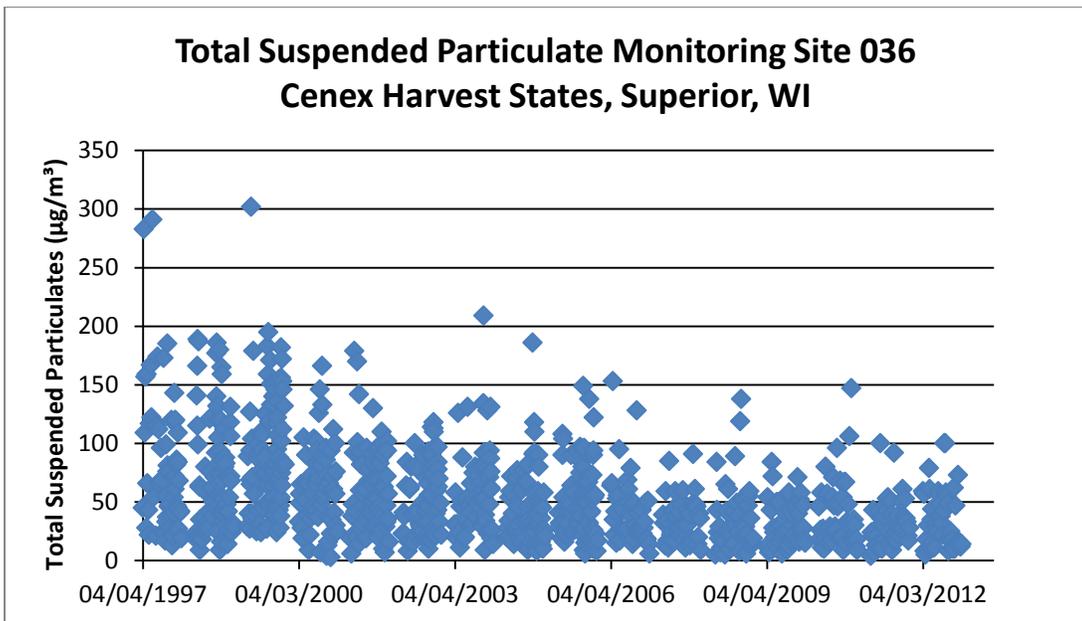


Figure 3. Total Suspended Particulate Monitoring Data 04/04/1997 to 12/29/2012. Site 036, Superior, WI.



**Problem 3: Management actions completed to address large accumulations of foam occurring on the river downstream of Cloquet.**

1) It has been determined that foam on the St. Louis River downstream of Cloquet is naturally occurring:

The 1995 RAP recommended foam sampling on the St. Louis River downstream of Cloquet. However, there were no permitted discharges present in this section of the river since the industrial facilities in Cloquet send their wastewater to be treated at the Western Lake Superior Sanitary District. Therefore, MPCA determined sampling the foam was unnecessary (C. Williams, MPCA, letter to J. Ezell, August 16, 1995). It has been concluded that the foam is naturally occurring as foam often does on many rivers and streams. Natural foam on rivers and streams occurs due to an increase of nutrients and organic matter in the water. Greater amounts of foam occur during seasons with increased runoff potential such as spring and fall. A reduction in the occurrence of large amounts of foam can likely be attributed to better management of nutrients on the landscape associated with best management practices in the agriculture and forestry industry. Foam is also more prevalent when sources of aeration are nearby. These can be natural features like rapids and fast flowing water, or man-made features like dams. The St. Louis River RAP Assessment determined it would be appropriate to remove this recommendation from active status (SLRA, 2001). Additional information regarding naturally occurring foam can be found at [LakeSuperiorStreams.org](http://LakeSuperiorStreams.org).

## **BUI Removal Process**

The BUI removal process includes preparation of a draft BUI removal document with review by state agency staff and EPA staff, consultation with the Citizen Advisory Committee (SLRA), a public informational meeting, and a public comment period.

A public informational meeting and open house will be held on July, 10 2014 at the Superior Public Library 4:30pm-6:00pm. A short presentation will give a summary of the Degradation of Aesthetics BUI draft removal package and highlight the aesthetic improvements in the AOC.

WDNR and MPCA staff will review and respond to comments received during the public comment period July 3, 2014 to July 17, 2014.

A news release detailing the public input process was made available on June 25, 2014.

# News Release Minnesota Pollution Control Agency

For release: June 25, 2014  
Contact: [Anne Perry Moore](#), 218-302-6605

## Public invited to comment on draft plan to remove first of nine impairments in St. Louis River

Duluth, MN -- The St. Louis River is one step closer to becoming healthier than it has been in a generation. And today's river enthusiasts are invited to comment on the plan designed to achieve that goal.

The Minnesota Pollution Control Agency (MPCA), Wisconsin Department of Natural Resources (WDNR), and their partners have developed a plan to remove the first of nine impairments to the river's health that have kept it from being suitable for habitat and recreational uses it should support.

The draft plan to remove the aesthetic impairment is being offered for public comment from July 3 through July 17, 2014. On July 10, the agencies will host an open house and informational event from 4:30 – 6:00 p.m. at the Superior Public Library, 1530 Tower Ave., Superior, WI 54880 to share more details and take comments. The MPCA and WDNR will submit the draft aesthetic impairment removal plan to the U.S. Environmental Protection Agency at the end of the public comment period.

The other eight beneficial use impairments are: restricted fish consumption, threats to fish and wildlife populations, loss of fish and wildlife habitat, incidences of fish tumors and deformities, lack of diversity among bottom-dwelling organisms, restrictions on dredging activities, decreased water quality due to high nutrient and sediment levels and high levels of E. coli and fecal coliform bacteria that, when elevated, may generate advisories limiting beach water contact for swimmers and boaters.

Since 1987, when the river was named an Area of Concern as one of 43 most-highly-contaminated areas on the Great Lakes, the St. Louis showed all of the signs as a water body in trouble. One hundred years of unregulated industrial pollution had taken its toll.

During the intervening years, the MPCA, WDNR and many multi-level governmental and non-governmental partner agencies have collaborated to improve the quality of the entire estuary system. The removal of the first beneficial use impairment marks a critical milestone in celebrating how far the river has come and how hard all the partners and stakeholders in the river have worked to restore the river to a healthier condition.

This effort is the latest in 30 years of significant environmental improvements on the St. Louis River. Among the most significant effort benefitting the river's aesthetic quality are: improved municipal wastewater treatment facilities and significant reductions in sewage overflows, upgraded stormwater infrastructure and polluted sites' cleanups (including Wisconsin's Hog Island inlet and Newton Creek, and the Minnesota's St. Louis River / Interlake / Duluth Tar site).

Copies of the draft removal plan will be available for review starting July 3, 2014 on the MPCA's web site at [www.pca.state.mn.us](http://www.pca.state.mn.us) and at the Duluth Public Library, 520 W. Superior St. Duluth, MN 55802.

Written comments on the draft removal plan should be submitted by 4:30 p.m. on July 17, 2014 to Matt Steiger, WDNR, 1701 N 4th St., Superior, WI 54880 or be faxed to Steiger at (715) 392-7993. Related questions should be directed to Steiger at (715) 395-6904.

### **Broadcast version**

The Minnesota Pollution Control Agency and Wisconsin Department of Natural Resources have announced a new plan to remove the first of nine impairments that have kept the St. Louis River from being suitable for habitat and recreation.

The public is invited to comment on the plan to remove the aesthetic impairment at an informational meeting July tenth, from four-thirty to six p.m. at the Superior Public Library at the corner of Broadway and Tower Avenue in Superior.

The public may view the draft plan on the M-P-C-A web site or at the downtown Duluth Public Library. Written comments may be submitted between July third and July seventeenth to Matt Steiger (“STY-ger”) at the Wisconsin D-N-R.

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## **Recommendation of BUI Removal**

The Wisconsin Department of Natural Resources and the Minnesota Pollution Control Agency recommend the removal of the Degradation of Aesthetics BUI for the St. Louis River Area of Concern. All management actions established to meet the BUI delisting target contained in the Remedial Action Plan have been completed.

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## References

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## **List of Appendices**

Appendix A) St. Louis River Alliance River Issues Committee Memo and Board Minutes

Appendix B) File Review Process and Documentation

Appendix C) Newton Creek and Hog Island Inlet justification document (WDNR)

Appendix D) Documentation of Regulations

Appendix E) U.S. Steel Superfund Site justification document (MPCA)

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## APPENDIX A

### St. Louis River Alliance River Issues Committee Memo December 9, 2013 and St. Louis River Alliance Board of Directors Minutes January 21, 2014.

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#### INTEROFFICE MEMORANDUM

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**TO:** NELSON FRENCH, LISA ANGELOS, CHERIE HAGEN  
**FROM:** BRITTANY STORY, MATT STEIGER  
**SUBJECT:** AESTHETICS BUI SLRA RIVER ISSUES COMMITTEE COMMENTS  
**DATE:** DECEMBER 9, 2013  
**CC:** DIANE DESOTELLE, JOHN LINDGREN, RICK GITAR

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As part of the action items in the 2013 RAP, in order to remove the Degradation of Aesthetics BUI, staff met with the St. Louis River Alliance Rivers Issue Committee to present the Degradation of Aesthetics BUI Removal Strategy and seek comments as well as answer questions regarding this strategy.

Present at the meeting:

Rivers Issue Committee: Rick Gitar, Heidi Bringman, Bill Majewski (phone), Ted Smith (absent)

SLRA Executive Director: Julene Boe

Agency Staff: Matt Steiger and Cherie Hagen (WDNR), Brittany Story and Diane Desotelle (MPCA)

Matt and Brittany provided background and status of the Aesthetics BUI through a powerpoint presentation and a copy of the BUI roadmap.

It is noted that the SLRA did a non-statistical survey a couple years ago to get a feel for the perception out there as far as the qualitative nature on the aesthetics. Julene will provide this report for documentation to be provided in the removal objectives package.

Most of the discussion centered on the Wire Mill Pond at the USX Superfund Site and Crawford Creek. Staff acknowledges those sites have issues related to sheening and the 2013 RAP addresses these sites. Oil sheening at the USX site will be addressed through control measures (a containment boom is in place at USX and permanent control will be implemented) and contamination will be addressed through remediation and restoration currently underway.

Crawford Creek contamination will be addressed through remediation and restoration. Both sites are listed under the Degradation of Benthos and Loss of Fish and Wildlife BUIs.

Significant progress has been made to eliminate aesthetic problems since the AOC was listed. The regulations and actions to date have improved the public perception of the AOC. Agency staff is confident that completion of the final action items and documentation justify removing this BUI.

Bill Majewski noted it is important to fully explain the USX and Crawford Creek sites in the removal package. It will be important to communicate to citizens that removing this BUI will not interfere with remediation and restoration over the next several years at these sites.

Heidi Bringman suggests that staff include some introduction slides in the presentation. Specifically addressing how the aesthetics BUI fits into the big picture of the AOC and other BUIs, and acknowledgment that it is the first BUI proposed for removal.

The River Issues Committee was supportive of this process and will bring the item to their board meeting in January 2014. Julene will provide the dates and staff will attend the meeting, but the River Issues will present the information and ask for a vote of approval.

**St. Louis River Alliance**  
**January 21, 2014**  
**WI DNR Lake Superior Conference Room**  
***Meeting Minutes***

**Board members Present:** Bill Majewski, Joe Radtke, Dave Pessenda, Dorothy Anway, Jean Brozic, Rick Gitar, Bob Anderson, Heidi Bringman. **Staff:** Julene Boe. **Guests:** Matt Steiger, WDNR & Brittany Story, MPCA

1. December 17 Meeting Minutes-

[Motion by Joe Radtke to approve the December Board Minutes, Second by Heidi Bringman. Motion Carried.](#)

2. Financial Reports by Dorothy, Anway 2013 year loss was 12K (primarily for payroll/wages), didn't dip into additional line of credit but still owe on that (bal is \$13,150). There's a need for more overhead expenses. Further discussion occurred: Joe inquired, what is difference between accrued but unpaid amount listed under liabilities

[Motion to accept to accept the December Financial Statements for audit by Jean Brozic, seconded by Dorothy Anway. Motion carried.](#)

3. Committee/Work Group Reports

- Habitat: (Rick) No meeting last month, none anticipated for a while
- Nominating: (Bill Majewski report that four new candidates, plus Rick for five slots. Ballots are out, submit by Jan 21<sup>st</sup> for Annual Meeting
- River: Issues (Bill/Heidi) no update, exchanged emails re: tonight's presentation
- Stewardship/Membership: Next stewardship committee meeting is on Jan 24<sup>th</sup> at 8:30am Munger Inn
- Director's Report: (Julene) Request to give after WI DNR presentations

4. Presentation of the Removal Strategy for the Aesthetics BUI: Bill introduced Matt Steiger & Brittany Story and gave summary of project. Matt & Brittany shared 11 slides via PPT. Further discussion included what are current vs legacy issues and boat impacts. The SLRA will be asked to submit a letter approving the request by the two states when this request is made to the EPA.

[Motion by David Pessenda to approve of the removal strategy of the BUI #8. Second by Joe Radtke. Motion Carried unanimously.](#)

5. New Business:

- Proposed 2014 Budget .

[Motion by Dorothy Anway to approve the 2014 SLRA Budget. Second by Dave Pessenda. Motion Carried.](#)

- City of Duluth's Envisioning an Outdoor Recreation & Environmental Education Hub for St. Louis River- Meeting on January 28<sup>th</sup>, Julene gave further update on overall status re: Mayor Ness's desire to work with SLRA on advocacy/lobbying efforts.
- Proposal for a contract with City of Duluth anticipated late Feb/early March

6. Director's Report (Julene) Items not listed under new business.

- a. Season of the St Louis River Photo Contest will kick on January 22.
- b. Grants received: Lloyd K Johnson \$10,000; Freshwater Future \$2000
- c. Update on Bush Foundation Grant being draft by the UM School of Architect

7. Upcoming Meetings/Events:

Tomorrow is our Annual Membership Meeting at the WITC Conference Center, Superior, WI from 6:30-8:30pm

Jan 24: Stewardship Committee Meeting-Munger Inn 8:30

Jan 28: Stakeholders Meeting – Spirit Mt Lower Chalet 6pm

Feb 15: Walk on the River – 1-3pm Grassy Point

Feb 18: Board Meeting WLSSD 5pm

Meeting adjourned at 6:20pm

Notes Recorded by Heidi Bringman. Edited and revised by Julene Boe

## **APPENDIX B**

### **File Review Process and Documentation**

A review of complaint logs was conducted by WDNR and MPCA staff. The U. S. Coast Guard National Response Center is the primary database containing reported occurrences of spills and complaints. A review of this database for the period of 2009-2013 did not result in any aesthetic complaints that met the established threshold for constituting a persistent occurrence of a nuisance condition.

The threshold for a persistent occurrence was defined in 2008 by stakeholders as objectionable properties that occur more than two times per year and are greater than ten days in duration.

Spills reported to the National Response Center with a known source do not constitute an aesthetic complaint.

List of additional complaint avenues reviewed:

- MPCA Database (Complaints Tracker) review resulted in zero complaints of persistent nuisance conditions.
- WDNR correspondence with Remediation and Redevelopment Staff, Lake Superior Sediment and Monitoring Coordinator, and Air Management Engineer resulted in zero complaints of persistent nuisance conditions.
- Minnesota Department of Health, Beach Program Coordinator Cynthia Hakala reviewed complaint logs and found zero complaints of persistence occurrences.
- St. Louis County, MN. Environmental Program Administrator Mark St. Lawrence did not receive any complaints of persistent occurrences within the last five years.  
\*Email will be attached to final removal package
- City of Duluth, MN. Project Coordinator Chris Kleist did not receive complaints of persistent occurrences within the last five years.  
\*Email will be attached to final removal package
- City of Superior, WI. Director of Parks and Recreation Mary Morgan did not receive complaints of persistent occurrences within the last five years.  
\*Email will be attached to final removal package
- Wisconsin Department of Health Services, Henry Nehls-Lowe, Division of Public Health did not receive any complaints of persistent occurrences within the last five years.  
\*Email will be attached to final removal package

- Douglas County Department of Health, Health Officer Kathy German-Olson did not receive any complaints of persistent occurrences within the last five years.
  - \*Email will be attached to final removal package
- FDL Resource Management, AOC Coordinator Richard Gitar did not receive any complaints of persistent occurrences within the last five years.
  - \*Email will be attached to final removal package

**Appendix C**  
**Hog Island Inlet and Newton Creek Justification Document**

**Newton Creek and Hog Island Inlet**

Documentation to Support Removal of the Degradation of  
Aesthetics BUI in the St. Louis River Area of Concern

5/29/2014

Written by:

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Reviewed by:

Erin Endsley, Hydrogeologist  
WDNR Remediation and Redevelopment

Joe Graham, Lake Superior Sediment and Monitoring Coordinator  
WDNR Office of the Great Lakes

## **Purpose**

The purpose of this document is to outline the information supporting the removal of the Aesthetics Beneficial Use Impairment (BUI) and serve as the justification document required for BUI removal contained in the BUI removal strategy (MPCA and WDNR, 2013). This document also describes the oil-residue-related aesthetic improvements achieved at the Hog Island Inlet site after excavation of contaminated sediment and source control measures. A review of existing conditions will address the notification of sheening and petroleum odors encountered at the Hog Island Isthmus and petroleum odors along Newton Creek after remedial action was complete; although no formal complaints have been received for petroleum odors at Newton Creek.

## **Introduction**

This document is a summary of the current aesthetic site conditions at Newton Creek and Hog Island Inlet, Superior, WI. In 1972 the Wisconsin Department of Natural Resources (WDNR) described Newton Creek as a heavily polluted stream. Biological surveys found only “sludge worms” inhabiting the stream. Fish and higher aquatic life forms were unable to survive (WDNR, 1972). These conditions have drastically changed, with the excavation of contaminated sediment and implementation of source control measures leading to significant improvements in aquatic life as well as the aesthetic value of the area.

This justification to support the removal of the Degradation of Aesthetics Beneficial Use Impairment in the St. Louis River Area of Concern is based on several factors including a site-specific human health and ecological risk assessment and post-remediation sampling. Sediment chemistry and photoionization detection sampling has been conducted as part of the Hog Island Isthmus Study (WDNR, 2012, Appendix C1). These data confirm that the concentrations of residual contamination in the Hog Island Isthmus do not exceed site-specific cleanup levels based on protection of human health and the environment (SEH, 2003).

## **Site Description**

Hog Island Inlet is a 17 acre shallow bay with an adjacent wetland isthmus connecting Hog Island to the Loon’s Foot landing area. Newton Creek’s headwaters are located in a wetland complex and the wastewater impoundment of the former Murphy Oil Corporation refinery, now owned by Calumet Specialty Products Partners, L.P. Newton Creek flows 1.5 miles into Superior Bay at Hog Island inlet (Figure 1). Hog Island Isthmus is a 12 acre shallow cattail marsh and was not included in the remedial area in 2005 because contaminant levels were found to be below the clean-up threshold (Figure 2).

Figure 1:

Newton Creek Remedial Segments, St. Louis River Area of Concern, Superior, Wisconsin



Figure 2:

Hog Island Inlet, St. Louis River Area of Concern, Superior, Wisconsin



## Background

The St. Louis River was listed as an Area of Concern in 1987 under the Great Lakes Water Quality Agreement. Hog Island Inlet and Newton Creek were identified throughout Remedial Action Plans as a specific site contributing to multiple beneficial use impairments (Appendix C2). The impairments are due to sediment contamination associated with historical discharge of petroleum refining byproducts, urban stormwater runoff, and a former municipal combined sewer overflow to Newton Creek. Aesthetic impairments at the site included persistent oil sheens and petroleum odors. Severe ecological impacts were found in Newton Creek and Hog Island Inlet due to elevated levels of diesel range organics, polycyclic aromatic hydrocarbons (PAHs), and lead prior to remedial action (WDNR, 1995).

Industrial sources of contamination have been controlled through improvements to the wastewater treatment facility at the Calumet Superior Refinery which includes constructed wetlands at the headwaters of Newton Creek. The facility has risk mitigation practices in place including an emergency response team and spill prevention, control, and countermeasures plan (U.S. EPA, 2007).

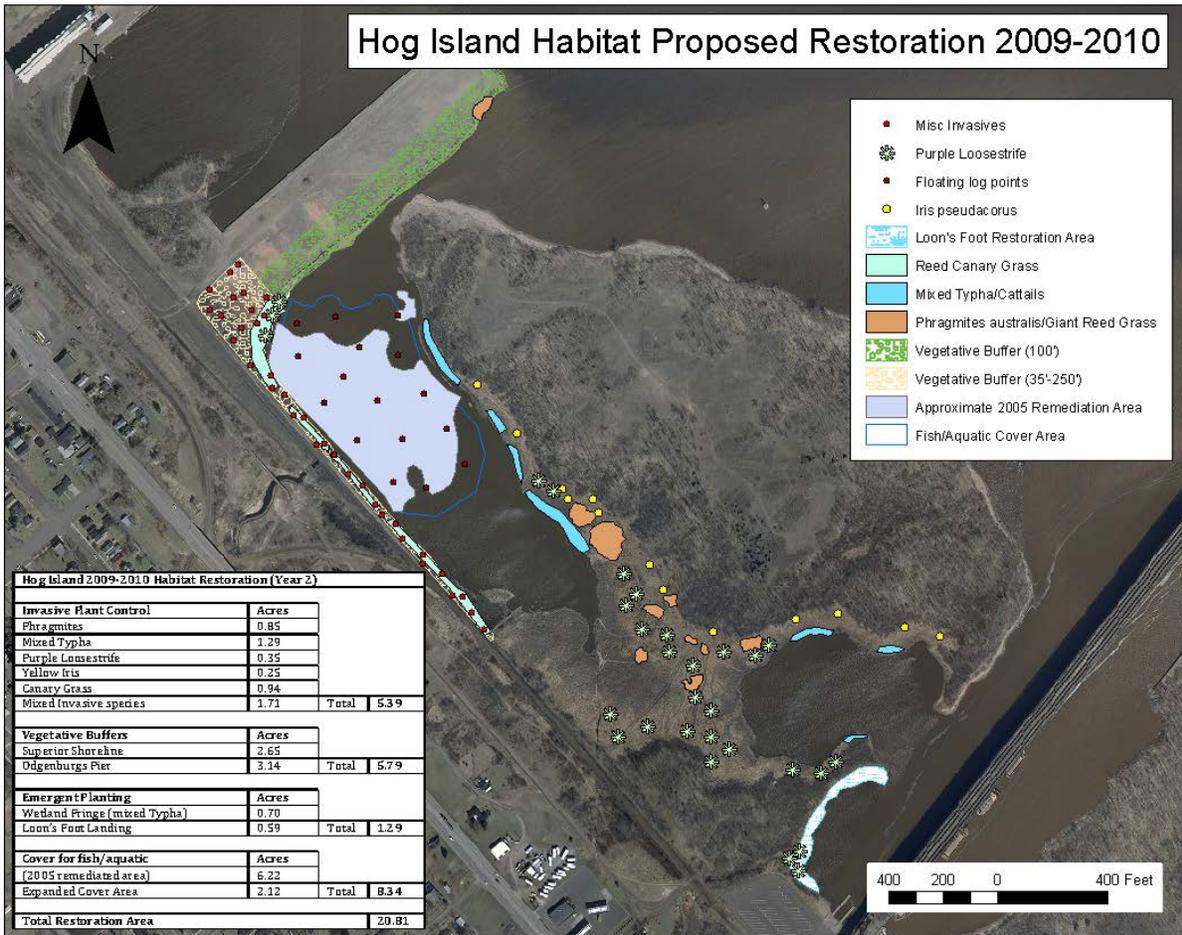
Remediation of Newton Creek began in 1997 with Murphy Oil Corporation completing contaminated sediment removal from the impoundment and segment A of Newton Creek. In 2003, a visual cleanup removed 7,400 tons of contaminated sediments from segments B-K of Newton Creek. The 2003 remedial action did not include removal of contaminated sediment at certain culverts, utilities, and road and rail crossings to preserve the integrity of these structures (SEH, 2007). The final phase of remediation was completed in 2005 with the removal of over 60,500 tons of contaminated sediment from segment L of Newton Creek and Hog Island Inlet.

For the remediation of segment L of Newton Creek and Hog Island Inlet, remedial goals were based on total PAH, as determined by the sum of 18 compounds (TPAH<sub>18</sub>). To reduce risks to human health and the environment a remedial target concentration of 2.6 mg/kg TPAH<sub>18</sub> was used to delineate areas for excavation. The action level for post remediation residuals was a site-wide average concentration of 2.6 mg/kg TPAH<sub>18</sub> with additional excavation of any material with concentrations greater than 5.0 mg/kg TPAH<sub>18</sub> (SEH, 2008).

The remediation project at Hog Island Inlet achieved cleanup levels that mitigated ecological risk and allowed for habitat restoration at the site to occur. Post-remediation habitat restoration started at Hog Island Inlet in 2007 and was contracted by Douglas County (Figure 3). Contractors identified several points with visible sheening and petroleum odors when wading through and actively disturbing sediment in the isthmus in September of 2009 and notified the DNR (P. Hlina, electronic communication, December 7, 2009, Appendix C3).

DNR staff completed a sampling effort in 2011 to confirm that the level of residual contamination in the isthmus did not pose a significant environmental or human health risk for the intended uses of the area. "The results of this study show that the sediment concentrations of TPAH<sub>18</sub> in the isthmus (which was not within the area remediated) are within the range of the 2005 remedial goals." (WDNR, 2012, Appendix C1) The study also utilized a photoionization detector to detect and quantify volatile organic vapors. Field measurements of air and sediment headspace verified that petroleum odors in the isthmus area are below available guidelines for perimeter air quality at manufactured gas remediation sites (DHFS, 2004).

Figure 3: Habitat Restoration Areas at Hog Island Inlet, courtesy of Douglas County.



### **Justification to Remove Degradation of Aesthetics Beneficial Use Impairment**

Persistent occurrences of aesthetic impairments at Newton Creek and Hog Island Inlet have been removed through the excavation of contaminated sediment and implementation of source control measures. Low levels of TPAH<sub>18</sub> contamination found in discrete locations at Hog Island Isthmus are below remedial action levels and do not warrant further site cleanup (J. Graham, personal communication, May 8, 2014).

Disturbing the sediments in the isthmus area may result in surface sheening and odors resulting from natural wetland biological processes and also residual contamination below the remedial action level. Petroleum odor sensitivity will vary between individuals and Hog Island Inlet and Newton Creek are located within an active industrial area. The known contamination and petroleum odors that may be encountered at culverts, utilities, and stream crossings along Newton Creek will be removed as necessary during replacement or repairs to these structures.

These areas are currently used for both active and passive recreation including biking, hiking, archery hunting, fishing, photography, bird watching, and natural environment appreciation. The likelihood of direct contact with residual contamination through these activities is low since these recreational activities do not actively disturb sediments. The WI Department of Health Services recommends that care should be taken to avoid direct skin contact with petroleum contamination or inhalation of vapors when actively working in and disturbing the sediments (WDNR, 2012, Appendix C1).

WDNR has not received any additional aesthetic complaints for this area and acknowledges that the aesthetic impairments cited in the Remedial Action Plan for Newton Creek and Hog Island Inlet site have been remediated.

Remediation site closure for Newton Creek and Hog Island Inlet will occur pending submittal of documentation demonstrating cleanup goals have been met and that the degree and extent of residual contamination has been adequately defined. At the time of closure, the nature and extent of residual contamination will be documented in the GIS Registry packet for the site. Site information and the GIS Registry packet will be available to the public via the Remediation and Redevelopment Program's public database, Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW). <http://dnr.wi.gov/botw/GetActivityDetail.do?adn=0216000603&siteId=4381200&crumb=1&search=b>

### **Reduction of PAHs in the Environment**

While there may be low levels of petroleum residuals at this site, the current condition is a significant improvement over previous conditions. Monitored natural recovery of PAH concentrations may help to reduce contaminant concentrations. Reduction of PAHs in the environment has been studied for many scenarios. In general, a wide variety of bacteria, fungi, and algae have the ability to metabolize PAHs and reduce concentrations over time. The success and rate at which this may occur depends on many environmental factors as well as the concentrations, chemical complexity, and occurrence of multiple

PAHs in the sediments (Verrhiest, Clement, Volat, Montuelle, & Perrodin, 2002). This justification does not discourage phytoremediation studies in this area.

## References

- Department of Health and Family Services (DHFS). 2004. *Health-based guidelines for air management, public participation, and risk communication during the excavation of former manufactured gas plants*. Wisconsin Bureau of Environmental and Occupational Health. Department of Health and Family Services, Madison, WI. August, 2004.
- Minnesota Pollution Control Agency and Wisconsin Department of Natural Resources (MPCA and WDNR). 2013. *St. Louis River Area of Concern Implementation Framework: Roadmap to Delisting (Remedial Action Plan Update)*, LimnoTech. St. Paul, Minnesota. July 15, 2013.  
<http://www.pca.state.mn.us/index.php/view-document.html?gid=19677>
- Short Elliot Hendrickson (SEH). 2003. *Site Investigation Report, Hog Island Inlet*. SEH No. WIDNR9905.02. Short Elliot Hendrickson, Inc. September, 2003.
- Short Elliot Hendrickson (SEH). 2007. *Construction Documentation and Post-Remediation Monitoring Report, Construction Oversight Services, Newton Creek Interim Remedial Action*. WDNR No. 03RRSU. SEH No. A-WIDNR9905.03. Short Elliot Hendrickson, Inc. October, 2007.
- Short Elliot Hendrickson (SEH). 2008. *Final Construction Documentation and Post-Remediation Monitoring Report, Hog Island Inlet Remedial Action*. BRRTS# 02-16-000603. SEH No. A-WIDNR9905.06. Short Elliot Hendrickson, Inc. July, 2008.
- U.S. Environmental Protection Agency (U.S. EPA). 2007. *Hog Island and Newton Creek Ecological Restoration Master Plan*. Contract Number GS-10F-0262R. Order No. EP065000213. Requisition/Reference No. HKX008 QT-IL-06-000293. Biohabitats, Inc. September, 2007.
- Verrhiest, G. J., Clement, B., Volat, B., Montuelle, B., Perrodin, Y. (2002). Interactions between a polycyclic aromatic hydrocarbon mixture and microbial communities in a natural freshwater sediment. *Chemosphere*, 46, 187–196.
- Wisconsin Department of Natural Resources (WDNR). 1972. *Surface Water Resources of Douglas County*. Lake and Stream Classification Project. Department of Natural Resources, Madison, WI. 1972.
- Wisconsin Department of Natural Resources (WDNR). 1995. *Newton Creek System Sediment Contamination Site Characterization Report*. PUBL-WR-433-95. December, 1995.

## Appendices

Appendix C1) Hog Island Inlet Study, Wisconsin Department of Natural Resources (WDNR), February 2012

Appendix C2) St. Louis River Area of Concern Remedial Action Plan language pertaining to Newton Creek and Hog Island Inlet.

Appendix C3) Notification to WDNR of observed oil sheens and petroleum odors at Hog Island Isthmus filed December 7, 2009.

**\*\*Note: Appendices to the Newton Creek/Hog Island Inlet document are not attached to the Aesthetics Removal Package due to the size of the documents. To view the entire document, please contact WDNR.**

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## **APPENDIX D**

### **Documentation of Regulations**

#### **National Pollutant Discharge Elimination System:**

United States Environmental Protection Agency (2009, March). National Pollutant Discharge Elimination System (NPDES) overview. <http://cfpub.epa.gov/npdes/>

United States Environmental Protection Agency (2009, March). National Pollutant Discharge Elimination System (NPDES). Basic Regulations. [http://cfpub.epa.gov/npdes/regs.cfm?program\\_id=45](http://cfpub.epa.gov/npdes/regs.cfm?program_id=45)

Minnesota Pollution Control Agency (2009, November). Industrial National Pollutant Discharge Elimination System (NPDES) Permit Program. <http://www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-permits-and-forms/industrial-national-pollutant-discharge-elimination-system-npdes-permit-program.html>

Wisconsin Department of Natural Resources. (2013, September) Regulation of wastewater discharges. <http://dnr.wi.gov/topic/wastewater/Regulations.html>

Wisconsin Department of Natural Resources. (2013, January) Wisconsin Pollutant Discharge Elimination System (WPDES) permitted discharges. <http://dnr.wi.gov/topic/wastewater/DischargeTypes.html>

Minnesota Pollution Control Agency (2014, March). Clean Water Act Section 401 Water Quality Certifications. <http://www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-permits-and-forms/clean-water-act-section-401-water-quality-certifications.html>

#### **Boating Practices, Ballast, and Marinas:**

Minnesota Pollution Control Agency (2012, February). Vessel Discharges overview. [http://cfpub.epa.gov/npdes/home.cfm?program\\_id=350](http://cfpub.epa.gov/npdes/home.cfm?program_id=350)

Minnesota Pollution Control Agency (2014, February). Vessel Discharge (Ballast Water) Program. <http://www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-permits-and-forms/vessel-discharge-ballast-water-program.html>

Wisconsin Department of Natural Resources. (2013, December) Industrial and municipal wastewater general discharge permits. Ballast Water Discharge (WI-0063835-1-2) <http://dnr.wi.gov/topic/wastewater/generalpermits.html>

U.S Department of Commerce, National Oceanic and Atmospheric Administration (2010, September). Ocean and Coastal Resource Management. Clean Marinas Program.  
<http://coastalmanagement.noaa.gov/marinas.html>

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) created the Coastal Nonpoint Program under Section 6217. The Coastal Nonpoint Program was one of the main driving forces for states to develop Clean Marina programs.

<http://coastalmanagement.noaa.gov/about/czma.html#section6217>

Minnesota Clean Marina Program. (2012) <http://www.minnesotacleanmarina.org/CM.htm>

Wisconsin Clean Marina Program. <http://www.wisconsincleanmarina.org/>

### **Air Quality:**

United States Environmental Protection Agency (2012, December). National Ambient Air Quality Standards. <http://www.epa.gov/air/criteria.html>

Minnesota pollution Control Agency (2013, July). General Air Quality Page.  
<http://www.pca.state.mn.us/index.php/air/air-quality-and-pollutants/general-air-quality/index.html>

WDNR Wisconsin Administrative Code NR 415, particulate matter and fugitive dust.  
[https://docs.legis.wisconsin.gov/code/admin\\_code/nr/400/415](https://docs.legis.wisconsin.gov/code/admin_code/nr/400/415)

**APPENDIX E**  
**U.S. Steel Superfund Site Justification Document**

**U.S. Steel Superfund site**

**Documentation to Support Removal of the**  
**Degradation of Aesthetics BUI in the**  
**St. Louis River Area of Concern**

***5/22/2014***

Prepared by Susan Johnson  
Site Remediation and Redevelopment  
Remediation Division  
Minnesota Pollution Control Agency

## **Summary:**

This is a summary of current conditions at the U.S Steel Superfund Site in Duluth, MN to support the removal of the Degradation of Aesthetics Beneficial use Impairment.

## **Site Description:**

The U.S. Steel Plant Duluth Works Site, a former steel mill and coking operation, is on both the Federal National Priorities List (NPL) and the State of Minnesota Permanent List of Priorities (PLP). The site is approximately 600 acres (500 land and 100 river sediment). It is located 4 miles south-west of the Duluth central business district and adjacent to the neighborhood of Morgan Park.

The U.S. Steel Site has 18 Operable Units (OU) and two areas identified within the 1989 Record of Decision (ROD) for remedial action. Current work on this site is focused on the identification and cleanup of the sediments in the St. Louis River and follow up actions from the 2003 Five-Year Review. Land based contamination has been addressed as specified in the ROD.

## **Background:**

U.S. Steel Duluth Works was a fully integrated steel manufacturing plant built in 1907. The processes at the plant included coke production, iron and steel making, casting, primary rolling and roughing, hot and cold finishing, and galvanizing.

The plant began production in 1916 and continued operations until 1981. Within these 75 years the plant produced a variety of solid, semi-solid, and liquid wastes, some of which were discharged onto the surrounding land and into waterways. The Unnamed Creek (or Steel Creek) runs through the northern portion of the site and discharges into the St. Louis River. During operations much of the waste from the coke plant and the "hot side" of the plant was discharged into a settling basin that was located in the creek and then routed into the St. Louis River. The major contaminants were polycyclic aromatic hydrocarbons (PAHs) from coal tar. Wastes from the "cold side" of the plant were discharged directly into the river through the Wire Mill Settling Basin, which was built in 1954. A survey in 1973 found that the Wire Mill Settling Basin was full of sediment. The MPCA issued a NPDES Permit to monitor and control the effluent from the Wire Mill Pond. The stream water quality was found to exceed surface water standards for ammonia, cyanide, and phenols.

Water quality surveys were conducted by the state in 1928, 1948, and 1973. The results of these surveys showed a progressive deterioration in the water quality and biota of Spirit Lake and the St. Louis River estuary in the steel plant vicinity. The 1973 water quality levels in the St. Louis River exceeded the MPCA surface water standards for ammonia, cyanide, and phenols.

In 1979 the MPCA was informed of the company's intent to close the coke and steel plant. By the end of 1988 a majority of the buildings on the site were demolished, by 1999 all but one of the remaining buildings was removed from the site. Currently, the only remaining building is a sewer shed near the site entrance plus a few roads, both paved and dirt paths, and concrete pads.

## **Aesthetics Relations to U.S. Steel- Wire Mill Pond**

Four sources were identified in the 1995 RAP as contributing to oil, chemical, and tar residues: Hog Island Inlet, St. Louis River Interlake/Duluth Tar Superfund Site (Stryker Bay), U.S. Steel Superfund Site, and boating practices discharging oil, gasoline, and cleaning solvents into the water. This documentation will address only the U.S. Steel Superfund site.

The Wire Mill Pond served as receiving pond for storm water and wastewater from the “cold” side of the integrated steel mill; including the wire mill, and the merchant mill. Operations performed in these mills included hot and cold rolling, pickling, and galvanizing. The cold side of the Duluth Works ceased operation in 1973, except for the wire mill that continued to operate under a lease agreement. Tenants used the wire mill and discharged noncontact cooling water to the pond from 1973 until approximately 1986, when the operation of the wire mill was discontinued. During operations, the Wire Mill Pond was used as a treatment basin, holding wastewater to allow oil and greases to settle out prior to discharge to the St. Louis River. Heavy materials in the influent waste streams settled in the pond and lighter materials were captured with an active skimming process prior to discharge to the St. Louis River. The pond was estimated to contain 10,000 cy of contaminated non-native sediments.

The response action (RA) in the 1989 Record of Decision for Wire Mill Pond (OU-P) was originally specified to be no-action. Concerns regarding the discharge of contaminated water to the river lead to subsequent investigations in 1994 and 1995. A RA Plan (RAP; Barr, 1996) was submitted to the MPCA and was approved in November 1996.

Major components of the RA included: modification of watershed drainage patterns; gross pond dewatering and temporary water treatment; partial excavation of contaminated non-native material, treatment (dewatering and drying), and disposal of 6487 tons of contaminated non-native material off-site; placement of geotextile filter; site restoration including backfilling and wetlands construction.

The remediation of OU-P was completed in accordance with the RAP. Fieldwork commenced in June 1997 and, with the exception of the wetlands, was completed in December 1997. A Response Action Implementation Certification Report and accompanying set of Record Drawings for the Wire Mill Pond was completed in February on 1998 (Geraghty & Miller, 1998b). The report summarized the events leading to the completion of the RA field activities, presented the “as-built” conditions, and provided certification that the remedy was executed as prescribed in the RAP and specific MPCA approval correspondence. OU-P is identified in the RAP as an area of the Site to be included in an annual visual inspection. The outfall is monitored on a semi-annual basis.

The 2008 Five Year Review stated that sheens were observed at the Wire Mill Pond starting in 2007. Sheens were continually observed and containment and absorbent booms were added and replaced as needed at the outfall of the Wire Mill Pond, preventing the sheen from reaching the river. Subsequent sampling in 2009-2012 of the soils (dredge spoils) and wetlands surrounding the pond showed the presence of source material and potentially the source of sheens in the pond. MPCA determined that this area needed further cleanup actions in order to be protective of human health and the environment. MPCA required USS to include the Wire Pond (OU-P) and the surrounding unit (OU-Q) in the feasibility study due in late 2014.

**Justification to Remove Degradation of Aesthetics Beneficial Use Impairment:**

Currently there are absorbent and containment booms in place at the Wire Mill Pond location that control and contain the oil sheens within the pond from migrating to the river. The booms are periodically changed throughout the year as needed. By fall of 2014 the responsible party will submit a feasibility study outlining the response action alternatives to MPCA for review and approval. MPCA will make a decision on which response action alternative addresses risk at the site and present it to the public. . The construction to address this portion of the site with a more permanent solution will tentatively start in 2016-2017.

**References:**

Second Five Year Review Volume 1 USS, MPCA, 2008  
2013 Five Year Review for the St. Louis River Superfund Site, MPCA, 2013