

Great Lakes Legacy Act

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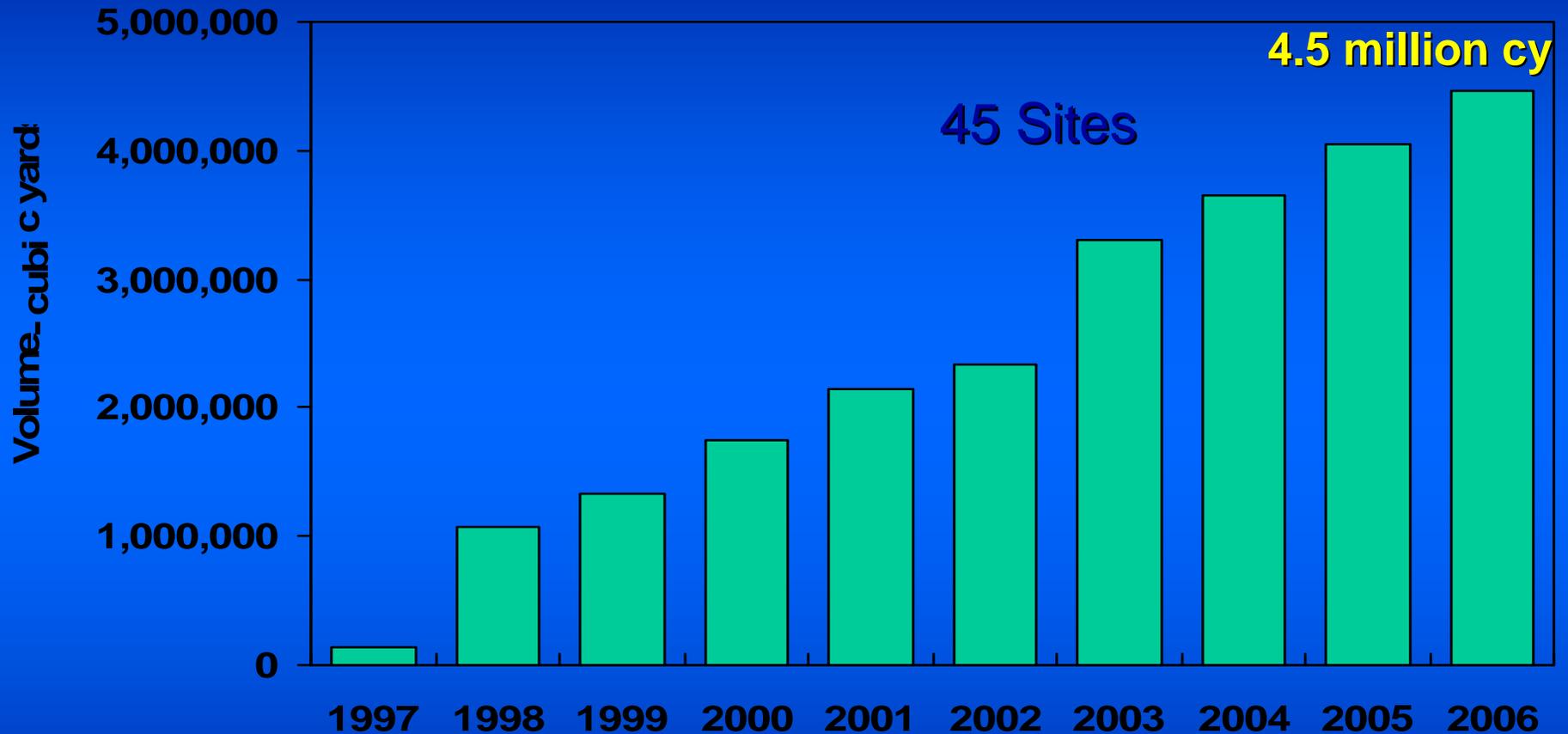
U.S. EPA

Great Lakes National Program
Office





Cumulative Sediment Remediated In U.S. Great Lakes



Recent Estimates provided by Great Lakes States:

- ~ 75 Sites to be remediated
- ~46,000,000 cubic yards



Great Lakes Legacy Act...a new “tool” in the Great Lakes sediment remediation toolbox

⇒ **Goal: Accelerate the pace of sediment remediation at Areas of Concern (AOCs)**

⇒ **Use partnerships as an innovative approach to conducting sediment remediation**

⇒ **Program administered by the U.S. Environmental Protection Agency Great Lakes National Program Office (GLNPO)**





GLLA Authorization and Appropriation

- The Great Lakes Legacy Act yearly authorization (FY2004 through FY2008):
 - \$50M - contaminated sediment “projects”
 - \$3M - research/development of innovative technologies
 - \$1M - public information - contaminated sediment remediation

\$10 M appropriated in FY2004

\$22 M in FY2005

\$29 M in FY2006

\$30 M in FY2007

\$35 M in FY2008

\$35M in FY2009 (proposed)



GLLA Project Types

**Must be in U.S. Areas of Concern
(AOCs) and:**

- 1) Implement a plan to remediate contaminated sediment (highest priority)**
- 2) Monitor or evaluate contaminated sediment**
- 3) Prevent further or renewed sediment contamination**



Cost-Sharing

Non-Federal Cost Share Must be at Least 35% of Total Project Costs, and:

- **May include in-kind services contributed by a non-federal sponsor,**
- **May include monies and in-kind services under an administrative order on consent or judicial consent decree,**
- **May NOT include any funds pursuant to a unilateral administrative order or court order.**



GLLA Remediation Projects

Projects Completed

- ✓ Black Lagoon - Trenton MI
- ✓ Hog Island Inlet & Newton Creek - Superior WI
- ✓ Ruddiman Creek & Pond – Muskegon MI
- ✓ St. Marys River – Tannery Bay – Sault Ste Marie MI

Projects underway

- ⇒ Ashtabula River - Ashtabula OH



GLLA Non-Remediation Projects

Projects Completed

- ✓ Ryerson Creek - Muskegon MI (assessment)
- ✓ Trenton Channel- Riverview Detroit River MI (RI/FS)
- ✓ St. Louis River - Superior WI (assessment)

Projects underway

- Grand Calumet River – Hammond IN (RD)
- Kinnickinnic River – Milwaukee WI (FS/RD)
- Buffalo River – Buffalo NY (RI/FS)
- Division Street Outfall – Muskegon, MI (FS)



GLLA Implementation Rule

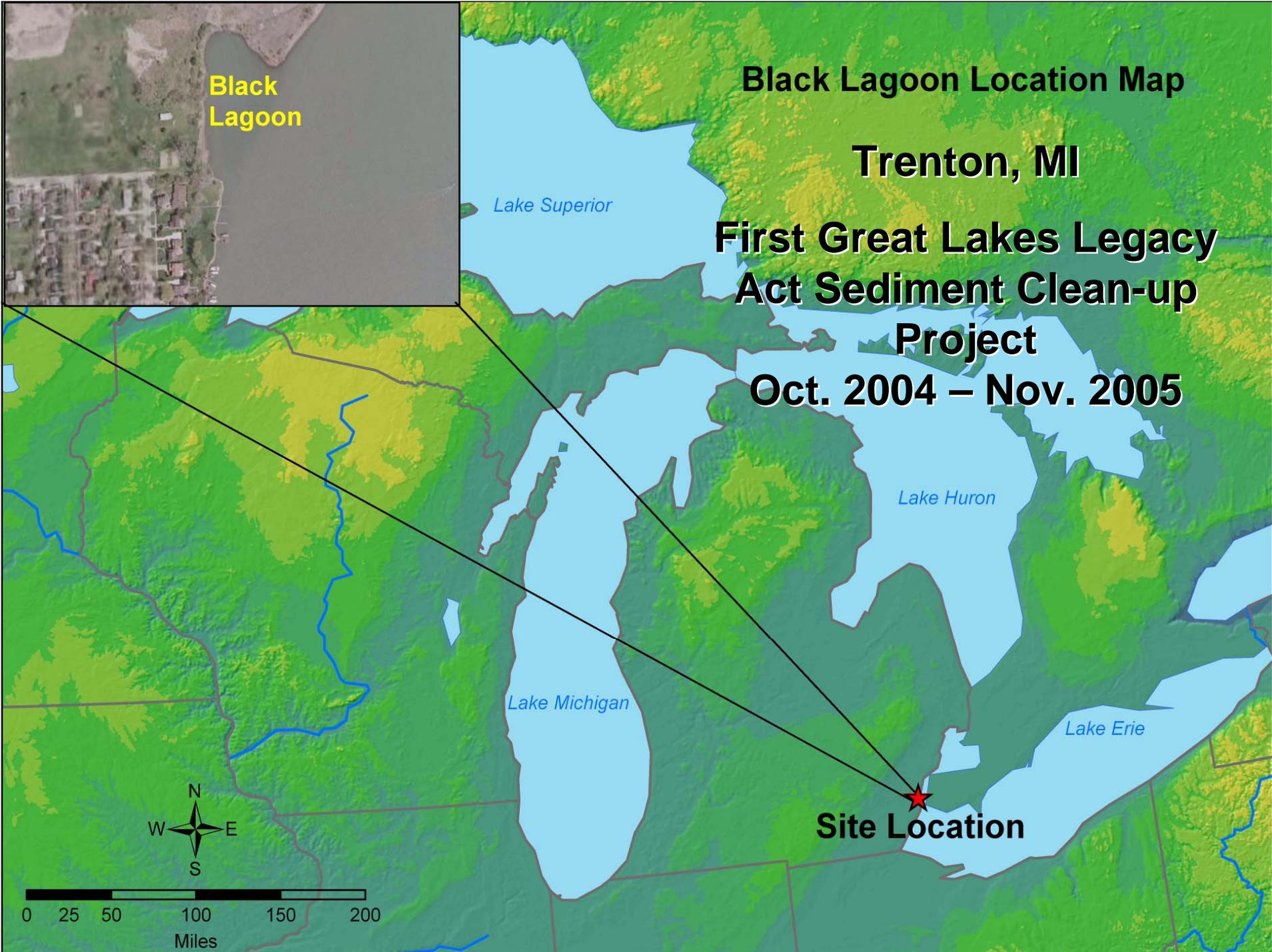
Guidelines for Selection and Funding of Projects (May 1, 2006)

Purpose of rule is to “outline the process for identification, evaluation, and selection of projects for funding under the GLLA.”



GLLA Implementation Rule

- **Key components:**
 - **Transparency**
 - **Standardized Selection Criteria**
 - **Nexus with Regulatory Programs**
 - ◆ **GLLA will not fund ROD/Settlement Agreement**
 - ◆ **GLLA can fund betterment (e.g., Tannery Bay)**



Volume: 116,000 cubic yards

Cost : \$8,700,000

Partner: MI Dept. of Environmental Quality (35% cost)

Disposal: Pointe Mouillee CDF



Black Lagoon Oil and Grease Concentrations

Legend

Oil and Grease, May 05

mg/kg

12,000 - 15,000

15,001 - 17,500

17,501 - 20,000

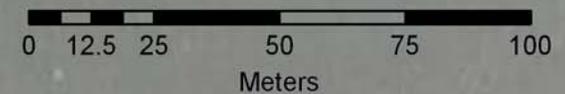
20,001 - 25,000

25,001 - 28,495

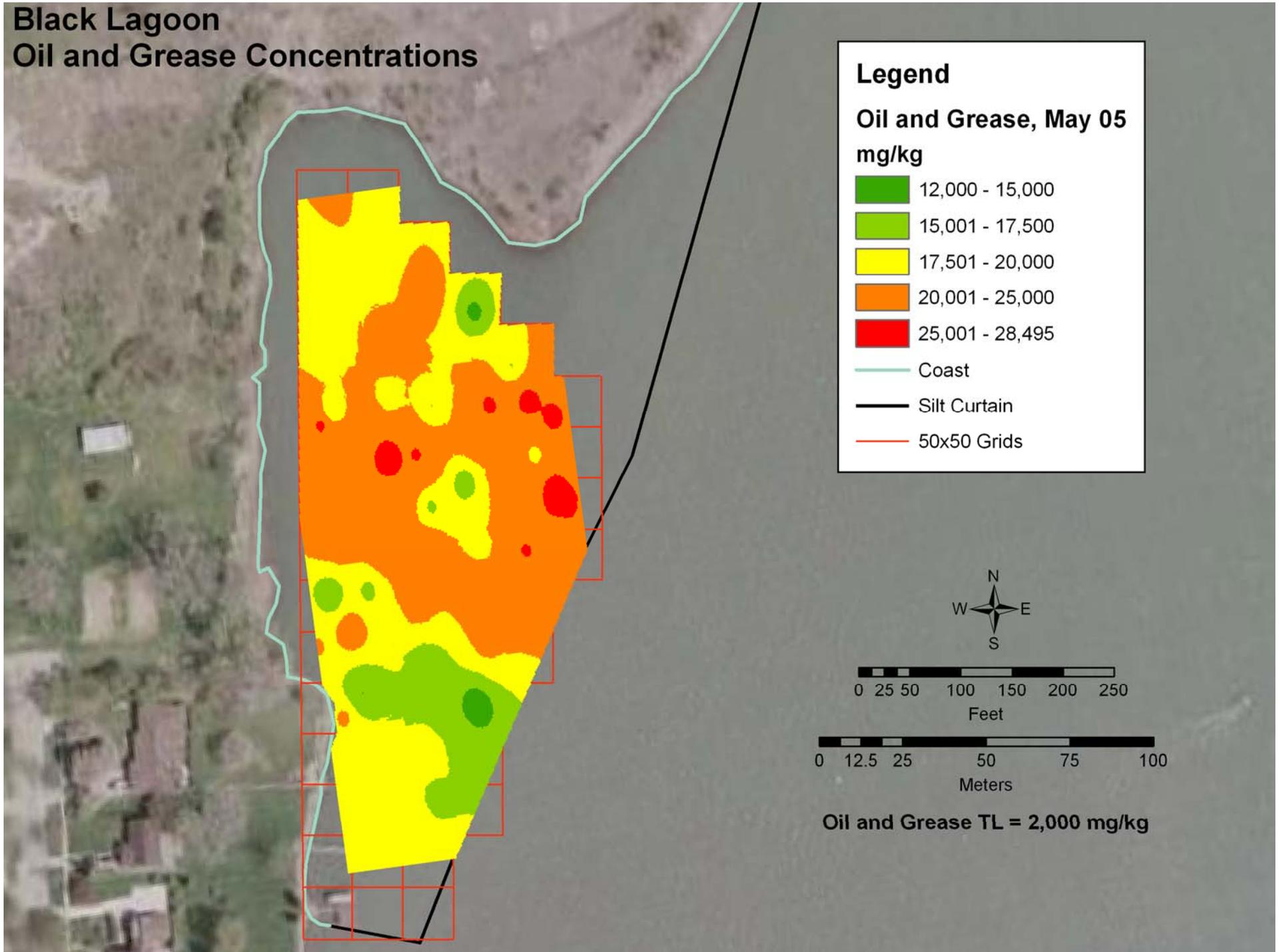
Coast

Silt Curtain

50x50 Grids



Oil and Grease TL = 2,000 mg/kg



Black Lagoon Oil and Grease Concentrations

Legend

Oil and Grease, Nov 06

mg/kg

0 - 750

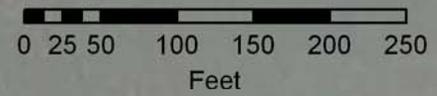
751 - 1,000

1,001 - 1,827

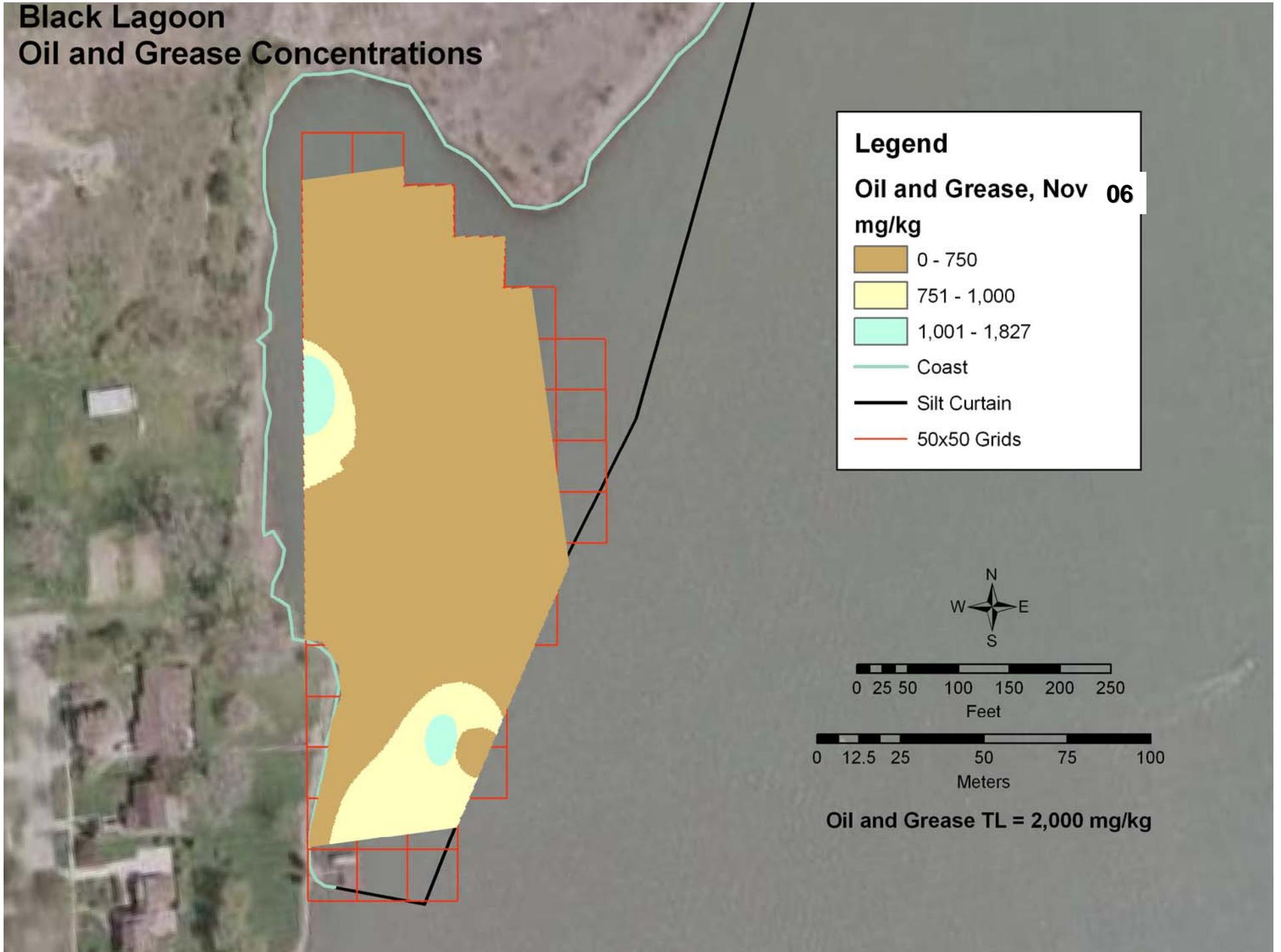
Coast

Silt Curtain

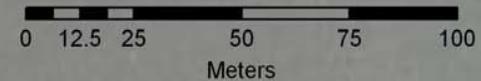
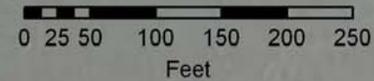
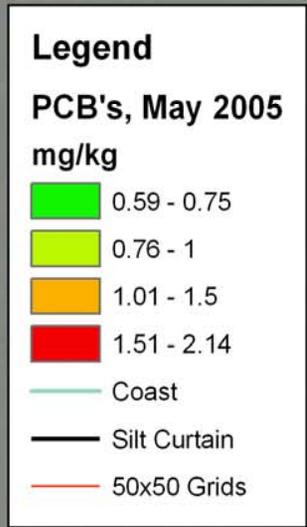
50x50 Grids



Oil and Grease TL = 2,000 mg/kg

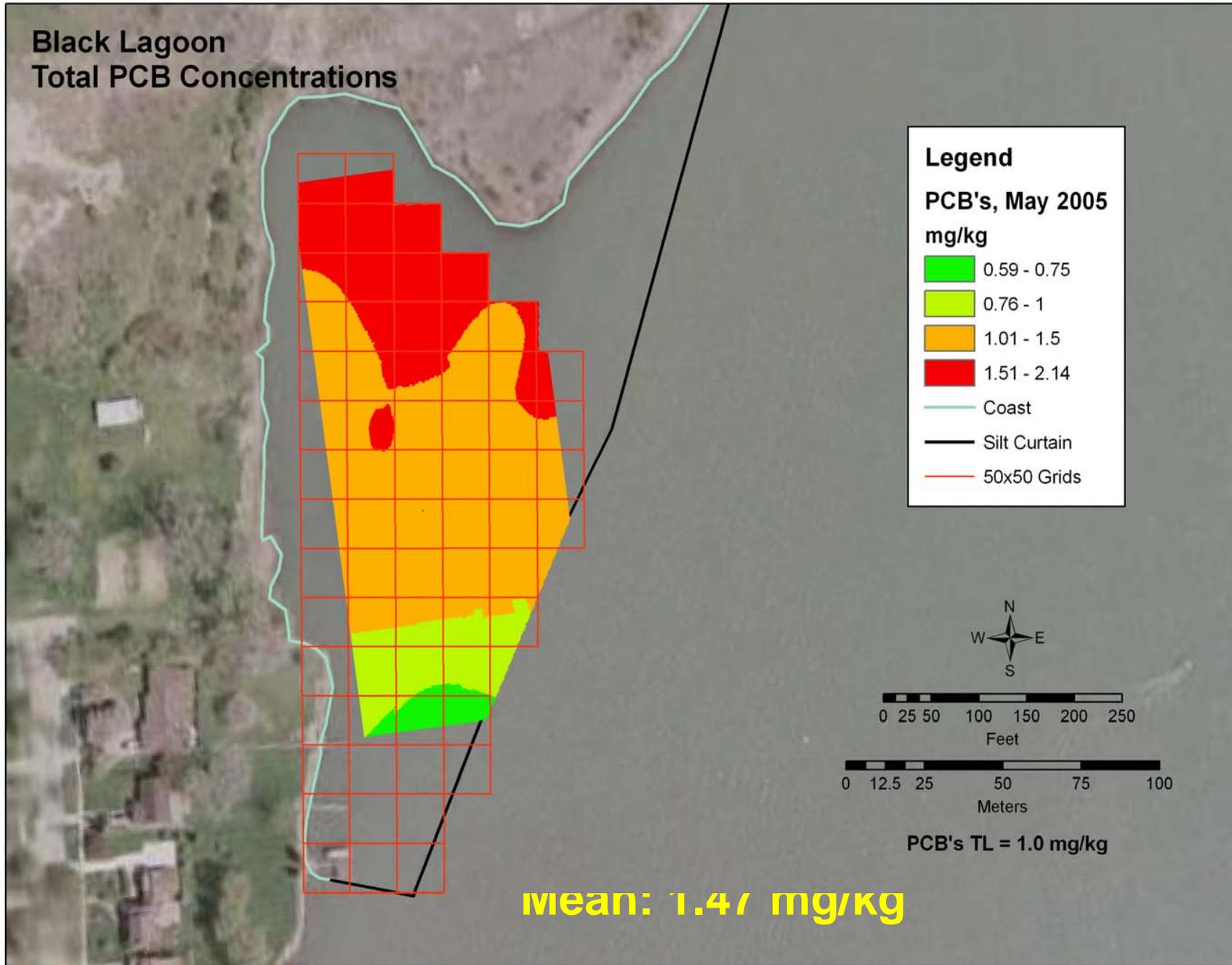


Black Lagoon Total PCB Concentrations

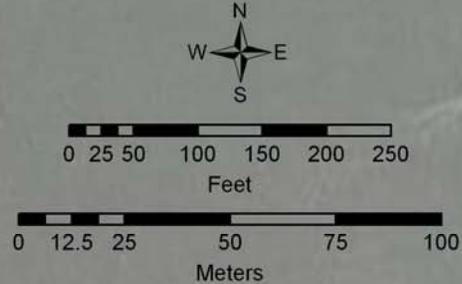
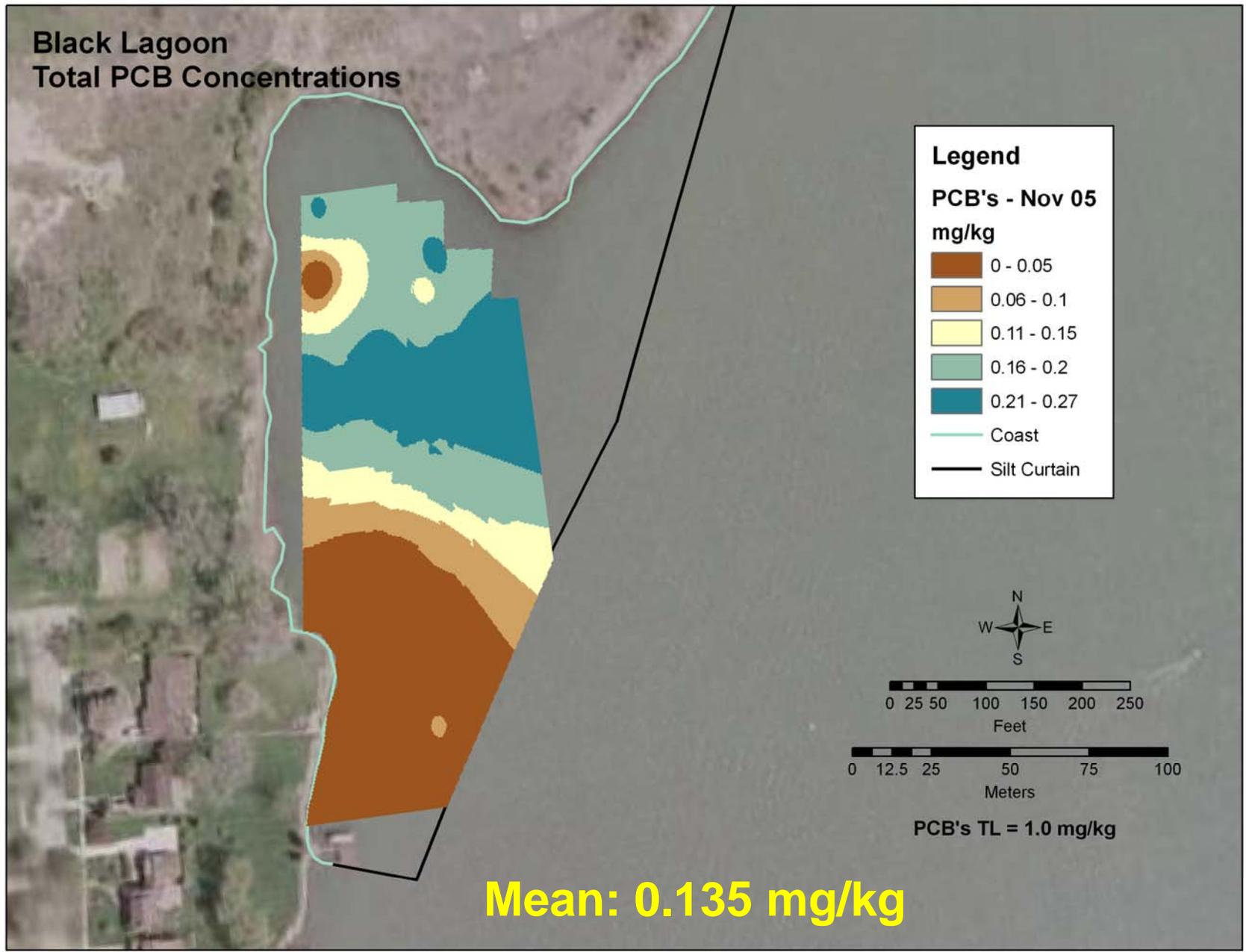
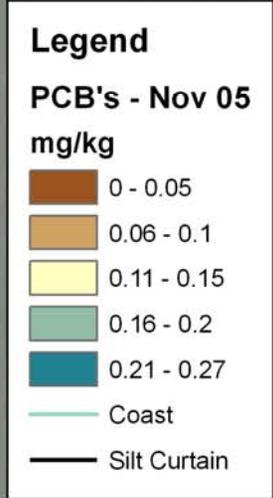


PCB's TL = 1.0 mg/kg

mean: 1.47 mg/kg

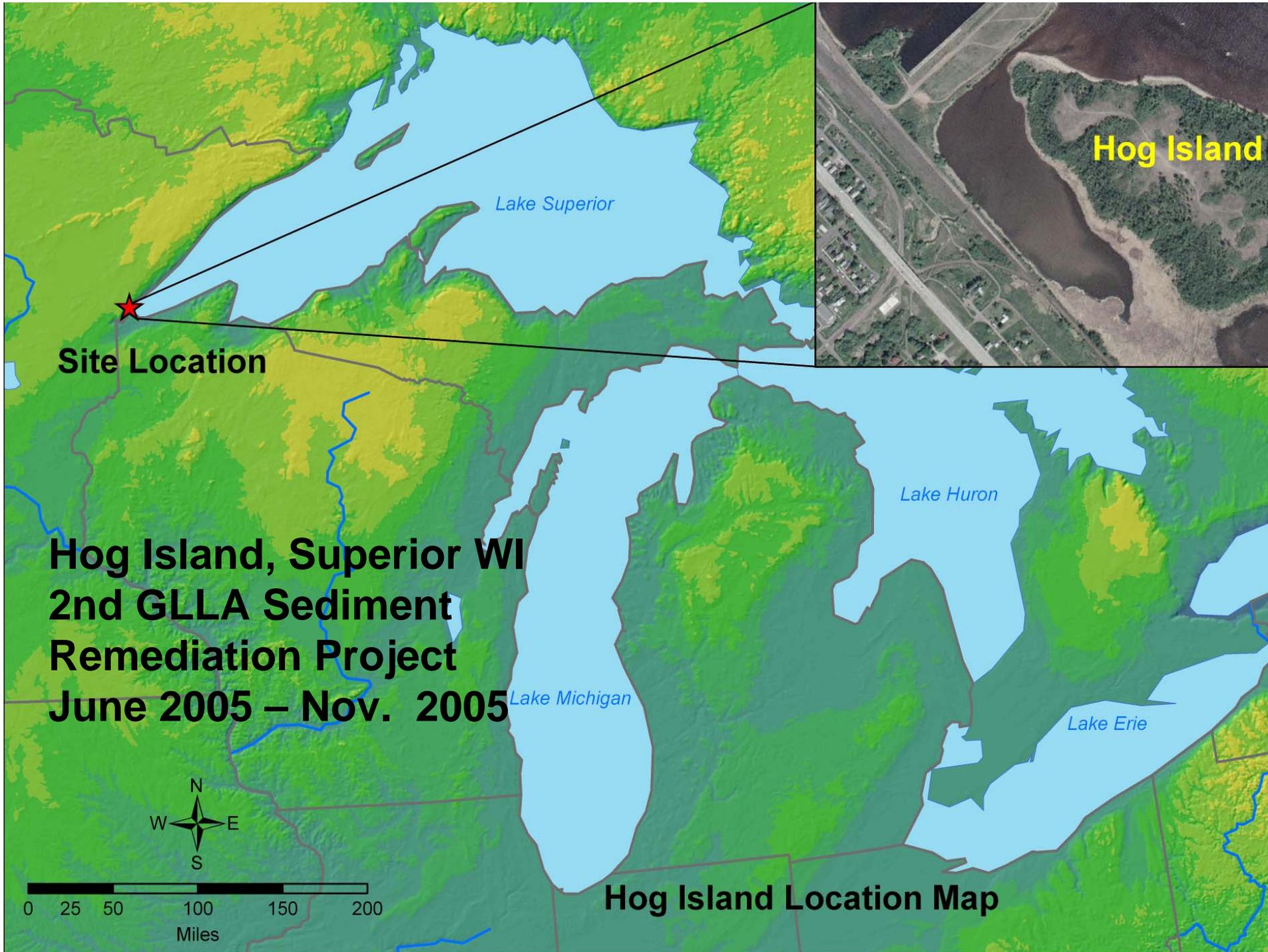


Black Lagoon Total PCB Concentrations



PCB's TL = 1.0 mg/kg

Mean: 0.135 mg/kg





•46,000 cubic yards of petroleum-contaminated sediment removed from Newton Creek and Hog Island Inlet to Moccasin Mike Landfill



Hog Island - Superior WI

- \$5.3 million
 - NFS-WDNR (35%)
- Removed 500 lb of PAHs and 7,000 lb of Lead
- Site is an important and rare coastal habitat

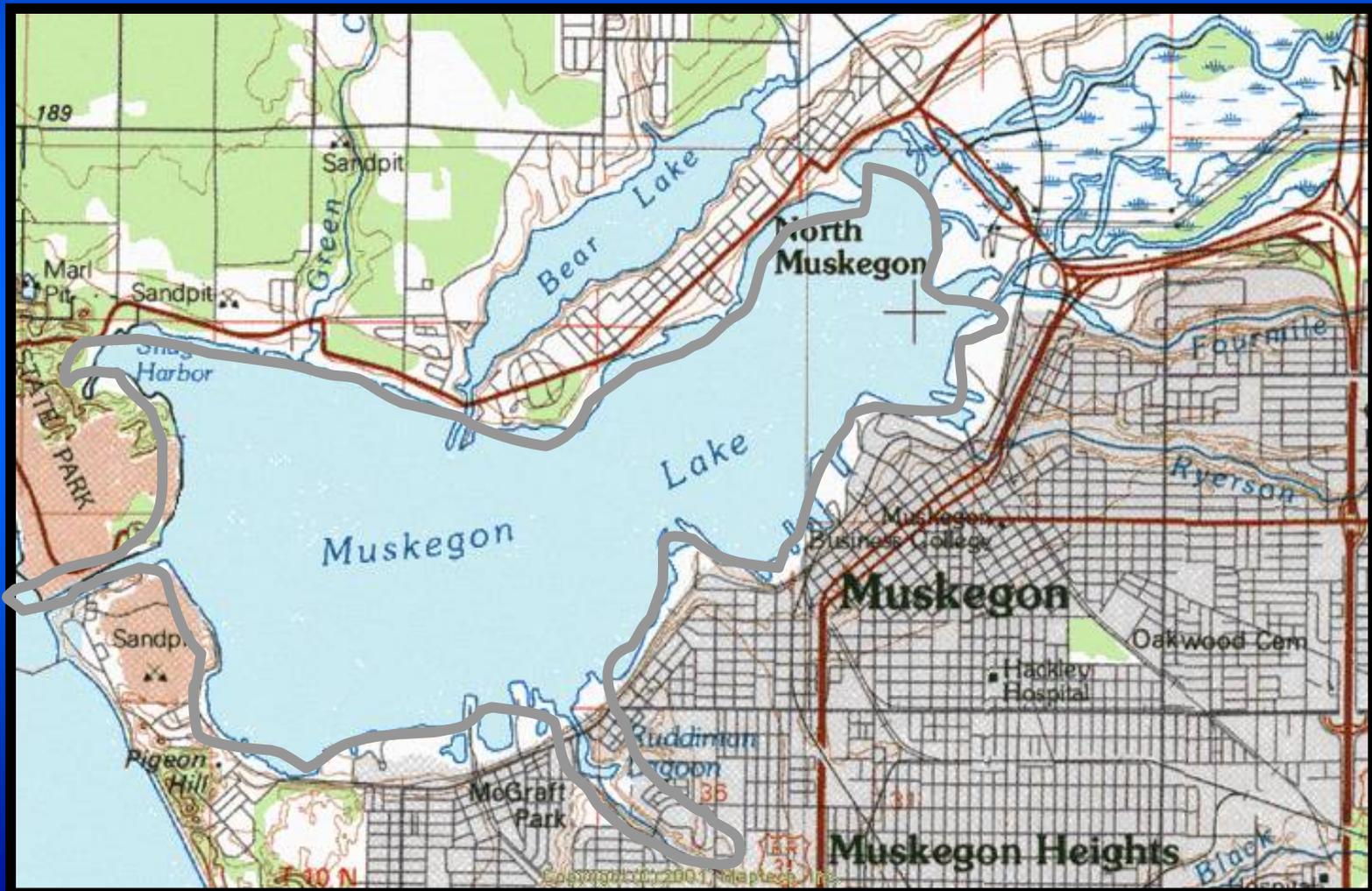
**Restoration Blueprint
complete and community
has begun implementing the
plan**





Ruddiman Creek and Pond Muskegon Lake AOC

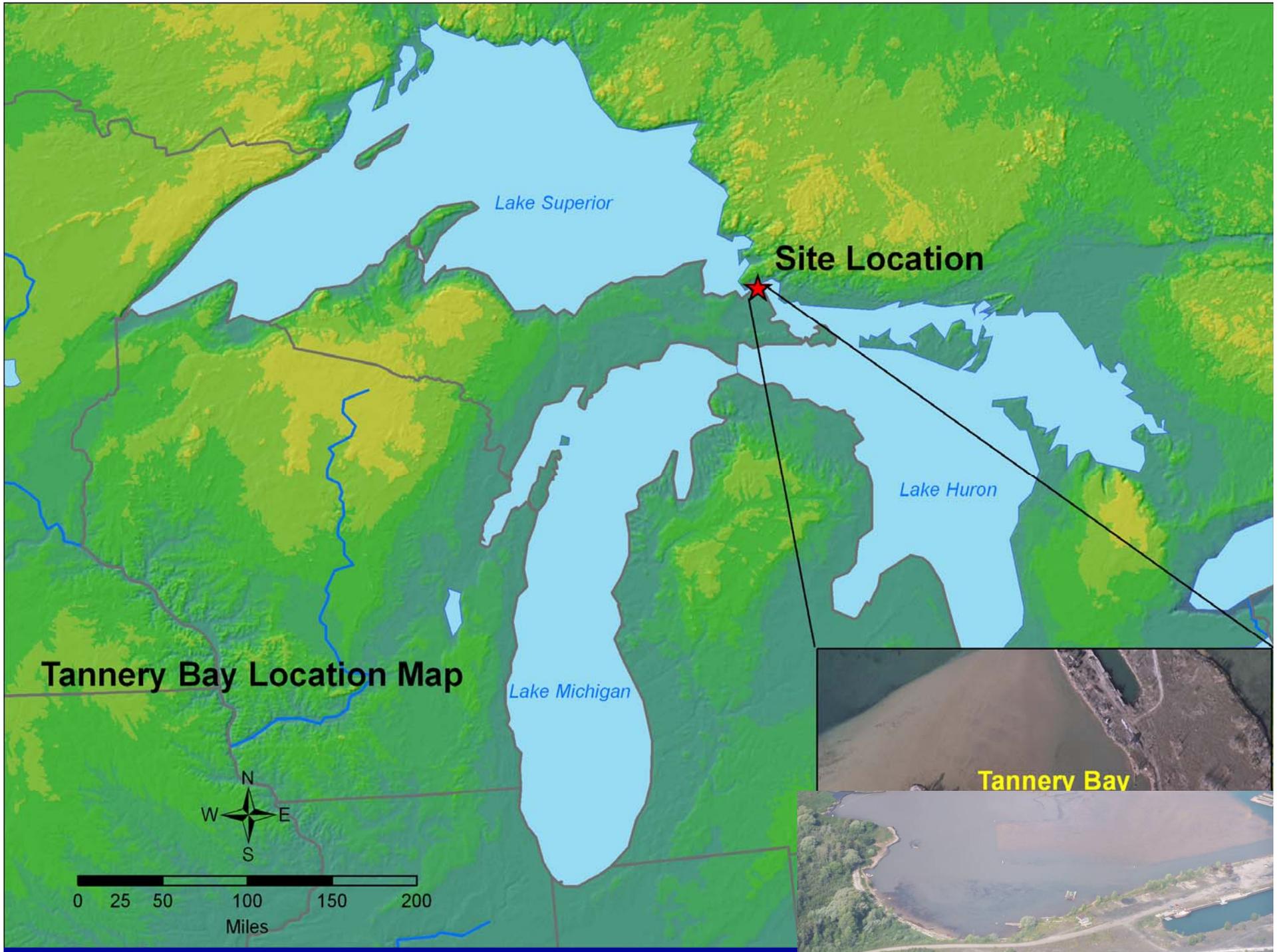
3rd GLLA Remediation Project



Ruddiman Creek and Pond Muskegon Lake Area of Concern (AOC)

- **Total cost: \$14.2 M**
- **Non federal partner: MI DEQ (35% CMI)**
- **90,000+ cubic yards removed**
- **Several mechanical dredging strategies used**

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Tannery Bay, Sault Ste. Marie, MI

Total cost: \$8M

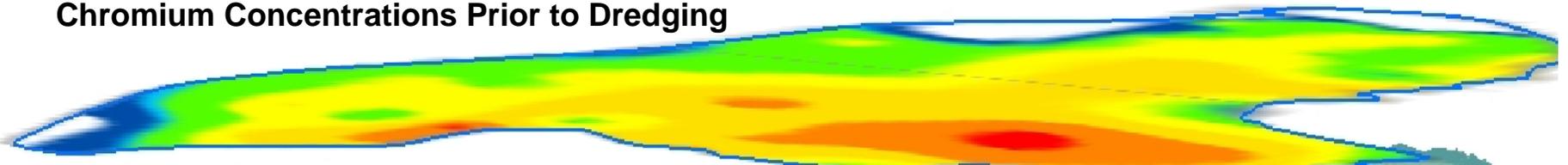
- GLLA (60%)
- Phelps Dodge Corp.
- Michigan DEQ
(\$600,000 - CMI funds)
- Category 3:
Betterment



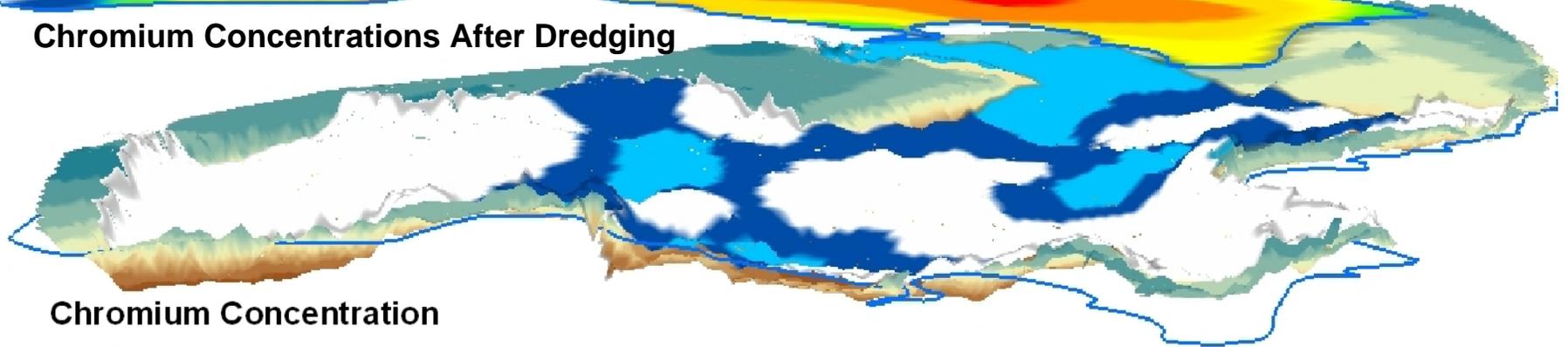
44,000 cubic yards

- 1,000,000 lb Chromium
- 70 lb Mercury

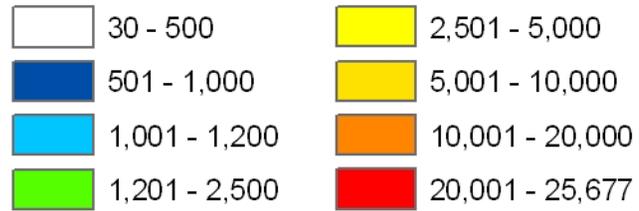
Chromium Concentrations Prior to Dredging



Chromium Concentrations After Dredging



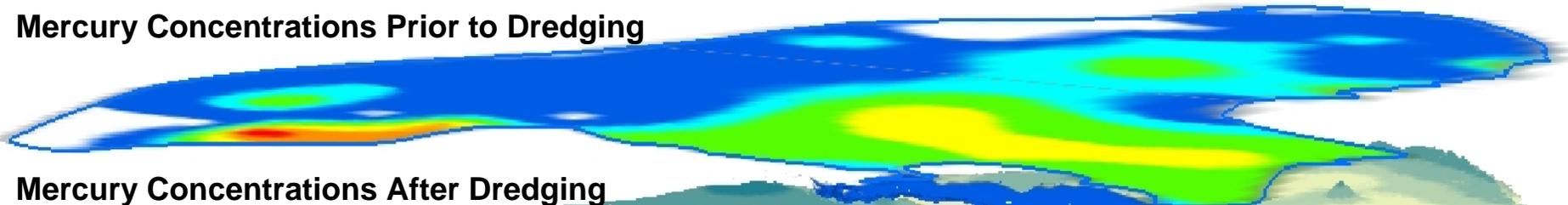
Chromium Concentration (mg/kg)



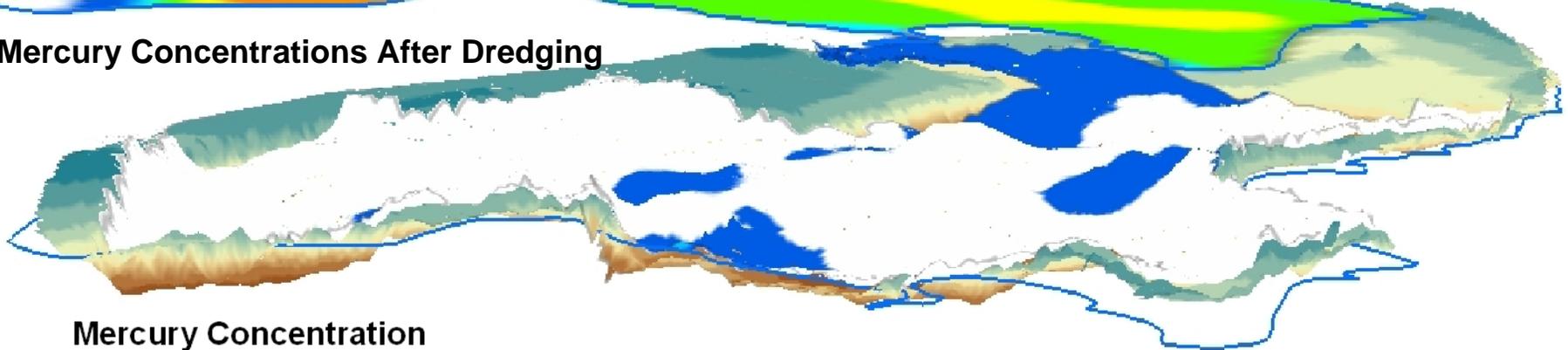
— Boundary

Chromium mass removed: 881,980 lbs

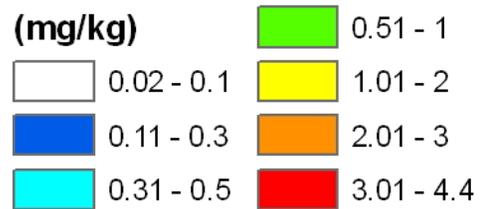
Mercury Concentrations Prior to Dredging



Mercury Concentrations After Dredging



Mercury Concentration



 Boundary

Mercury mass removed: 72 lbs



GLLA Program Successes

- **New mechanism to remediate contaminated sites**
- **GLLA cost sharing has created new partnerships and strong collaborations that result in better projects**
- **GLLA has funded \$54 M in cleanup projects and leveraged \$44 M in non-federal funding**
- **820,000 cubic yards remediated**
- **R2R Remediation to Restoration is underway**