Maumee AOC Summit
Fall/Winter 2011

Thursday, December 1st, 2011
9:00am to 12:00pm
TMACOG
300 Dr. Martin Luther King Jr. Drive, Toledo, Ohio
(light breakfast will be provided)

Maumee RAP Advisory Committee meeting to immediately follow Summit

AGENDA

9:00-9:15am Welcome and Introductions, also MRAC updates (Patrick Lawrence)

9:15-9:30am Updates from PCS (Kristina Patterson)
- Upcoming PCS Activities
- Camp Miakonda Project
- Maumee Corps

9:30-10:50am Partner Presentations
- Passive Treatment Wetland to Improve Nearshore Health and Reduce Nonpoint Source Pollution (*Univ of Toledo, Daryl Dwyer*)
- Duck and Otter Creeks GLLA Data Gap Investigation (*Duck & Otter Creeks Industry Partners)*
- Duck and Otter Creeks GLLA Confluence Study (*US EPA, Brenda Jones*)
- Data Management and Delisting System (*ECT, Jeff Edstrom/Chip Thomas*)

10:50-11:00am Break and Networking

11:00-11:30am Agency Reports
- US EPA (*Frank Anscombe*)
- Ohio EPA (*Cherie Blair*)
- TMACOG (*Matt Horvat*)

11:30-11:50am Additional Partner Reports/Project Updates
- Open floor for project sharing by any other partners

11:50-11:55am Closing comments and announcements

12:15-1:15pm Maumee RAP Advisory Committee meeting

Next Maumee AOC Summit
Spring 2012
Wednesday May 2, 2012
9:00am-12:30pm
Location: TBA

Ohio EPA
Maumee RAP Coordinator Report

PLANNING

US EPA projects in the Maumee AOC

- At the request of Ohio EPA, US EPA is conducting three projects in the Maumee AOC that are scheduled to be complete by July 31, 2012. US EPA contractor, Tetra Tech, is working on the following:
    - Lower Maumee Tributaries and Lake Erie Tributaries TMDL
        - Document is currently in development, with public notice in late May/June 2012
        - Details of the draft report are expected to be presented at the Spring Summit 2012
    - Eastern Maumee AOC Wetland & Riparian Inventory and Restoration Plans
        - See below for update
    - SUSTAIN model for Swan Creek
        - Some modeling has been done in other area that hopes to be utilized for the Swan program
        - Looking to simplify the program to make it more user friendly

Eastern Maumee AOC Wetland & Riparian Inventory and Restoration Plans

- Site were selected last spring and field work/sampling was done late summer
- The Project Management Team has narrowed the list of site based on the sampling results
- Approximately 20 sites (several with various phases/parts) will have concept plans, maps, and cost estimates developed over the winter. A full draft report is expected in March, with the final available in August 2012

Updating Stage 2 Watershed Restoration Plan

- Ohio EPA has been working with a US EPA consultant (ECT-presenting today at the Summit) to develop an analytical data, delisting target, and project management database. We had a BETA showing of the system at the Maumee AOC Project Forums in July. This Phase of the project is expected to be done by Dec 31, 2011. It hopefully that another of this will be funded that may include a mapping component that could be made available online. This system would take the place of the current Volume 2 of the Stage 2 Report and allow our regional watershed plan to always be current.

SAMPLING

Ohio EPA moves Maumee River up on TMDL sampling schedule

- The Maumee River was scheduled for sampling in 2016, however it has been moved up to next summer
- Ohio EPA will be conducting biological, chemical and sediment sampling the Large River Unit (mainstem) of the Maumee River watershed for the TSD
- Ohio EPA is working with U.S. EPA to ensure that any needed TMDLs are completed in a timely manner

Ottawa River sampled for TMDL and fish consumption advisory

- Ohio EPA sampled sites in the Ottawa River/Tenmile Creek watershed for biology, chemistry, and sediment.
- Some of the results from this study are available on our agency mapping website
- Sample were also collected related to 319 projects and the fish consumption advisory. These fish are being analyzed now and we hope to have a determination of the status of the advisory early this spring.

Additional Data Collection in Maumee AOC

- US EPA GLNPO collected sediment samples under the GLLA Site Characterization authority in the Maumee River (~RM 8.5-3.5), Swan Creek (~RM 2.75-mouth) and at the confluence of Duck and Otter Creeks with the Maumee River/Bay.

- Results should be available in spring 2012 for Maumee River and Swan Creek. Brenda Jones is presenting more on the Duck and Otter Creeks confluence study today at the Summit.
- Additional sampling in the Maumee River is expected next summer from ~RM 3.5 to the Duck/Otter/Bay confluence study area. It is hoped at additional sampling will be conducted in Maumee Bay during the summer of 2013.

OTHER

Great Lakes Week Notables *(info based on presentations at Great Lakes Week in Detroit, MI (Oct 11-14))*

Notes from Joint Session with HOW, GLC, and US&CA governments regarding GLRI and IJC:

1. Lisa Jackson discussed 3 priorities for the coming year:
    - Preventing invasive species
    - Reducing phosphorus (specifically mentioned the Maumee River and need for HAB response)
    - Eliminating toxic hot spots in AOCs
2. Susan Hedman's (R5 Admin) address was mostly taken from the GLRI Action Plan.
    - GLRI funds are distributed to 11 agencies to fund all/part of 140 Programs
    - Spoke about the 4 targeted (Tier 1) AOCs (Ashtabula, Raisin, Sheboygan, White Lake) where all remaining management actions needed will be completed by 2012. After describing each one she repeated "when all remaining management actions, EPA will continue to monitor environmental conditions until all BUIs are removed."
        - Tier 1 – Delist in 0-3 years
        - Tier 2 – Delist in 3-5 years
        - Tier 3 – Delist in 5+ years
    - Revealed new list of Priority/Tier 2 AOCs for 2013, no Ohio AOCs
    - Will be 5 focus areas based on GLRI Action Plan [Maumee watershed (not just AOC) is 1 of the 5]
    - CSO-SSOs – USEPA escalating efforts for funding and enforcement
3. Great Lakes Water Quality Agreement Negotiation Status (Hedman & Goffin)
    - No changes have been made to agreement since 1987 (when RAP/LaMP was added)
    - New GLWQA negotiations underway. A number of proposed changes affect RAPs and the LaMPs. (http://binational.net/home_e.html)
    - LAMPs/RAPs focus on reporting progress and implementing fixes (see http://binational.net/glwqa/v2_glwqareview_en.pdf)
    - Expect agreement to retain: purpose, geographic scope, commitment to AOC/LaMPs
    - Expect to streamline: LaMP/RAP process (more frequent and detailed reporting), definitions streamlined, and consolidated annexes and references organized into 5 sections
    - Expect to improved/enhance: annexes, AOC (add recovery stage and BUI explanation, accountability, binational management framework (with annex specific subcommittees), and comprehensive reporting to governments every 3rd year
    - Expect to be added: new annexes on invasive species, climate change, habitats & species, and notification component (i.e. pipelines, drilling, nuclear plant sitings)

Notes from 2011 AOC Conference, Detroit, Oct 13-14, 2011

1. Accomplishments under the AOC Program
    a. Wendy Carney (GLNPO-Deputy Director)
        - 261 BUIs = so far 26 removed in 9 AOCs and 5 states
        - 4 step plan
            - Planning (Stage 2)
            - Action
            - Verify (Monitoring & Assessment)
            - Delist
        - Stage 2's are maps to the Finish Line
            - Some BUIs/watersheds are so far out they can't see how to get to the finish line
            - These AOCs need to take interim steps and re-write/re-chart path as progress made

b. John Perrecone (GLNPO)
    - EPA tracking database underway; eventually will be prime source for reports and management tracking
    - Critical State roles:
        - AOC delisting targets
        - BUI removal targets
        - Stage 2 RAPs (needed by end of 2011)
        - Prioritize and implement projects
        - Report progress
        - Provide input to tracking database
c. Marc Tuchman (GLNPO-GLLA)
    - Have done work in 18 of 30 US AOCs with 10 projects completed for 1.3 mil cu yds
    - Have leveraged $119 million in match for $169 million of GLLA money spent
    - NRD settlements have results in $27 million
d. Karen Rodriguez (USEPA & SOGL)
    - US EPA grants
        - Expect 2012 RFP will be similar but not identical to 2011
        - Pay attention to details
        - Expect a focus on AOCs
        - Not much habitat work from U.S. EPA; habitat money to USFWS & Sustain Our Great Lakes again
        - If GLRI is funded same as last year, then money to AOCs is expected to increase
    - SOGL grants
        - Expect RFP in Early Jan 2012
        - Grants in 2 sizes: $25K – $150K, $150K – $1.5 M.
        - SOGL runs on a calendar year schedule
        - Online submissions ONLY – no hard copies will be accepted
        - Want more AOC proposals
        - VERY important to include
            - Tell how project will delist/help to delist habitat BUIs
            - Tell how project will help reach GLRI action plan measures
            - Tell how project will lead to removing BUIs; relate back to plans: LAMPs, biodiversity plans (TNC's Blueprint for Lake Erie)
    - Should include monitoring for effectiveness
e. Julie Sims (NOAA)
    - 2011 funding restricted to AOCs, including 4 land acquisition projects.
    - In 2012, expect to focus on AOC land acquisition, habitat restoration implementation (minimal engineering and design); include monitoring for effectiveness; consider climate change; new Partnerships; Marine Debris grants
f. Amy McGovern (US FWS)
    - Soliciting projects through field offices
    - Funding lots of fish passage projects
g. Jan Miller (US ACE)
    - Strategic nav. dredging, how to use GLRI funding to augment base funding in some cases;
    - Invasive species;
    - Habitat and wildlife: dams and fish passage;
    - Nearshore restoration projects include dredging and removing structures; need to link projects to BUI removal.
    - Look to maximize 3 piece combo: USACE Navigational dredging, GLRI Strategic Navigational Dredging, and GLLA.

Update for Maumee AoC

USEPA Chicago; 312-353-0201;
anscombe.frank@epa.gov

Topics

1. Sediment activities in Maumee AoC
2. Retrospective re FY 11 RFPs
3. Web sites (GLRI, Asian Carp, GLAS)
4. Pathway toward restoration information system

Background: Great Lakes Legacy Act

- **Accelerate sediment remediation around Great Lakes**
- **35 percent non-Federal contribution**
- **1, 372, 000 cubic yds removed**
- **13 projects, complete or underway**
- **$303MM, including $124MM in non-Federal contributions**

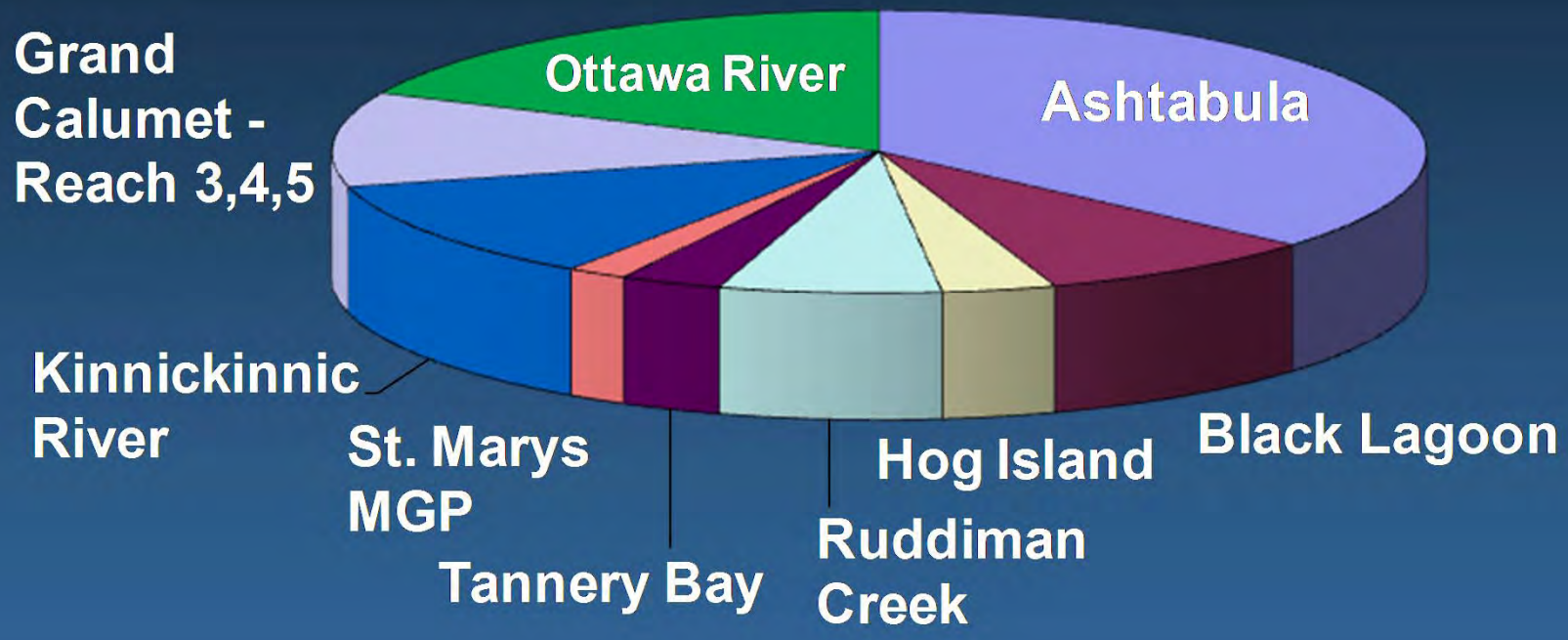
Recent publication about Legacy program

- Revitalizing local waterfront economies
- http://epa.gov/greatlakes/sediment/legacy/legacy_20110930.pdf

Pier Milwaukee: Economic Turnaround After Cleanup

- ***Business has flourished***
- ***Restored access for deep-draft vessels, including sail boats***
- ***Elimination of operating restrictions.***
- ***Increased demand for vessel storage.***
- ***New seasonal boat slips.***

GLLA Remediation to date:



1,372,000 cubic yards remediated

Industries (34) Involved in GLLA Projects

- DuPont Co.
- GenCorp Inc.
- Honeywell International Inc.
- Illinois Tool Works, Inc.
- United Technologies
- Allied Waste Industries, Inc.
- Phelps Dodge (Now Freeport-McMoRan)
- Cabot Corp
- Detrex Corp
- XIK Corp
- Consumers Energy
- Varta Microbattery, Inc.
- The Mosaic Co.
- BP-Husky Refining
- BASF Corp.
- Arkema Corp
- Wisconsin Public Service
- PRS
- Cleveland Illuminating Co.
- Mallinckrodt Inc
- Millennium Inorganic Chemicals
- Ohio Power
- Olin Corp
- Occidental Chemical
- RMI Titanium Co
- Sherwin Williams
- Union Carbide
- CBS Operations (Viacom Intl)
- Elkem Metals
- Perstorp Polyols, Inc.
- Chevron USA
- Sunoco, Inc
- Pilkington North America
- U.S. Steel

Maumee AoC sediment overview

- Ottawa River remediation (2010); 250,000 cubic yds sediment; circa $47MM cost, 50% share by local partners; PCBs, PAHs, metals
- Lower Maumee River characterization began during 2011 on 5 mile segment, with follow-on work planned for 2012/13
- Swan Creek characterization 2011
- Duck and Otter Creeks studies 2010-11

Closing: sediments

- Maumee AoC is in forefront of participating with and making use of the Legacy program
- Remediation on one river is complete
- Studies of 4 additional rivers/creeks underway

2. RFPs retrospective (2011)

- GLRI http://www.epa.gov/greatlakes/fund/2011rfa01/
- Sustain Our Great Lakes (Habitat)

http://www.sustainourgreatlakes.org/Projects/GrantsAwarded.aspx#2011_Grants

- NOAA (Habitat)
- USFWS
- Great Lakes Protection Fund
- http://www.glpf.org.php5-21.websitetestlink.com/about-the-fund/history

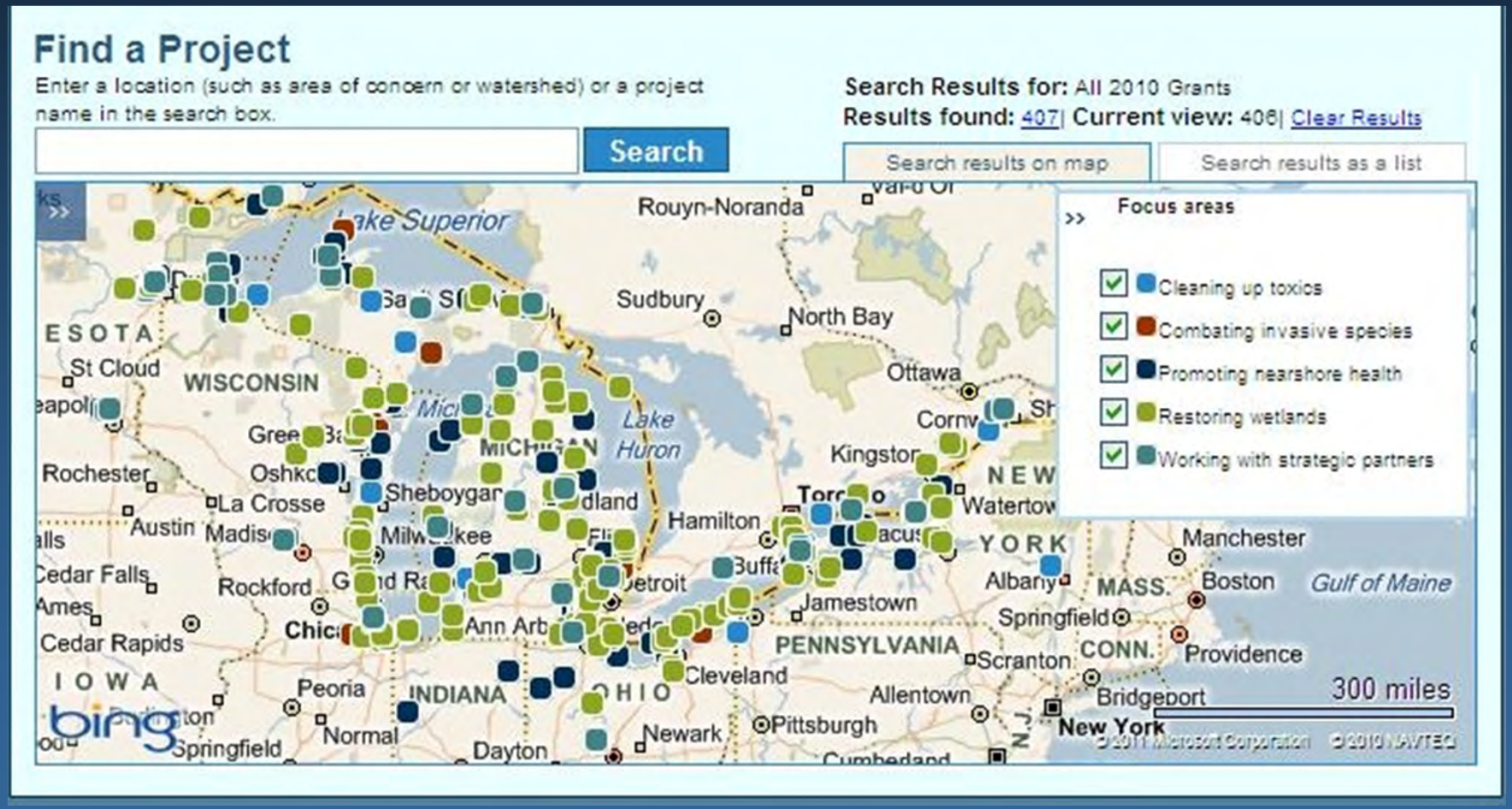
3. Web sites

- Great Lakes Restoration Initiative
- http://greatlakesrestoration.us/

- Links to Asian Carp
- http://asiancarp.us/

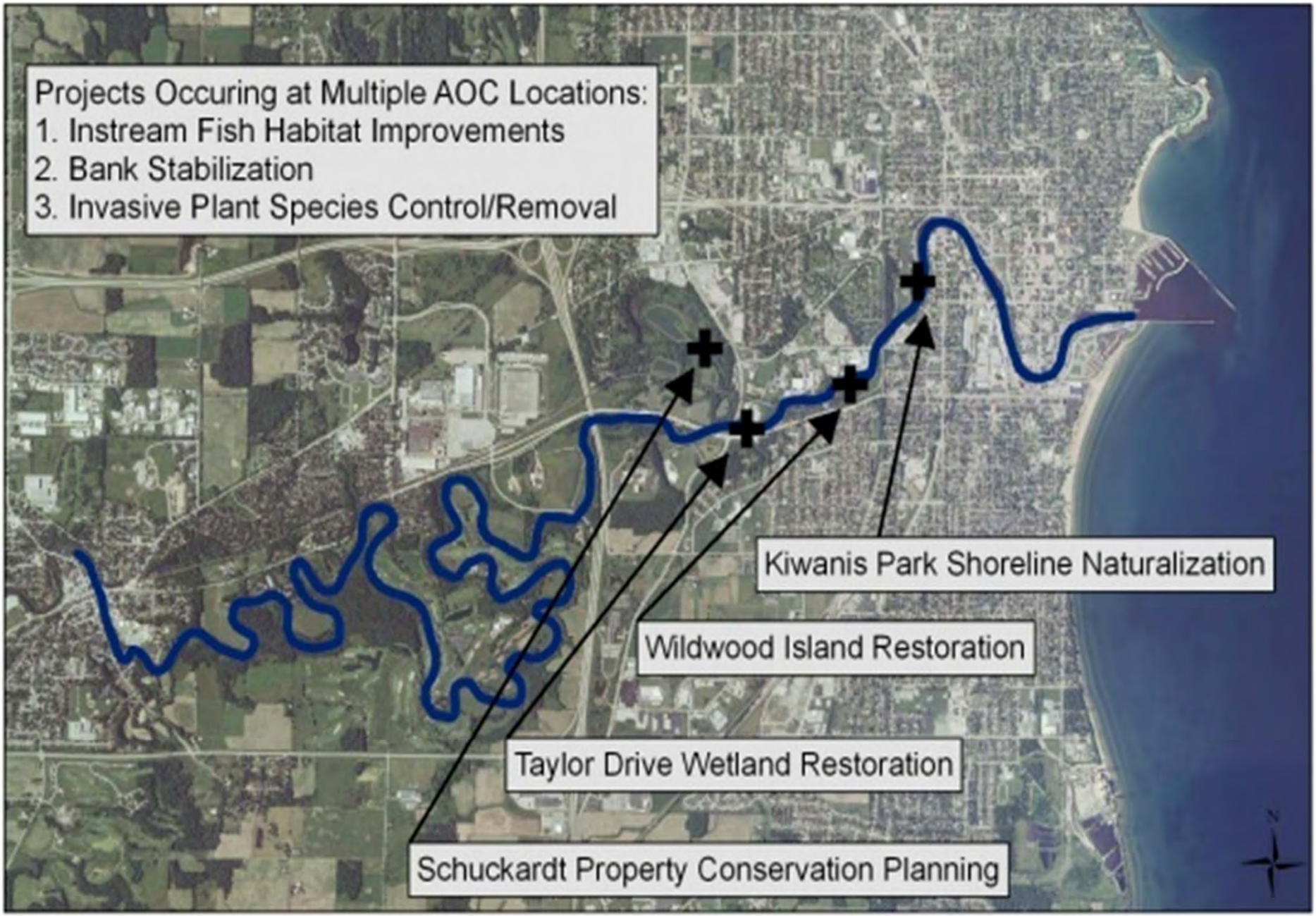
- Great Lakes Accountability System
- https://restore.glnpo.net/glas_pub/qareports.htm

GLRI Projects



4. Pathways to restorations

- Maumee AoC is collaborating with a contractor on developing an information system to plan projects that aim to achieve a use restoration.
- This information system will be shared among State environmental agencies to serve their AoC planning needs.



Sheboygan River Area of Concern
Proposed Projects for Delisting Fish and Wildlife Habitat/Populations BUIs (4/1/11)

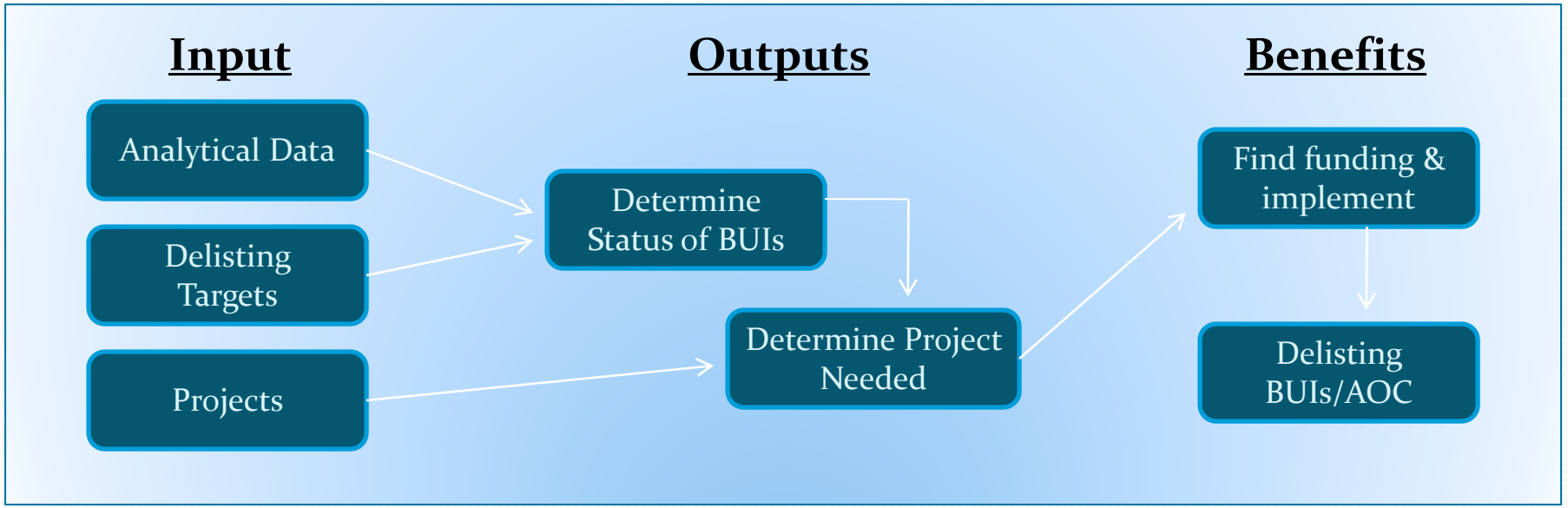
Area of Concern Information Management System

Chip Thomas
Environmental Consulting & Technology
December 1, 2011

Data Management and Delisting System

- US EPA funded the development of Information Management Systems for AOC planning and management
- Manage analytical data on AOC Beneficial Use Impairments
- Goal is to identify which stream segments or watersheds are impaired and guide the determination of projects needed for BUI removal and AOCs delisting
- Developing for the Maumee and Grand Calumet AOCs

Data Management and Delisting System



Database and website will be maintained by Ohio EPA and IDEM with input from local groups, businesses, academia and citizens.

Data will be able to be queried for specific streams, BUIs, or issues.

It will enable our region to better track project needs and success while keeping the *Stage 2 Watershed Restoration Plan* up to date.

OhioEPA

Delisting Targets For Ohio Areas of Concern

Ashtabula River	Cuyahoga River
Black River	Maumee River

December 2008 (as revised from 2005 version)

Ted Strickland, Governor Chris Korleski, Director

BUI 1: Restrictions on Fish and Wildlife Consumption

IJC Listing Guideline

An impairment will be listed when contaminant levels in fish or wildlife populations exceed current standards, objectives or guidelines, or public health advisories are in effect for human consumption of fish or wildlife. Contaminant levels in fish and wildlife must be due to contaminant input from the watershed.

State of Ohio Listing Guideline

This beneficial use shall be listed as impaired if:
1) An advisory or restriction to fish or wildlife consumption of one meal per month (or more stringent) is imposed by the Ohio Department of Health ***and*** 2) is due to sources within the AOC.

State of Ohio Delisting Target

- ✓ No fish consumption advisories of one meal per month (or more stringent) have been issued by the Ohio Department of Health that can be attributed to sources within the AOC.

AND

- ✓ No wildlife consumption advisories of one meal per month (or more stringent) have been issued by the Ohio Department of Health that can be attributed to sources within the AOC.

State of Ohio Delisting Milestones

- ➢ Track change in number/type of consumption advisories.
- ➢ Track change in levels of contaminants in species with consumption advisories. Contaminant levels in fish tissue should not exceed 220 µg/kg (ppb) PCBs, or 220 µg/kg mercury.
- ➢ Track change in levels of contaminants in the water column and sediment.
- ✓ No consumption advisories of one meal per month (or more stringent) in effect due to contaminant sources from within the AOC.

Rationale

While most Ohio sport fish are of high quality and a good source of protein, levels of chemicals such as PCBs, mercury, lead, and other metals and pesticides have been found in some fish from certain waters. To ensure the continued good health of Ohioans, the Ohio Department of Health, in cooperation with the Ohio Environmental Protection Agency and Ohio Department of Natural Resources, issues fish consumption advisories per Chapter 3701 or the Ohio Revised Code. Ohio uses the Protocol for a Uniform Great Lakes Sport Fish Advisory (1993) and the 2005 addendum to establish fish consumption advisories for PCBs and mercury, respectively. These are the contaminants that drive most of the advisories in Ohio waters.

Snapping turtles are currently the only wildlife species with a consumption advisory in effect as issued by the Ohio Department of Health. This advisory was listed based on the results of a one-time study done in 1997. All turtles had high levels of PCB and mercury in fat and liver tissue

"Chip" Table

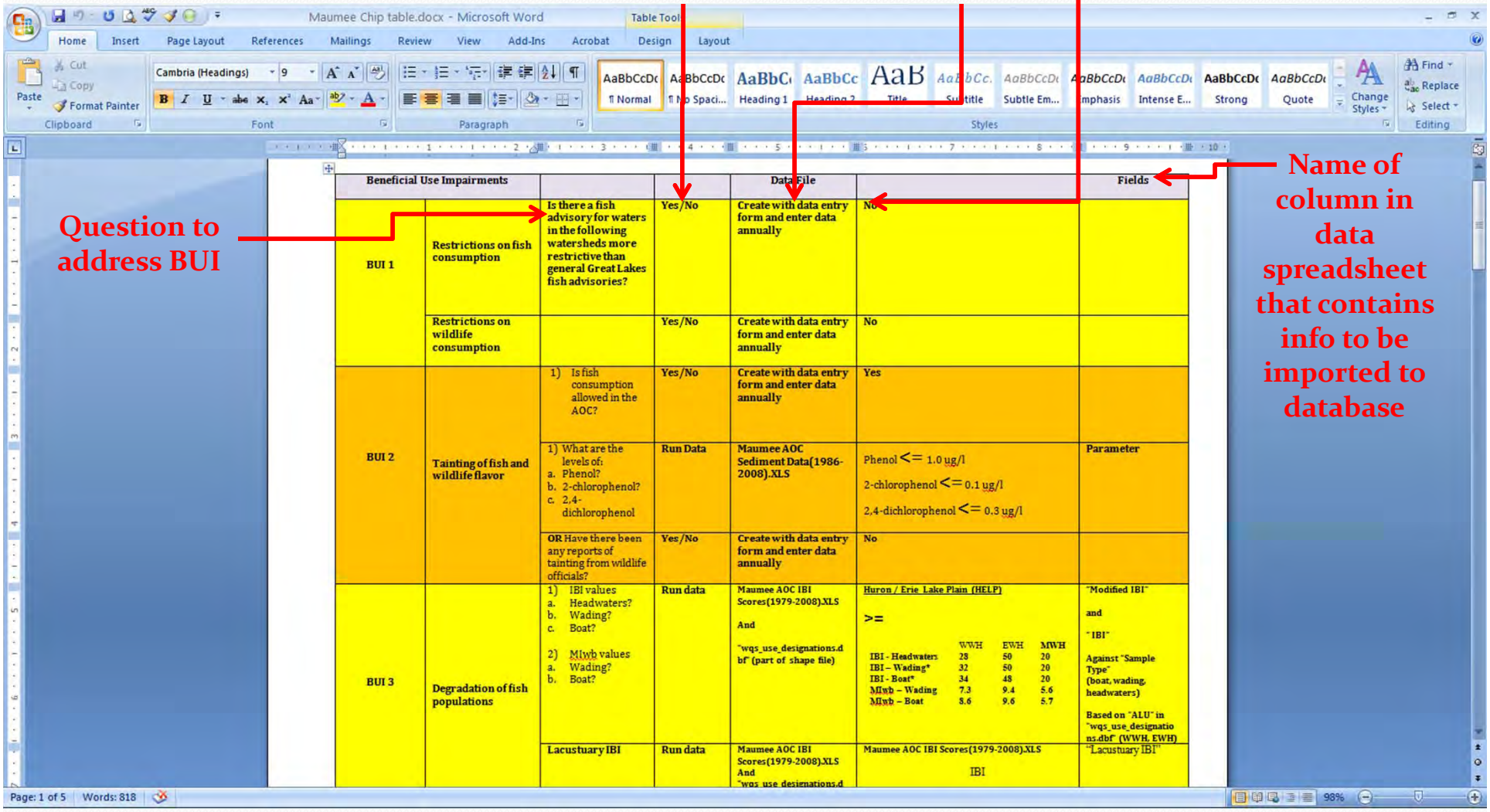
Is it a "Yes/No" or Data based question

What file data can be found to answer question

Answer to "Yes/No" Question & Data Parameters

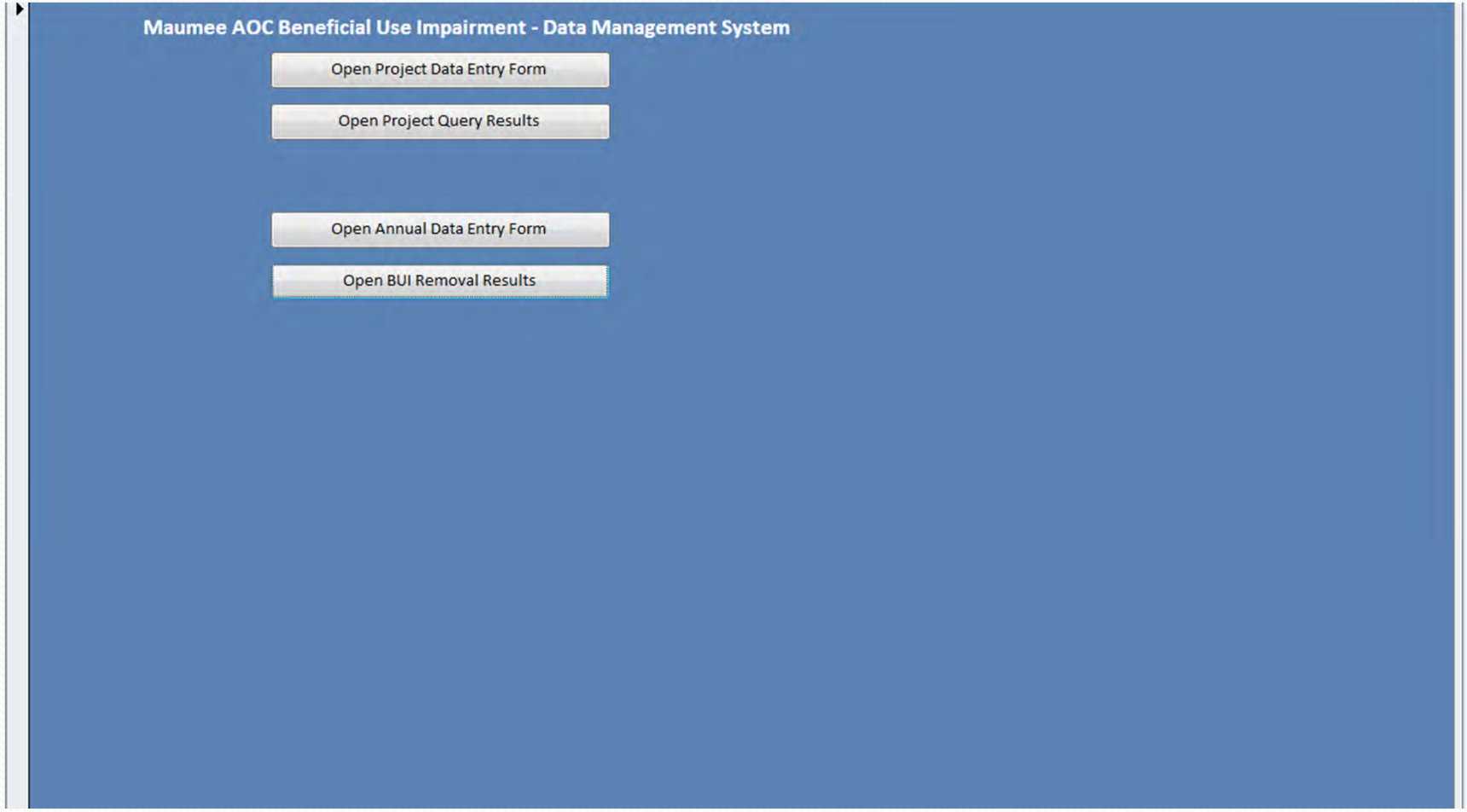
Question to address BUI

Name of column in data spreadsheet that contains info to be imported to database

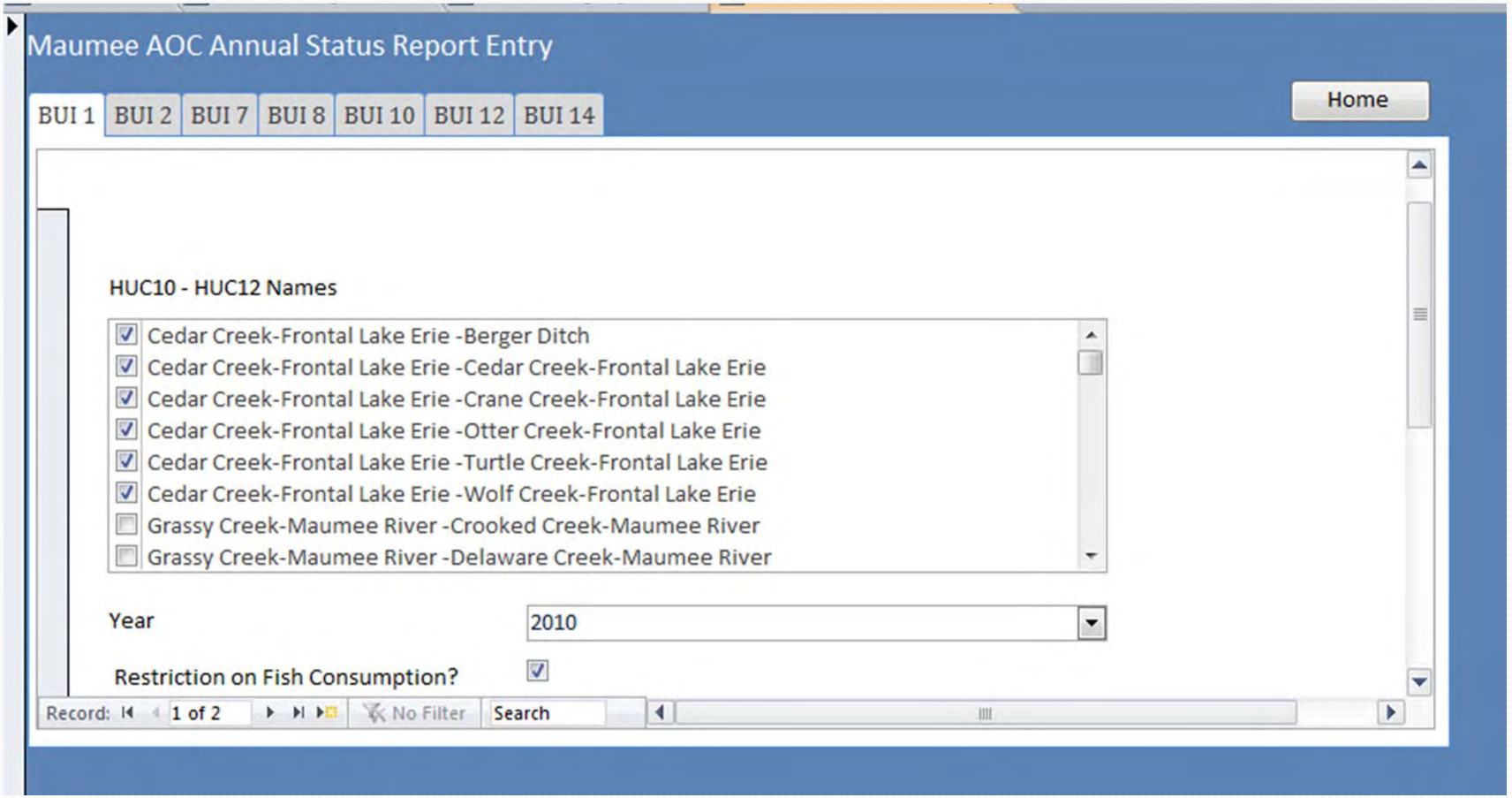


Beneficial Use Impairments				Data File		Fields
BUI 1	Restrictions on fish consumption	Is there a fish advisory for waters in the following watersheds more restrictive than general Great Lakes fish advisories?	Yes/No	Create with data entry form and enter data annually	No	
	Restrictions on wildlife consumption		Yes/No	Create with data entry form and enter data annually	No	
BUI 2	Tainting of fish and wildlife flavor	1) Is fish consumption allowed in the AOC?	Yes/No	Create with data entry form and enter data annually	Yes	
		1) What are the levels of: a. Phenol? b. 2-chlorophenol? c. 2,4-dichlorophenol	Run Data	Maumee AOC Sediment Data(1986-2008).XLS	Phenol <= 1.0 ug/l 2-chlorophenol <= 0.1 ug/l 2,4-dichlorophenol <= 0.3 ug/l	Parameter
		OR Have there been any reports of tainting from wildlife officials?	Yes/No	Create with data entry form and enter data annually	No	
BUI 3	Degradation of fish populations	1) IBI values a. Headwaters? b. Wading? c. Boat? 2) MIwb values a. Wading? b. Boat?	Run data	Maumee AOC IBI Scores(1979-2008).XLS And "wqs_use_designations.dbf" (part of shape file)	Huron / Erie Lake Plain (HELP) >= WWH / EWH / MWH IBI - Headwaters 28 / 50 / 20 IBI – Wading* 32 / 50 / 20 IBI - Boat* 34 / 48 / 20 MIwb – Wading 7.3 / 9.4 / 5.6 MIwb – Boat 8.6 / 9.6 / 5.7	"Modified IBI" and "IBI" Against "Sample Type" (boat, wading, headwaters) Based on "ALU" in "wqs_use_designations.dbf" (WWH, EWH)
		Lacustuary IBI	Run data	Maumee AOC IBI Scores(1979-2008).XLS And "wqs_use_designations.d	Maumee AOC IBI Scores(1979-2008).XLS IBI	"Lacustuary IBI"

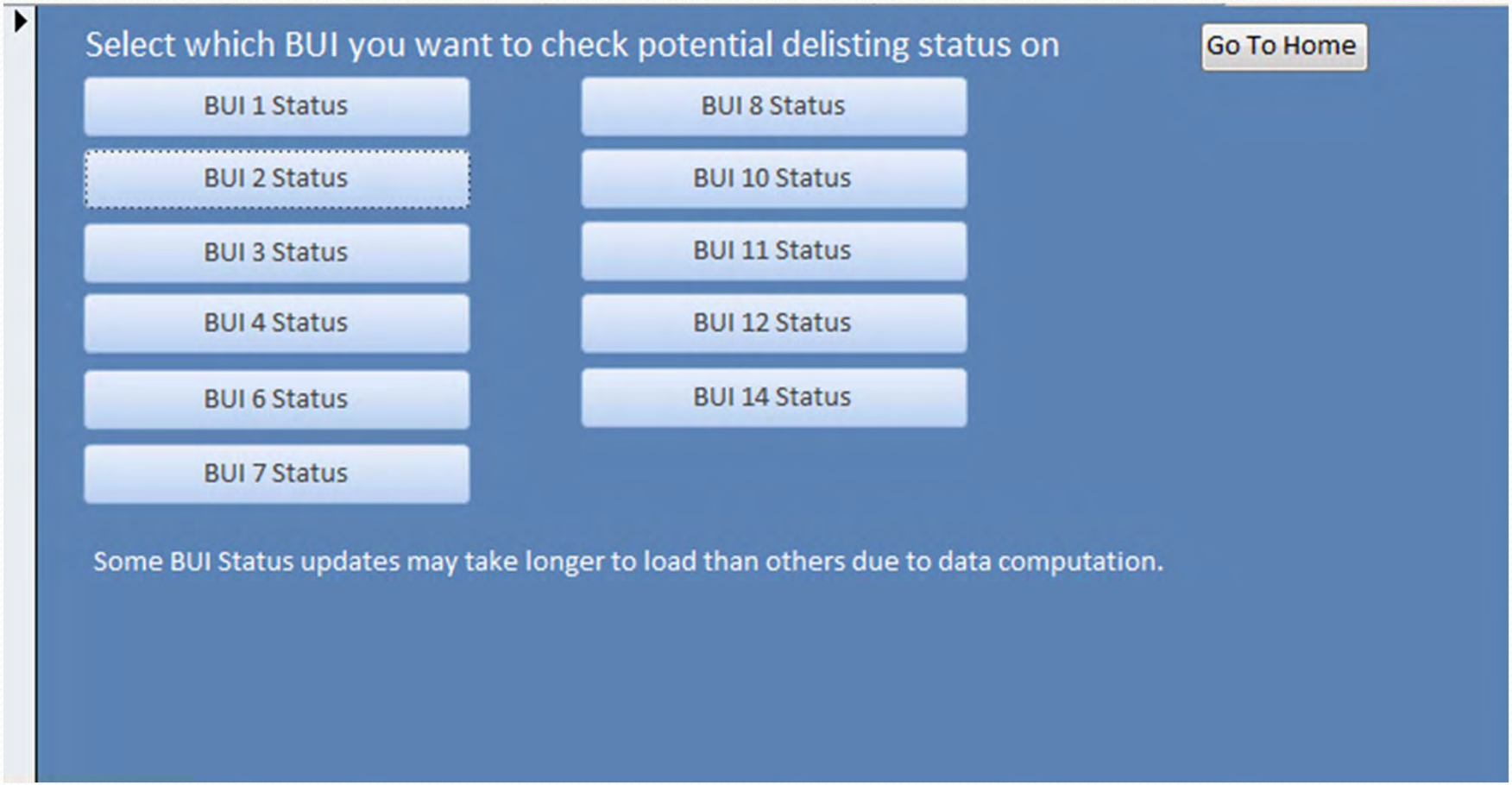
The Database Homepage



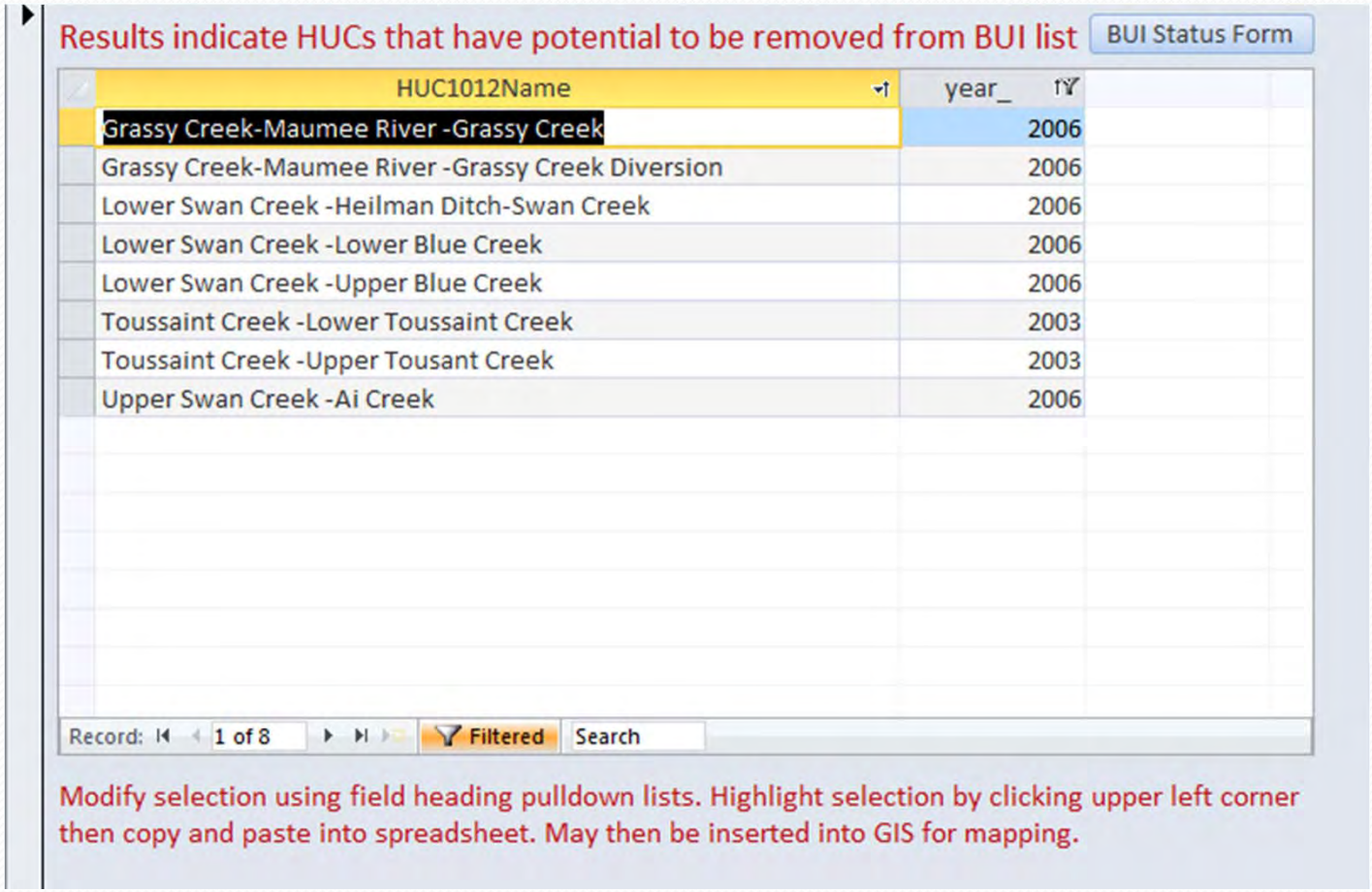
AOC Annual Status Report Data Entry Form



AOC Annual BUI Status Query



Results for BUI 14 Loss of Fish Habitat



Results indicate HUCs that have potential to be removed from BUI list

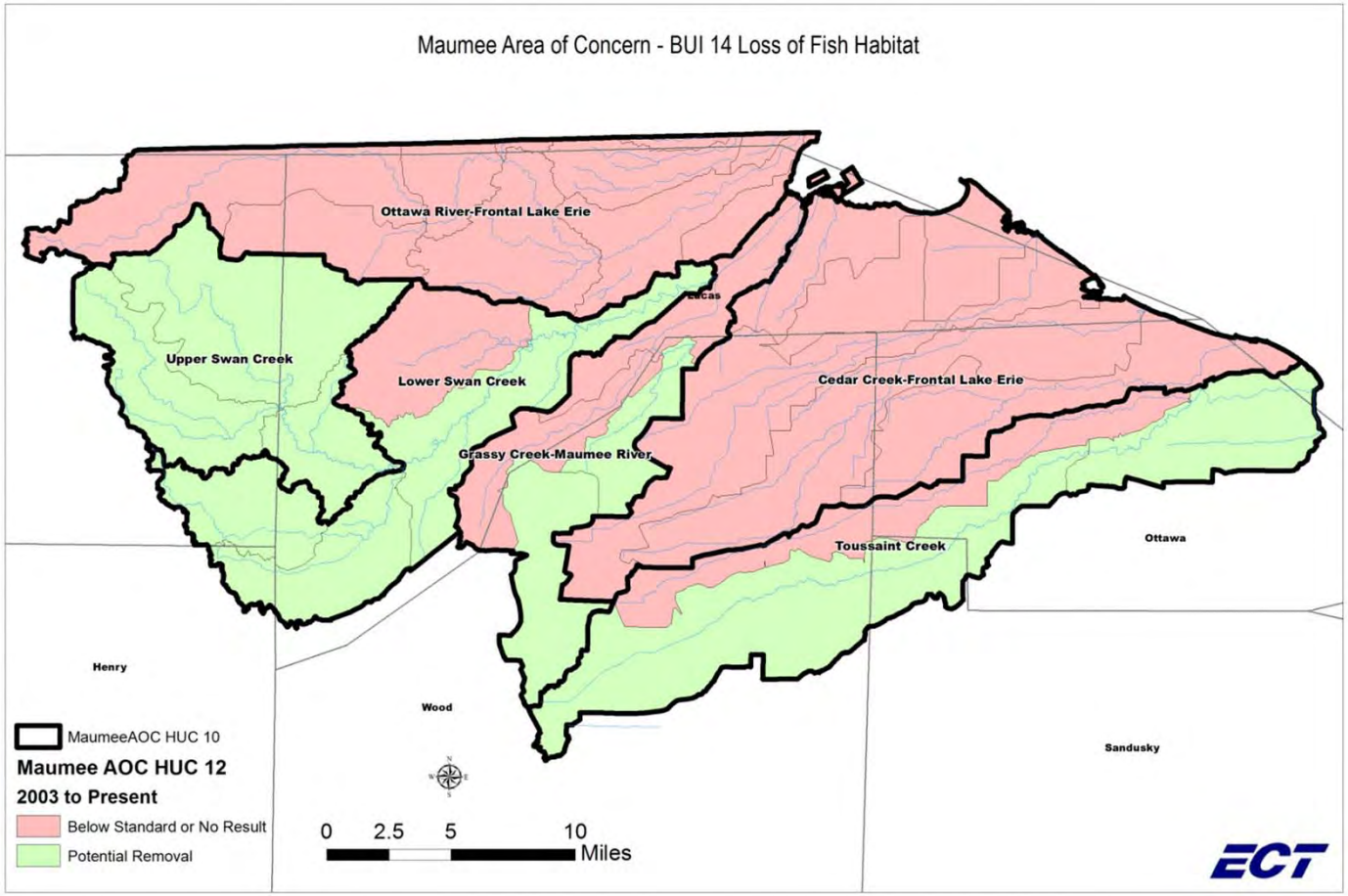
BUI Status Form

HUC1012Name	year_
Grassy Creek-Maumee River -Grassy Creek	2006
Grassy Creek-Maumee River -Grassy Creek Diversion	2006
Lower Swan Creek -Heilman Ditch-Swan Creek	2006
Lower Swan Creek -Lower Blue Creek	2006
Lower Swan Creek -Upper Blue Creek	2006
Toussaint Creek -Lower Toussaint Creek	2003
Toussaint Creek -Upper Tousant Creek	2003
Upper Swan Creek -Ai Creek	2006

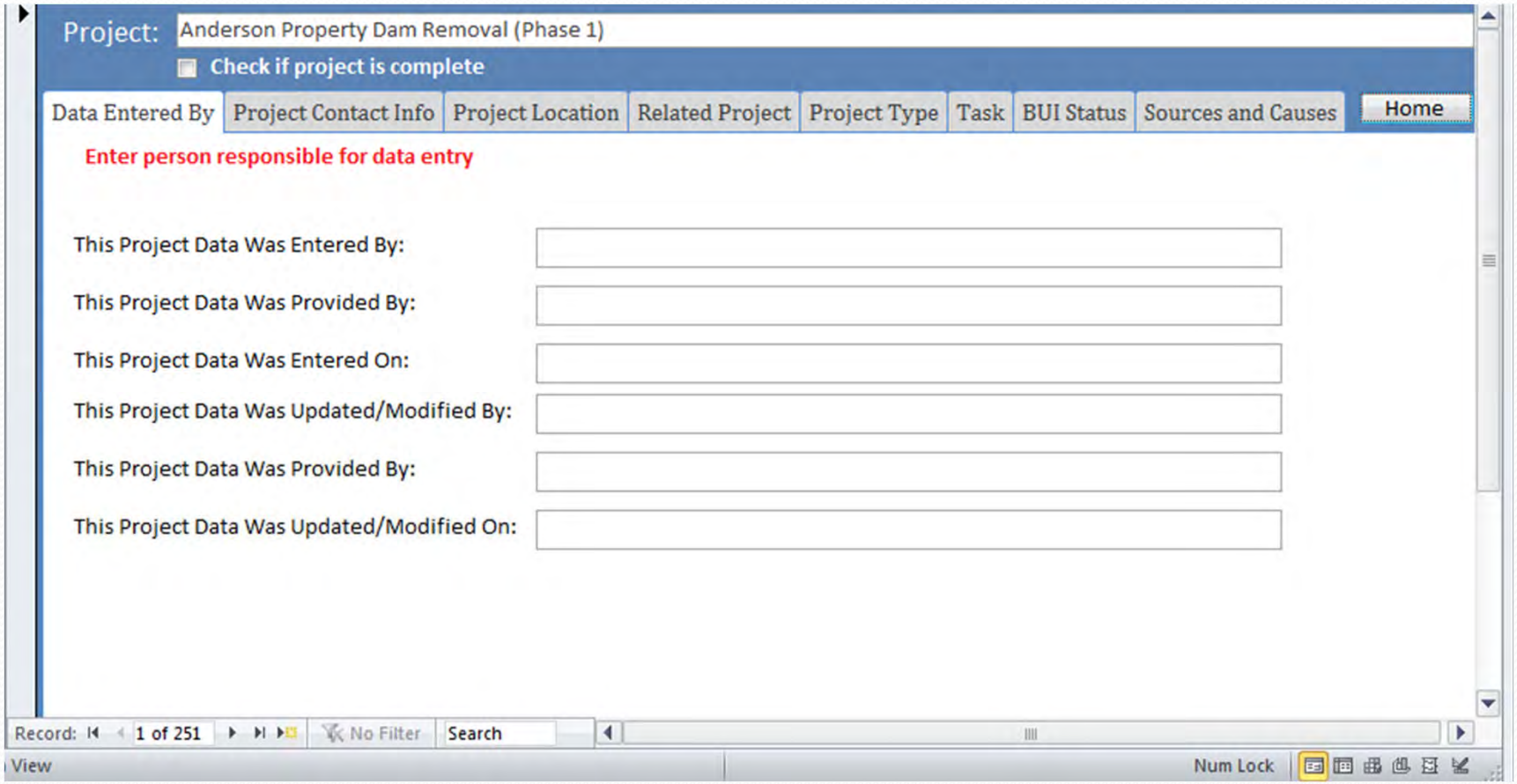
Record: 1 of 8 Filtered Search

Modify selection using field heading pulldown lists. Highlight selection by clicking upper left corner then copy and paste into spreadsheet. May then be inserted into GIS for mapping.

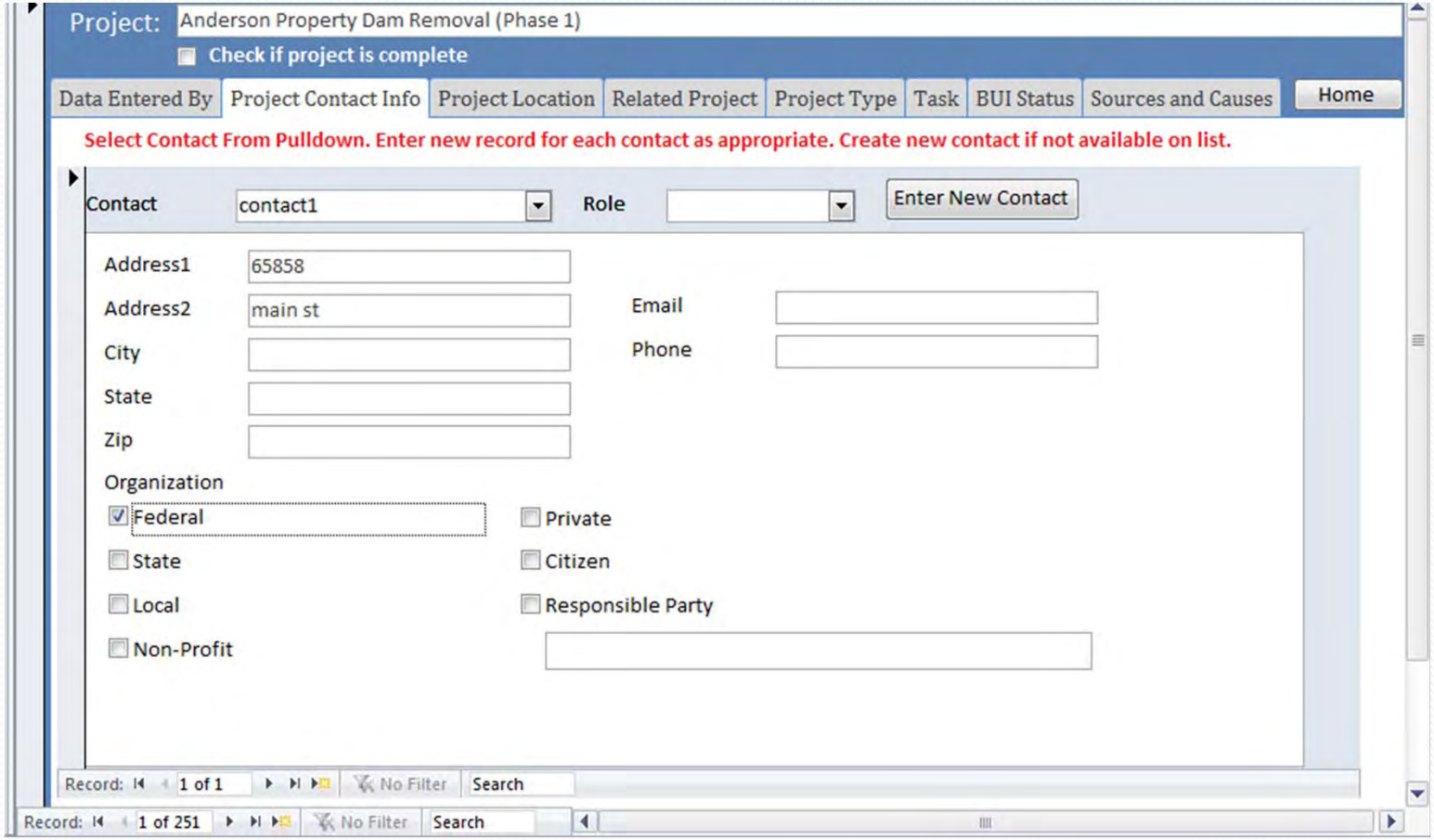
Map Output: Loss of Fish Habitat



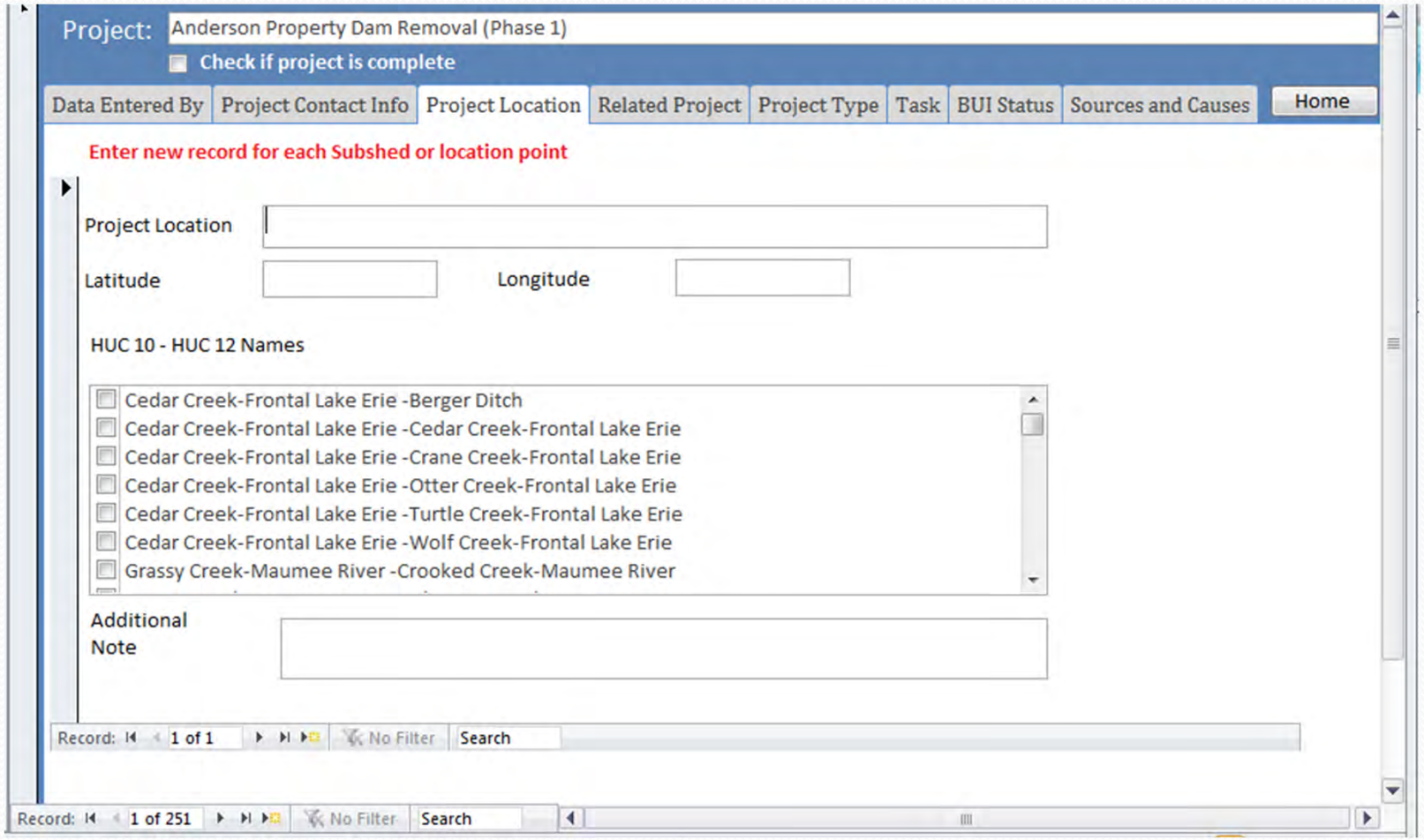
Project Data Entered By



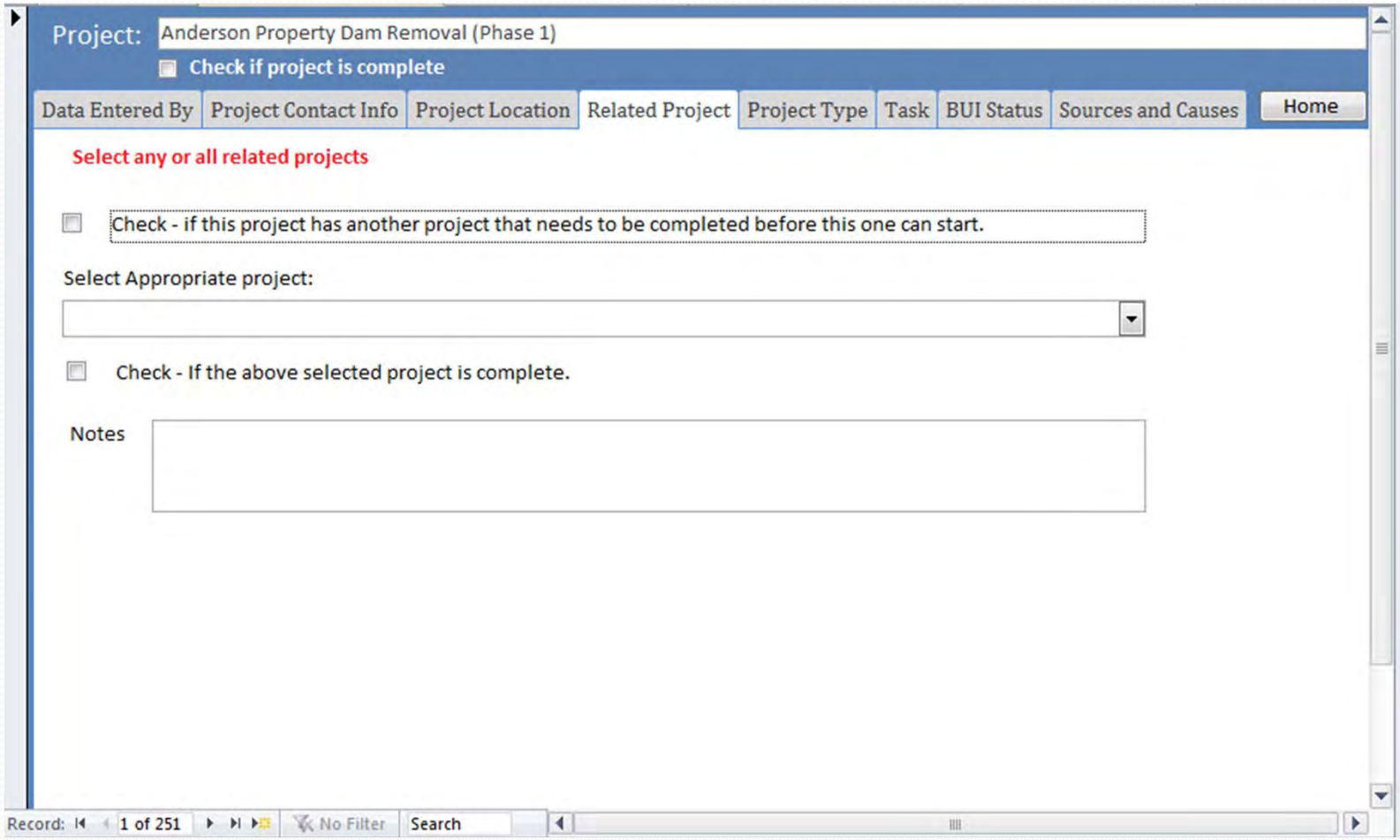
Project Contact



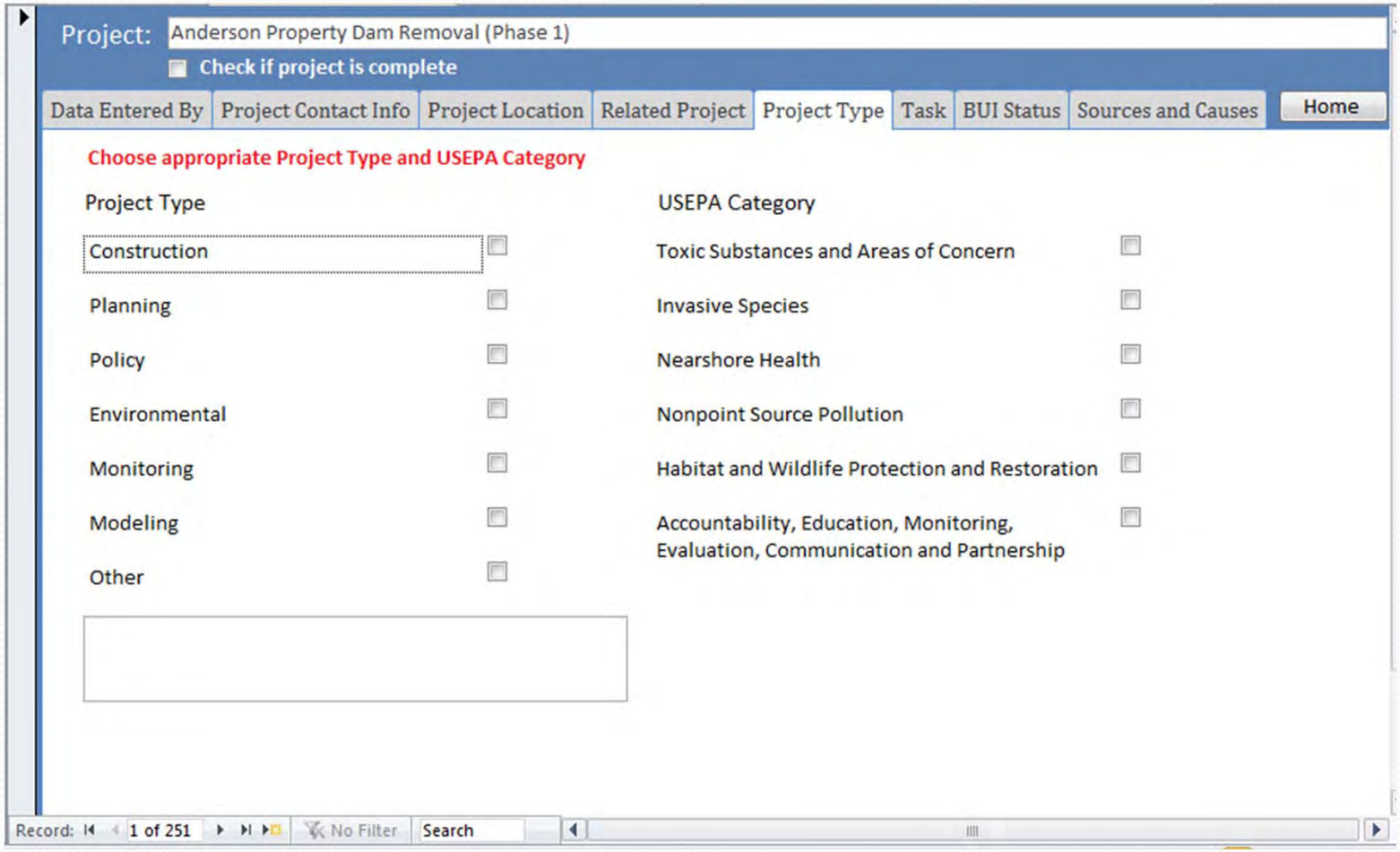
Project Location



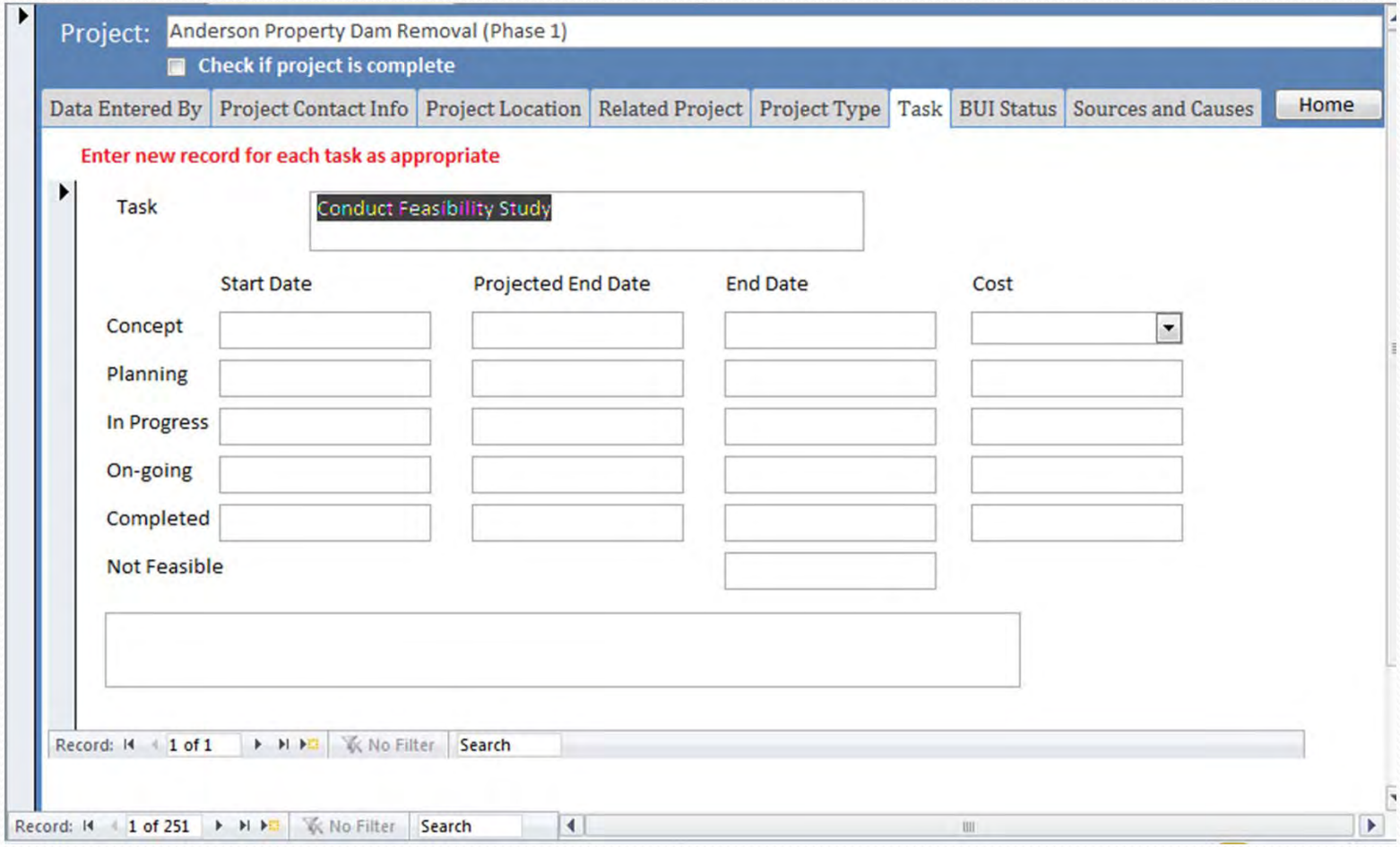
Related Project



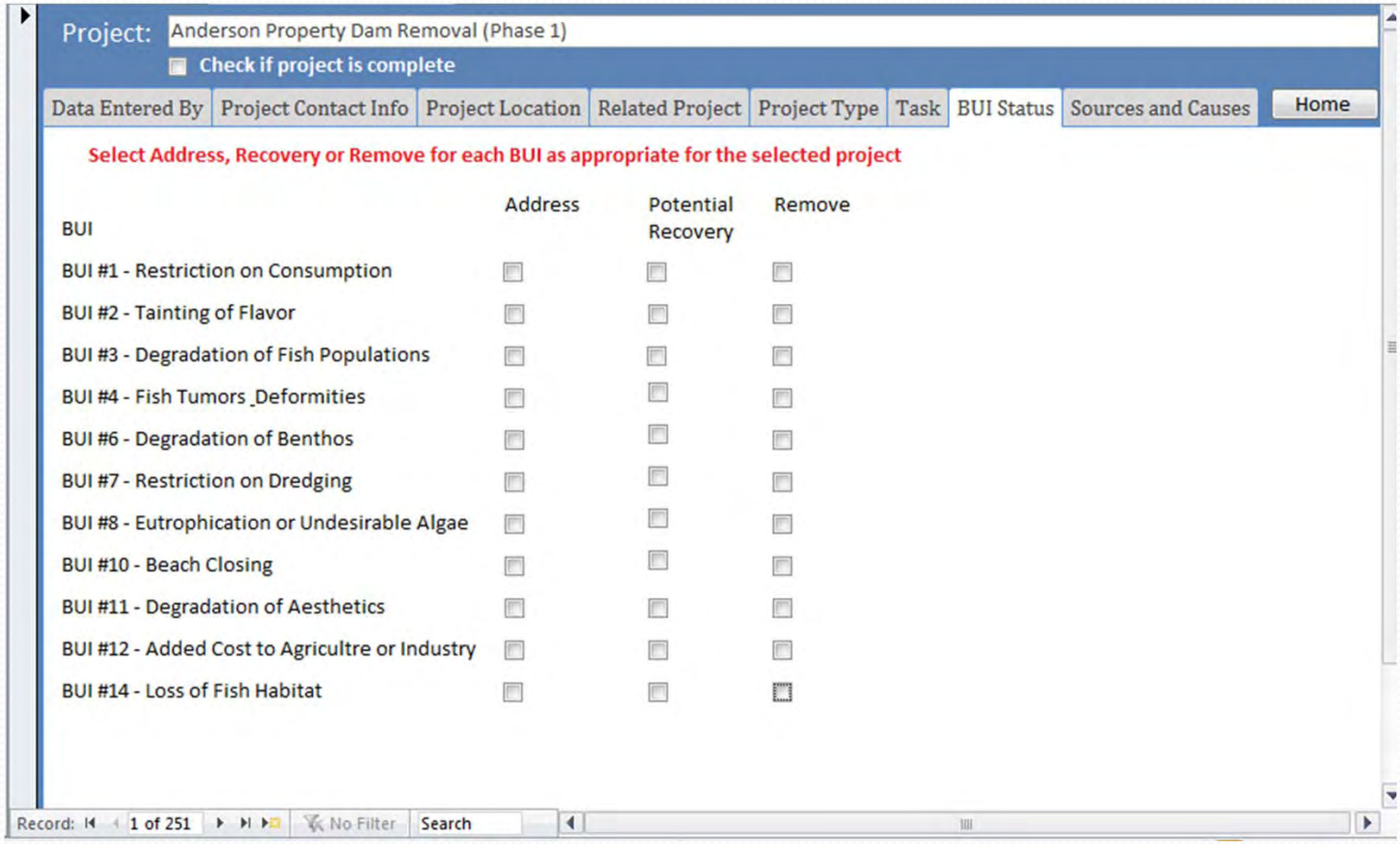
Project Type



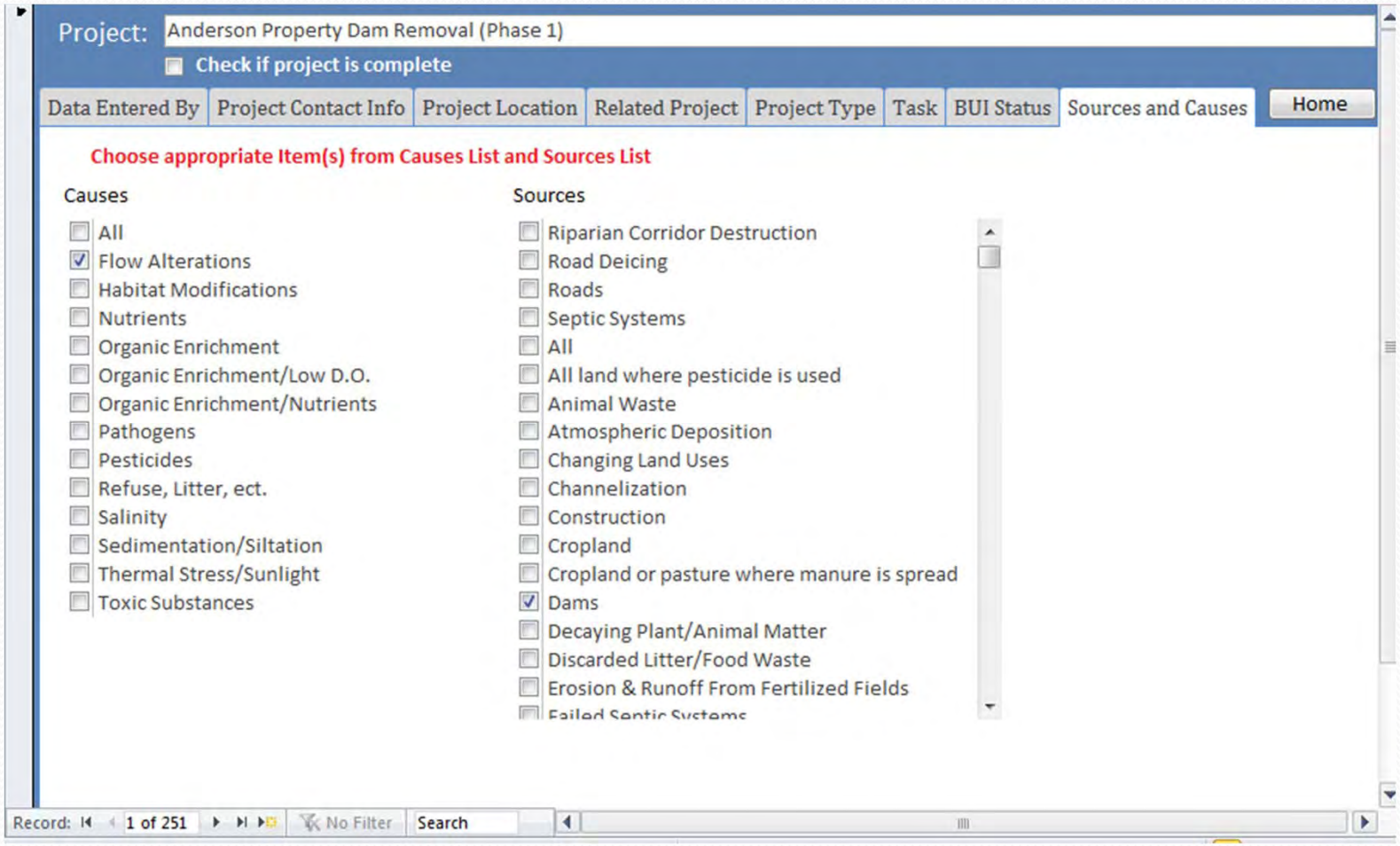
Project Task(s)



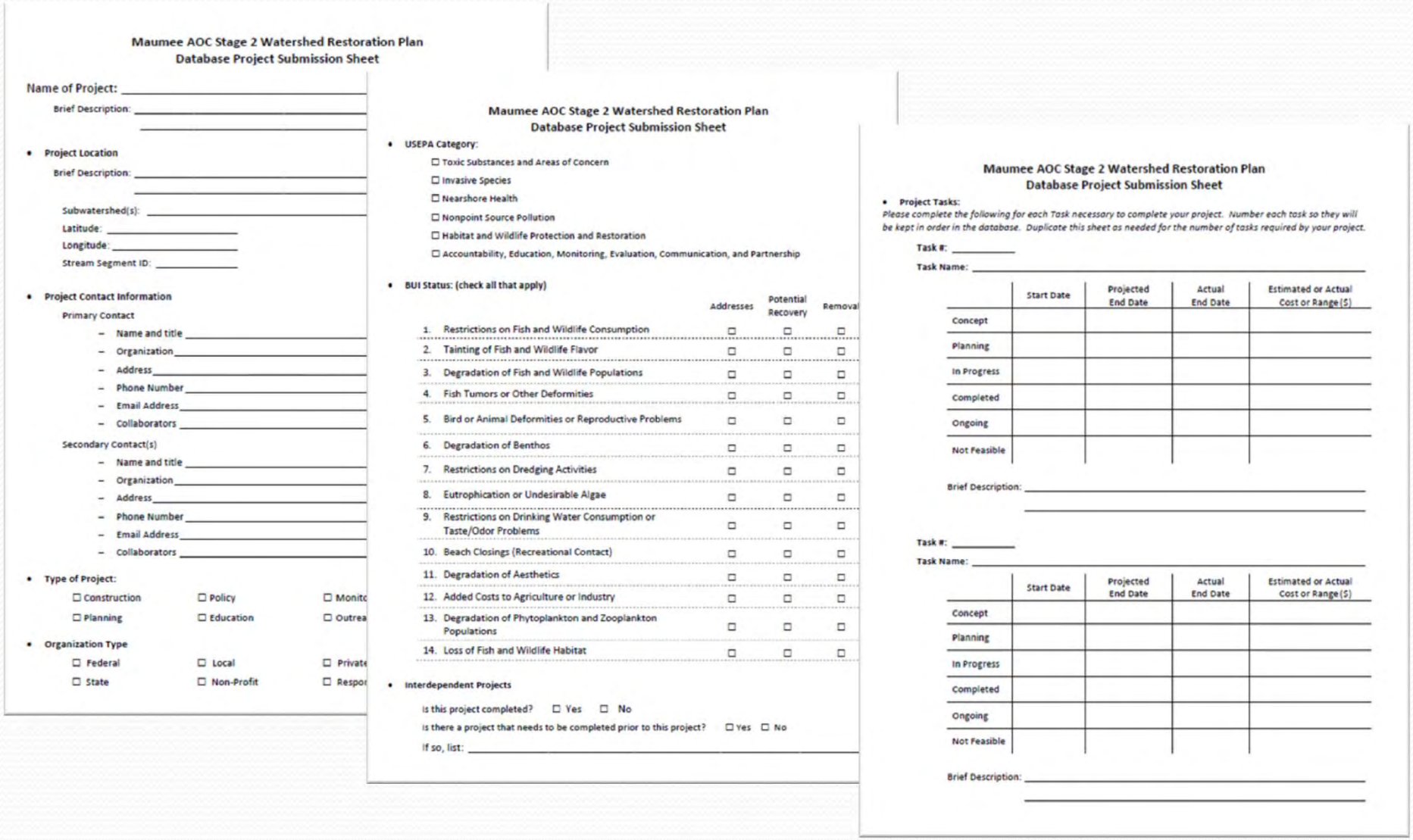
Project BUI Status



Project Sources and Causes



Project Questionnaire



Maumee AOC Stage 2 Watershed Restoration Plan
Database Project Submission Sheet

Name of Project: _____

Brief Description: _____

_____

- **Project Location**

  Brief Description: _____

  _____

  Subwatershed(s): _____

  Latitude: _____

  Longitude: _____

  Stream Segment ID: _____

- **Project Contact Information**

  Primary Contact

  - Name and title _____
  - Organization _____
  - Address _____
  - Phone Number _____
  - Email Address _____
  - Collaborators _____

  Secondary Contact(s)

  - Name and title _____
  - Organization _____
  - Address _____
  - Phone Number _____
  - Email Address _____
  - Collaborators _____

- **Type of Project:**

  ☐ Construction ☐ Policy ☐ Monitc

  ☐ Planning ☐ Education ☐ Outrea

- **Organization Type**

  ☐ Federal ☐ Local ☐ Private

  ☐ State ☐ Non-Profit ☐ Respor

Maumee AOC Stage 2 Watershed Restoration Plan
Database Project Submission Sheet

- **USEPA Category:**

  ☐ Toxic Substances and Areas of Concern
  ☐ Invasive Species
  ☐ Nearshore Health
  ☐ Nonpoint Source Pollution
  ☐ Habitat and Wildlife Protection and Restoration
  ☐ Accountability, Education, Monitoring, Evaluation, Communication, and Partnership

- **BUI Status: (check all that apply)**

	Addresses	Potential Recovery	Removal
1. Restrictions on Fish and Wildlife Consumption	☐	☐	☐
2. Tainting of Fish and Wildlife Flavor	☐	☐	☐
3. Degradation of Fish and Wildlife Populations	☐	☐	☐
4. Fish Tumors or Other Deformities	☐	☐	☐
5. Bird or Animal Deformities or Reproductive Problems	☐	☐	☐
6. Degradation of Benthos	☐	☐	☐
7. Restrictions on Dredging Activities	☐	☐	☐
8. Eutrophication or Undesirable Algae	☐	☐	☐
9. Restrictions on Drinking Water Consumption or Taste/Odor Problems	☐	☐	☐
10. Beach Closings (Recreational Contact)	☐	☐	☐
11. Degradation of Aesthetics	☐	☐	☐
12. Added Costs to Agriculture or Industry	☐	☐	☐
13. Degradation of Phytoplankton and Zooplankton Populations	☐	☐	☐
14. Loss of Fish and Wildlife Habitat	☐	☐	☐

- **Interdependent Projects**

  Is this project completed? ☐ Yes ☐ No

  Is there a project that needs to be completed prior to this project? ☐ Yes ☐ No

  If so, list: _____

Maumee AOC Stage 2 Watershed Restoration Plan
Database Project Submission Sheet

- **Project Tasks:**

Please complete the following for each Task necessary to complete your project. Number each task so they will be kept in order in the database. Duplicate this sheet as needed for the number of tasks required by your project.

Task #: _____

Task Name: _____

	Start Date	Projected End Date	Actual End Date	Estimated or Actual Cost or Range ($)
Concept				
Planning				
In Progress				
Completed				
Ongoing				
Not Feasible				

Brief Description: _____

_____

Task #: _____

Task Name: _____

	Start Date	Projected End Date	Actual End Date	Estimated or Actual Cost or Range ($)
Concept				
Planning				
In Progress				
Completed				
Ongoing				
Not Feasible				

Brief Description: _____

_____

Acknowledgments

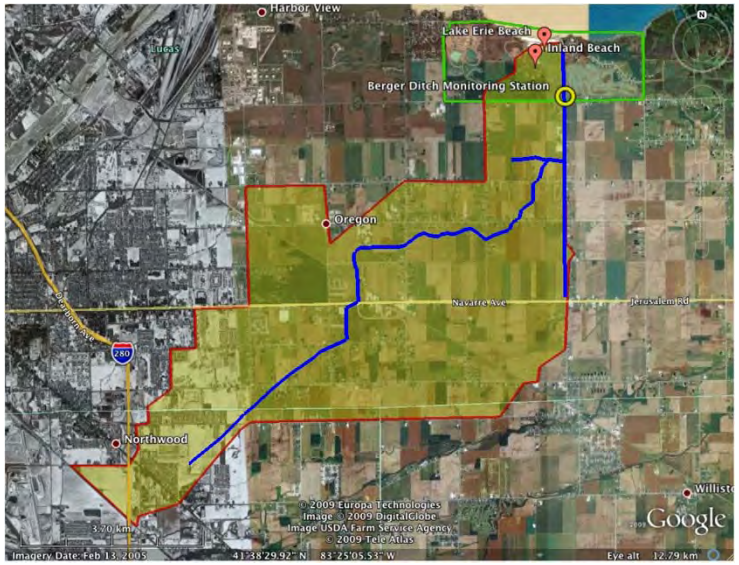
- John Perrecone, USEPA
- Cherie Blair, Ohio EPA
- Sanjiv, Sinha, Jeff Edstrom, Jodi McCarthy, ECT

Passive Treatment Wetland to Improve Nearshore Health and Reduce Nonpoint Source Pollution

Daryl F. Dwyer, Ph.D
University of Toledo
Department of Environmental Sciences

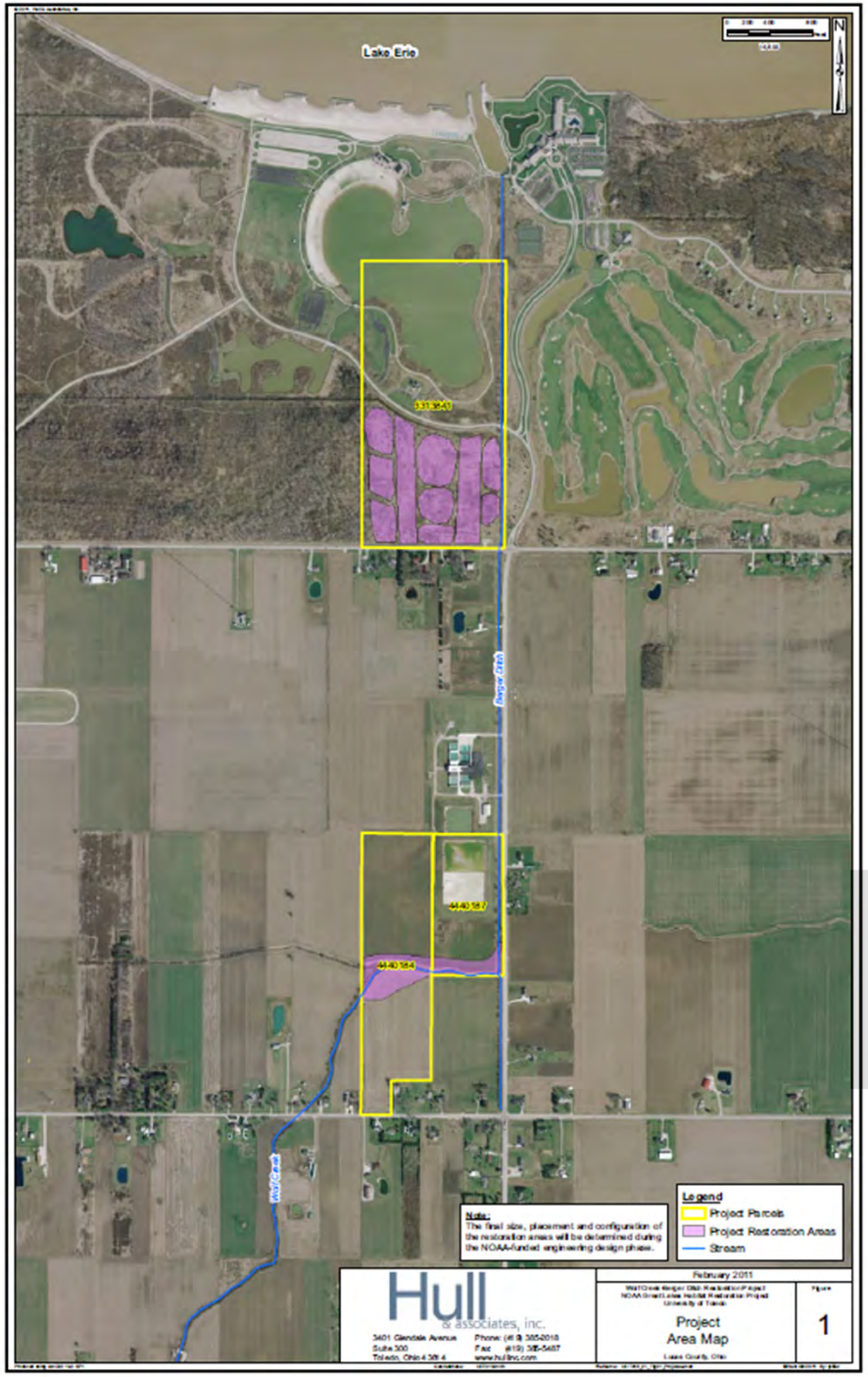
Maumee AOC Summit
December 1, 2011

Addressing the problem



- The Wolf Creek Watershed has been identified as a source of bacteria, nutrients, and sediment into Lake Erie.
- Row crops comprise 67% of the 16 mi^2 watershed.

- Swim advisories are posted at the Lakeside Beach at Maumee Bay State Park an average of 20 days per year.
- *Escherichia coli* is used as the indicator organism.
- Advisories are posted when densities exceed 235 CFU/100 ml.



Two-stage system

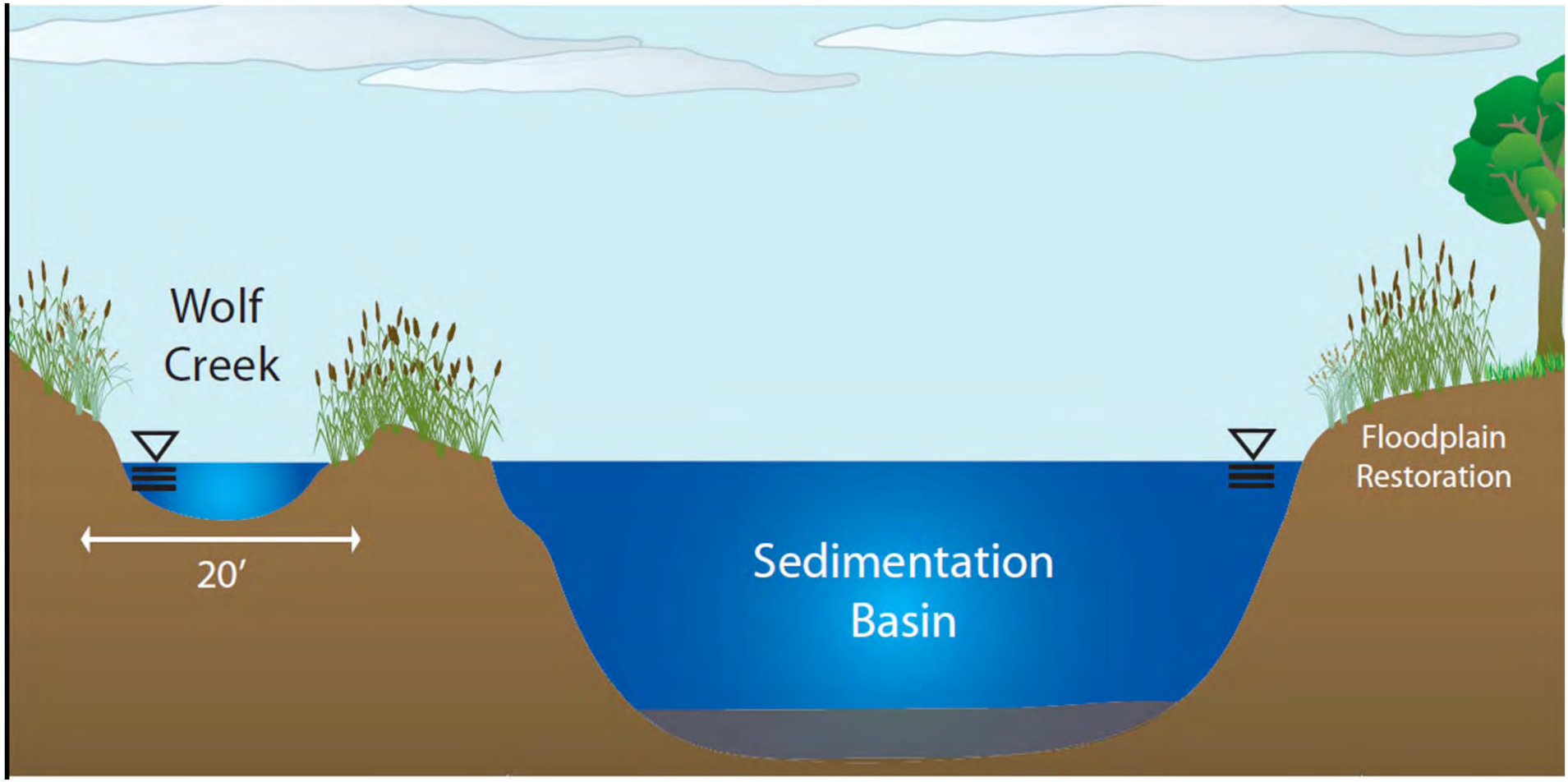
Stage 2 - Treatment Wetland

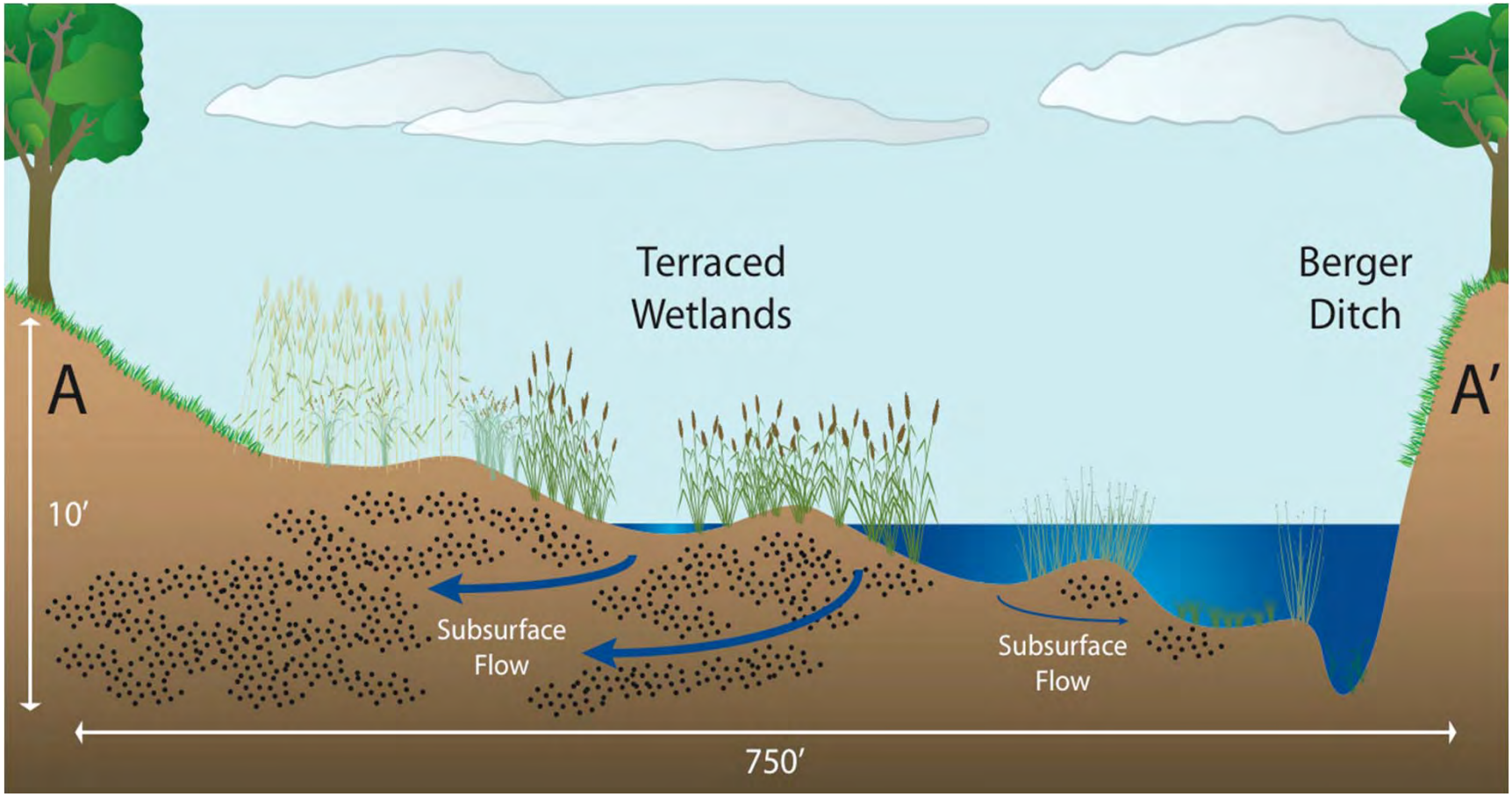
- 10 – 30 acres
- Treat water using filtration and plant uptake

Stage 1 – Sedimentation Basin

- 1 – 3 acres
- Collect sediment and nutrients

Stage 1 – Sedimentation Basin

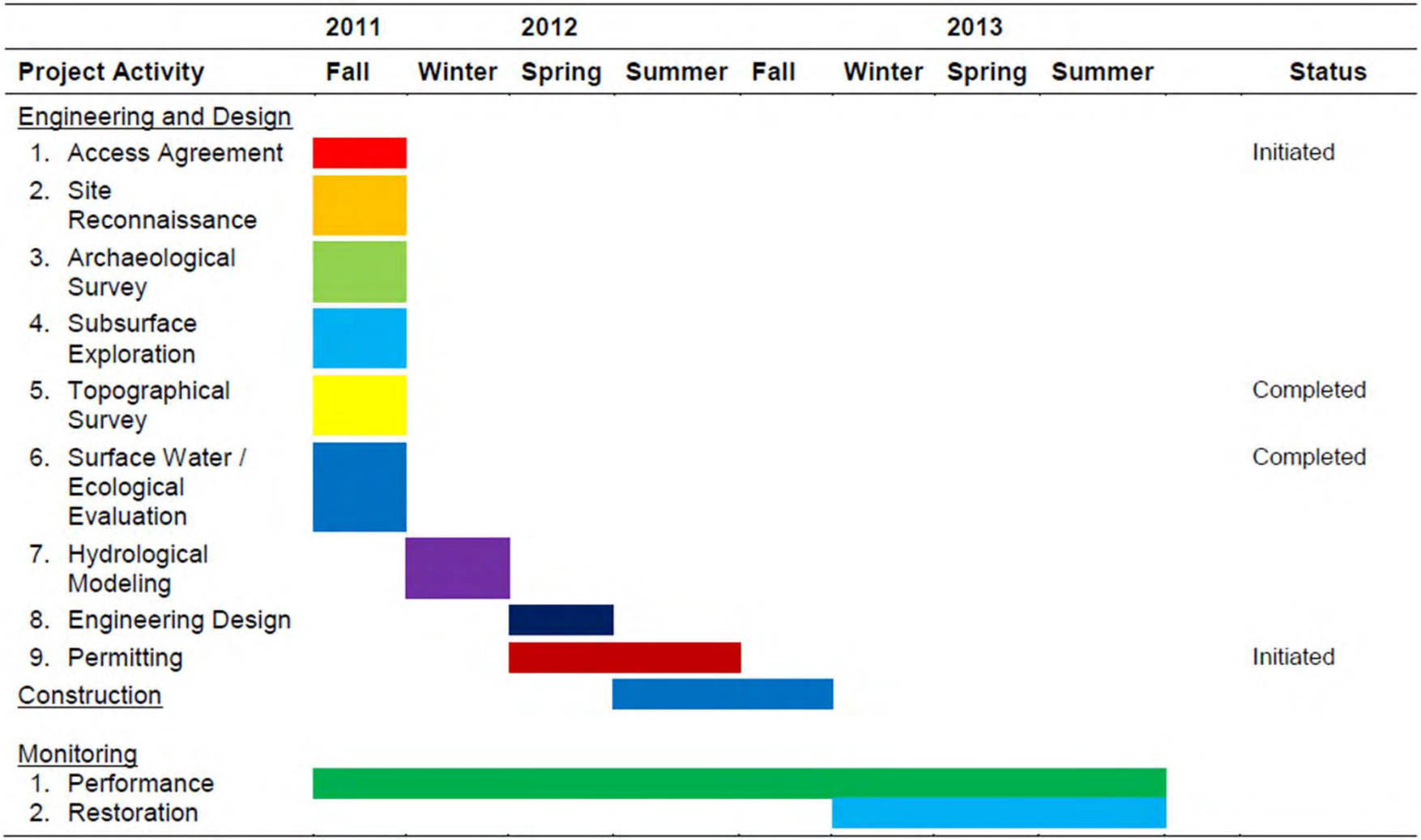



Terraced
Wetlands
Berger
Ditch
A
A′
10′
Subsurface
Flow
Subsurface
Flow
750′

A treatment wetland will facilitate:

- Short-term
  - Reductions in the loadings of bacteria, nutrients, sediment into Lake Erie.
  - Increased availability of the lakeside beach at Maumee Bay State Park by reducing swim advisories.
- Long-term
  - Restoration of (> 10 acres) native wetland habitat.
  - Improved water quality and protection of human health.
  - Reductions of nutrient inputs that cause harmful algal blooms.

Timeline


2011
2012
2013
Project Activity
Fall
Winter
Spring
Summer
Fall
Winter
Spring
Summer
Status
Engineering and Design
1. Access Agreement
Initiated
2. Site Reconnaissance
3. Archaeological Survey
4. Subsurface Exploration
5. Topographical Survey
Completed
6. Surface Water / Ecological Evaluation
Completed
7. Hydrological Modeling
8. Engineering Design
9. Permitting
Initiated
Construction
Monitoring
1. Performance
2. Restoration

Welcome to Partners for Clean Streams Fall 2011 Maumee RAP Summit

Working towards fishable, swimmable, and drinkable waters for all the people (and wildlife) that live, work, and play in Northwest Ohio.

2011 PCS Board of Directors & Executive Director

Patrick Lawrence, Ph.D.: President

Anthony Sloma: Vice-President

Colleen Dooley: Treasurer

Andrew Curran- Board member

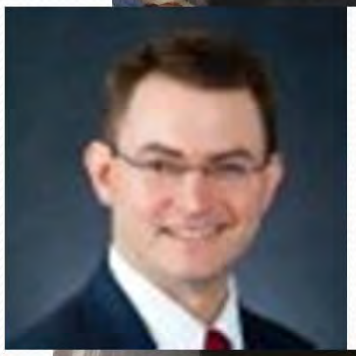
Scott Ousky: Board member

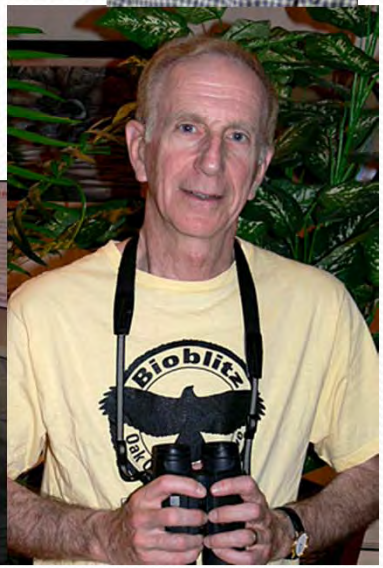
Tim Schetter: Board member

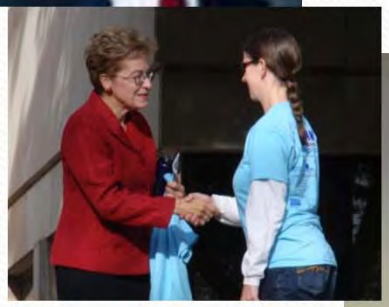
Terry Shankland: Board member

Elliot Tramer :Board member

Kristina Patterson: Executive Director







About the Organization

By Kris Patterson, Executive Director

9th Annual Partnering for Clean Streams
Youth/Scout Patch Workshop

Sunday, March 6, 2011

- PCS Workshop
- 79 youth
- 28 adults
- 113 Patches were given
- 97 GWAH Tip cards were given

Saturday, April 16, 2011

- Global Youth Service Day
- Storm Drain Marking
- 51 catch basins throughout Ottawa Hills and Sylvania
- 9 participants
- 98 homes received door hangers

7TH Annual
Get the Lead Out! Cleanup

- Six collection days
- 71 participants, including Fort Meigs Sertoma and Toledo ZooTeens
- 1.5 miles of river cleaned
- Total of 58lb of lead from cumulative past years

15th Annual
Clean Your Streams Day

September 17, 2011

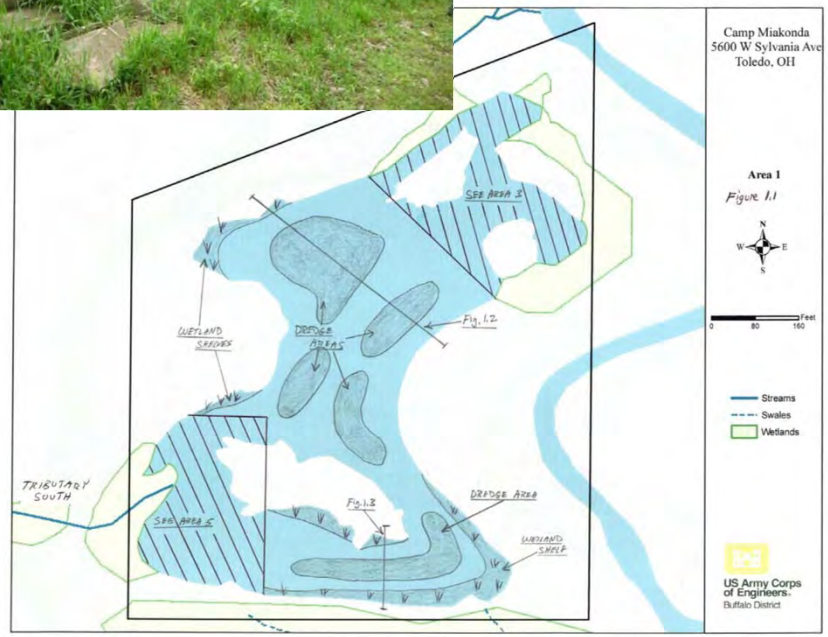
- 726 Total Participants
- 40 land sites and 1 boat site, 25 miles of waterways cleaned
- 15,315lbs, 122 tires and 781 bags
- Peculiar Items: mop bucket, vampire teeth, lawn mower deck, fire pit, Christmas tree, steel pole with cement base, handrail, traffic cones, hot water tank

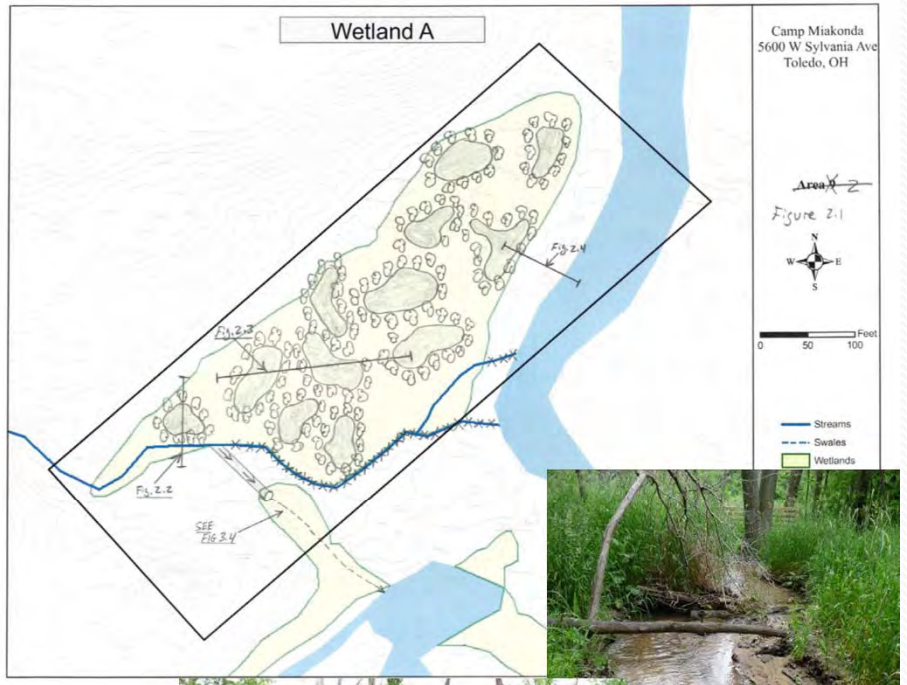
Camp Miakonda and Ottawa River Restoration

- $1.35 Million GLRI grant from US EPA
  - (2 year duration)
- Goals of restoration project
  - Restore/enhance approx. 10 acres wetland & approx 30 acres associated upland habitat
  - Reduce erosion from 1200' of adjacent River
  - Stream bank restoration of 1200' linear of Ottawa River
  - Increase in-stream habitat for fish and macroinvertebrates
  - Increase diversity of in-water habitat for Lake Sawyer, allowing fish to winter over and allowing more active use of Lake Sawyer by Scouts
  - Encourage educational use of wetland, lake, river, and upland habitat
  - Project contributes to BUI goals and improvements for BUI 14 - Loss of Fish & Wildlife Habitat, BUI 3 - Degradation of Fish & Wildlife Habitat

Camp Miakonda and Ottawa River Restoration

Enhance northern wetland





Improve conditions in Lake

Camp Miakonda and Ottawa River Restoration

Enhance wetlands

Rubble piles between River & Lake Sawyer

Address severe stream bank erosion

Clean Stream Partners Award

Presented by Dr. Patrick Lawrence, President

Clean Streams Partner Award

Clean Streams Partner Award was created by the Partners for Clean Streams Board of Directors in 2007 to honor individuals and/or organizations in our community that have, through their efforts, worked to improve our rivers and streams.

Previous recipients have included:

2007 - Sue Horvath

2008 - John Jaeger

2009 - Marilyn DuFour

2010- Tom Henry

THIS YEAR'S AWARD IS PRESENTED TO . . .

2011 Clean Streams Partner Award

Matt Horvat and Steve Pollick

Steve and Matt's Great Adventure

"Final thought: You don't love what you don't know, and you don't know what you don't care about. The Maumee River is better now, much better, from any number of perspectives, because some people care and know and love. We need more of them."

Steve Pollick, The Blade, 7/2/11

Partners for Clean Streams

Vision

abundant open space and a high quality natural environment; adequate floodwater storage capacities and flourishing wildlife; stakeholders who take local ownership in their resources; and rivers, streams, and lakes that are clear, clean and safe.

"Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has."
~Margaret Mead

Where is PCS Headed in 2012?

- **Great Lakes Restoration Initiative**
  - Building partnerships & future projects
  - Implementation of Camp Miakonda restoration project
  - Implement and oversee Maumee Corps grant, under NOAA, to restore various smaller habitat projects in AOC and put people to work
- **Continue Community Outreach and Education**
  - PCS Patch Program, Get the Lead Out!, Storm Drain Marking, and of course, Clean Your Streams Day
  - E-Newsletter and Increasing Membership
  - New PCS webpage and possibly even a new event!
  - Fundraising…maintain the staff beyond the life of grants
- **Maumee RAP**
  - Working with Ohio EPA RAP Coordinator and active Maumee RAP partners to refresh and update watershed plan for region (a.k.a. Stage 2 plan and database)
  - Continue hosting Summits, maintaining fiscal accountability, and building committee input

MaumeeCorps Job Challenge Restoration Grant

- US EPA awarded approx. $800,000 to NOAA
- NOAA will establish a cooperative agreement with PCS & PCS is partnering with the MetroParks of Toledo
- Grant focuses on putting people to work performing habitat restoration
- Dubbed “MaumeeCorps” after civilian conservation corps model
- Workers will be directed by either PCS or MetroParks and move from project to project (two teams) employing approx. 26 people
- PCS will focus on projects with meaningful impact but short-duration or small scale that typically have a hard time getting individual funding
- Project awards have been delayed due to federal budget & continuing resolution and “paperwork” needed for a new award

How can You get Involved?

- **Volunteer**
  - Come to one of our annual events
  - Participate on a planning or advisory committee
  - Participate on a project management team
- **Businesses and Individuals**
  - Sponsor an event or program
  - Provide in-kind services
  - Provide donated items
  - Join as a member
- **Participate in the RAC**
  - Attend Summits
  - Participate in the committee
  - Contribute to the planning and visioning – Stage 2 process

Partners for Clean Streams

THANK YOU

PCS greatly appreciates your
time, commitment, energy, and effort.
We look forward to your continued support
in 2012 and beyond.

DRAFT Duck & Otter Creeks Data Gap Investigation Update

October 25, 2011

PROJECT PARTICIPANTS

- Joint Project – USEPA GLNPO and Duck & Otter Creek Industry Partners (BP Husky, Chevron, Pilkington, Sunoco)
- Principal Contractors:
  - Cardno ENTRIX
  - Environ
  - Weston Solutions
- Key Stakeholders – Duck & Otter Creek Partnership, Ohio EPA

BACKGROUND

- Data Gap Investigation (DGI)
  - Great Lakes Legacy Act
  - Project Agreement and Statement of Work: GLNPO & Duck and Otter Creek Industry Partners
- Confluence Area Investigation: GLNPO –Weston Solutions
- 2007 Duck & Otter Creek Sediment Sampling: Duck and Otter Creek Partnership – SulTRAC/TetraTech

DGI OBJECTIVES

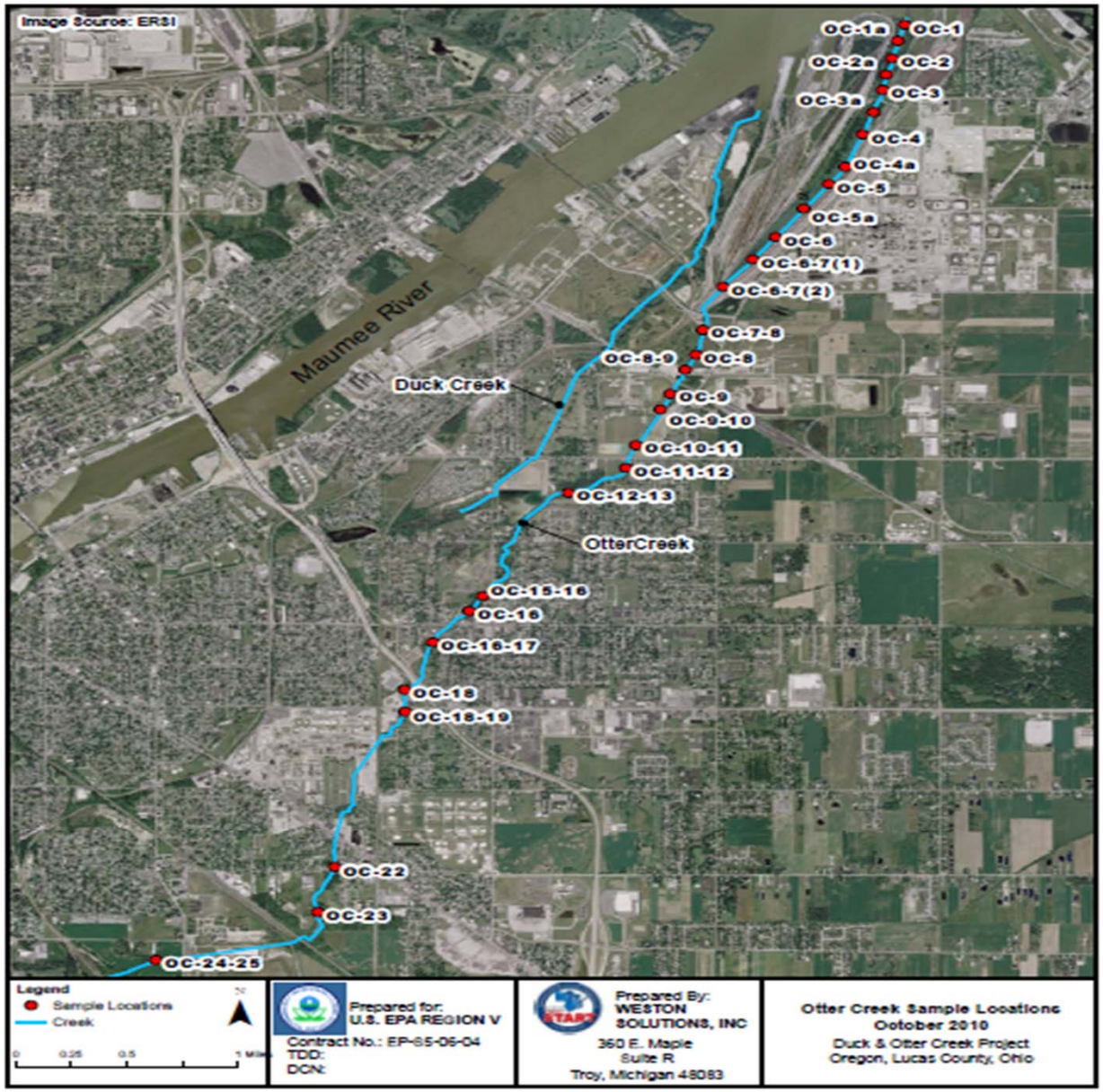
Overall Objective – develop information needed to fill certain data gaps to support future environmental decisions

Specific objectives include:

- Determining the extent of contamination in both surface and subsurface sediments;
- Verifying sediment toxicity and identify cause(s), to the extent practicable within the constraints of this DGI;
  - Evaluating whether sediment contaminants are bioaccumulating in benthic invertebrates and fish at levels likely to contribute significantly to the degradation of benthos and fish populations
- Evaluating habitat resources
  - Collecting data to support development of a feasibility study (evaluation of remedial and restoration options to protect human health and the environment) if one is found to be necessary, and to advance progress toward delisting of beneficial use impairments.

DUCK CREEK SAMPLE LOCATIONS

OTTER CREEK SAMPLE LOCATIONS



Preliminary Data Summary Slides

- Habitat Quality
- Benthic Community Structure
- Toxicity Test
- Chemistry (Selected Constituents)
  - PAH
  - TPH
  - PCB
  - Lead
  - Arsenic

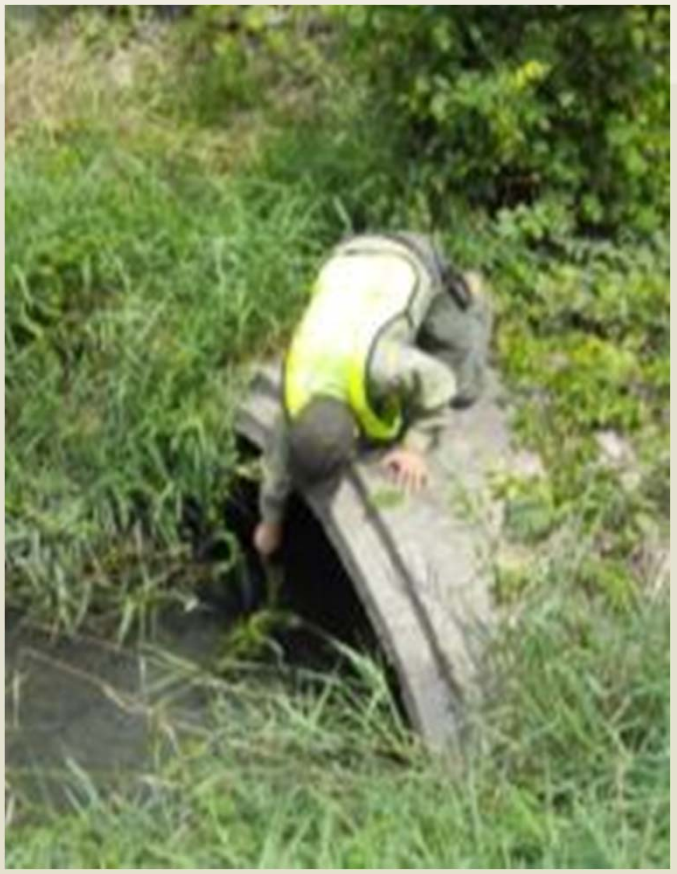
Watershed Habitat Quality

- Land Use
- Riparian corridor
- Impervious Surface
- Wetlands
- Stormwater outfalls

Land Use

Watershed Habitat Quality – Stormwater Outfalls

Stream Segment	Duck Creek	Otter Creek
A	2	0
B	3	5
C	2	29
D	1	22
E	0	0



In-stream habitat summary:

"very poor" to "poor"

Category	Possible Score	Urban Comparison	Duck & Otter
Substrate	20	2.5 to 4.5	2.5 to 4.5
Instream cover	20	2 to 6	5 to 13
Channel morphology	20	6 to 9	6 to 10
Bank erosion & riparian zone	10	3.5 to 6	3.5 to 7.5
Map gradient	10	4 to 6	3 to 6
Pool/glide & riffle/run quality	20	3	2 to 11
total	100	23 to 32.5	23.5 to 42

Preliminary Data Summary Slides

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  - PCB
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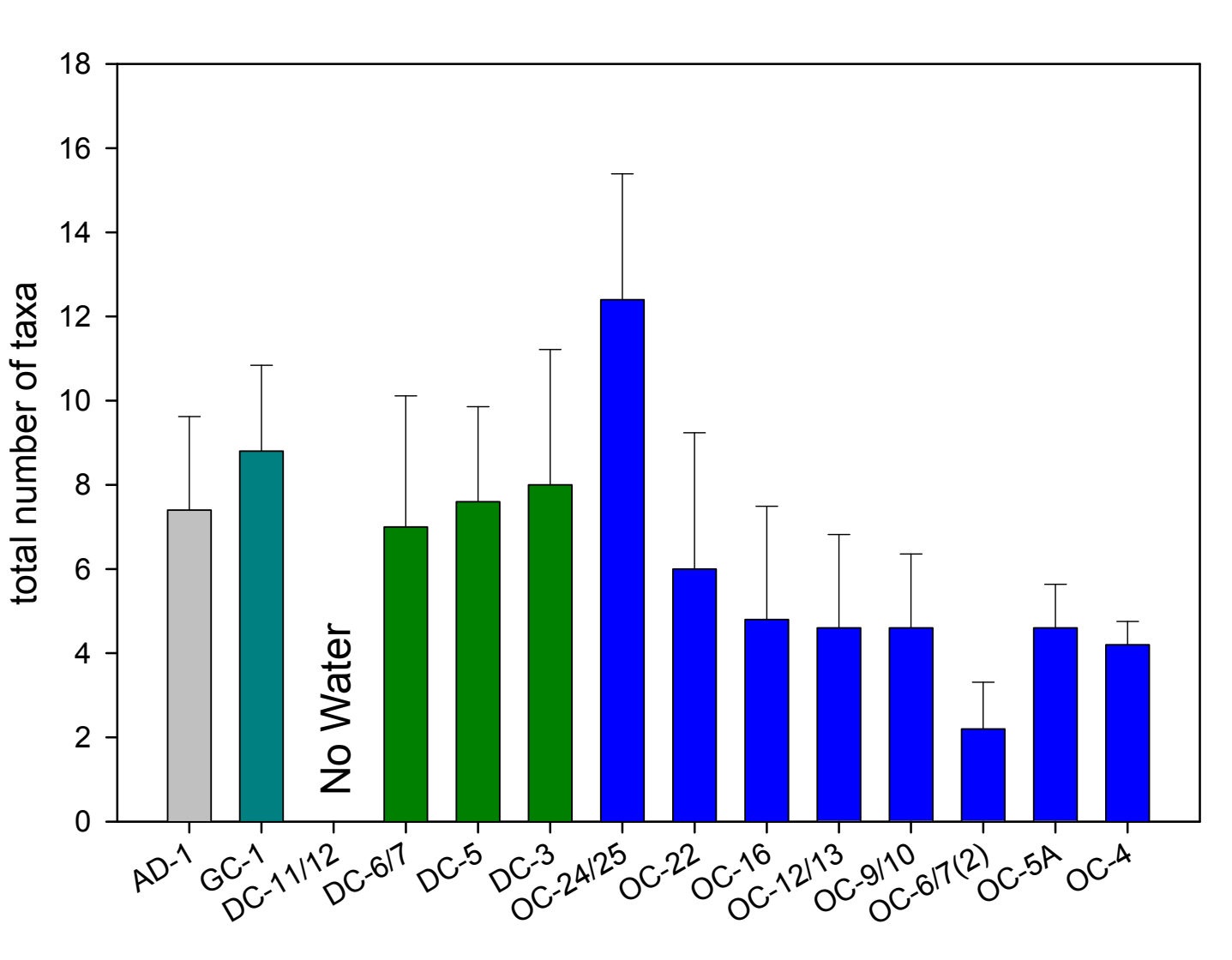
  - Arsenic

Preliminary Benthic Biodiversity (taxa richness) triad locations only



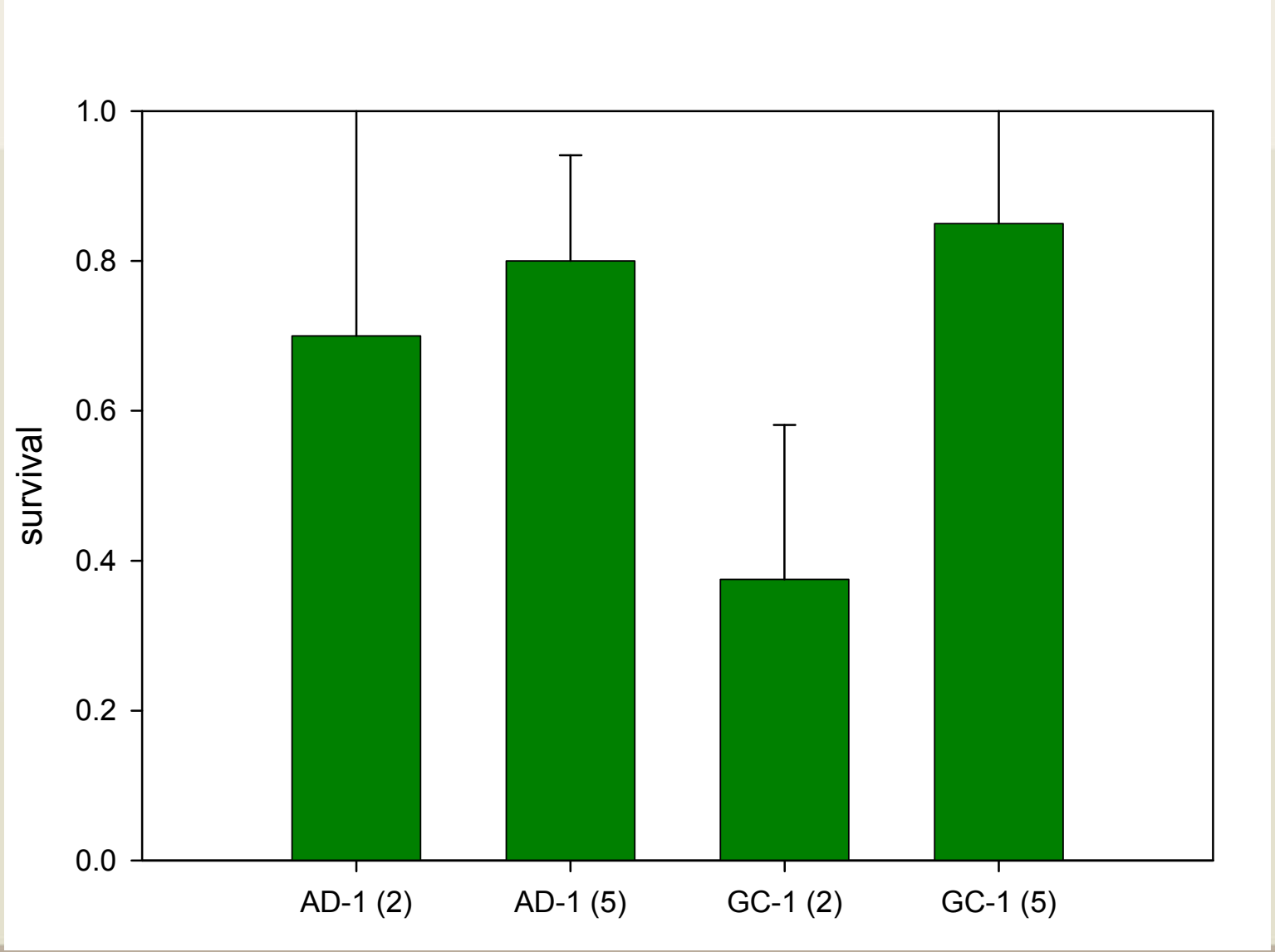
Preliminary Data Summary Slides

- √ Habitat Quality
- √ Benthic Community Structure
- Toxicity Test
- Chemistry (Selected Constituents)
  - PAH
  - TPH
  - PCB
  - Lead
  - Arsenic

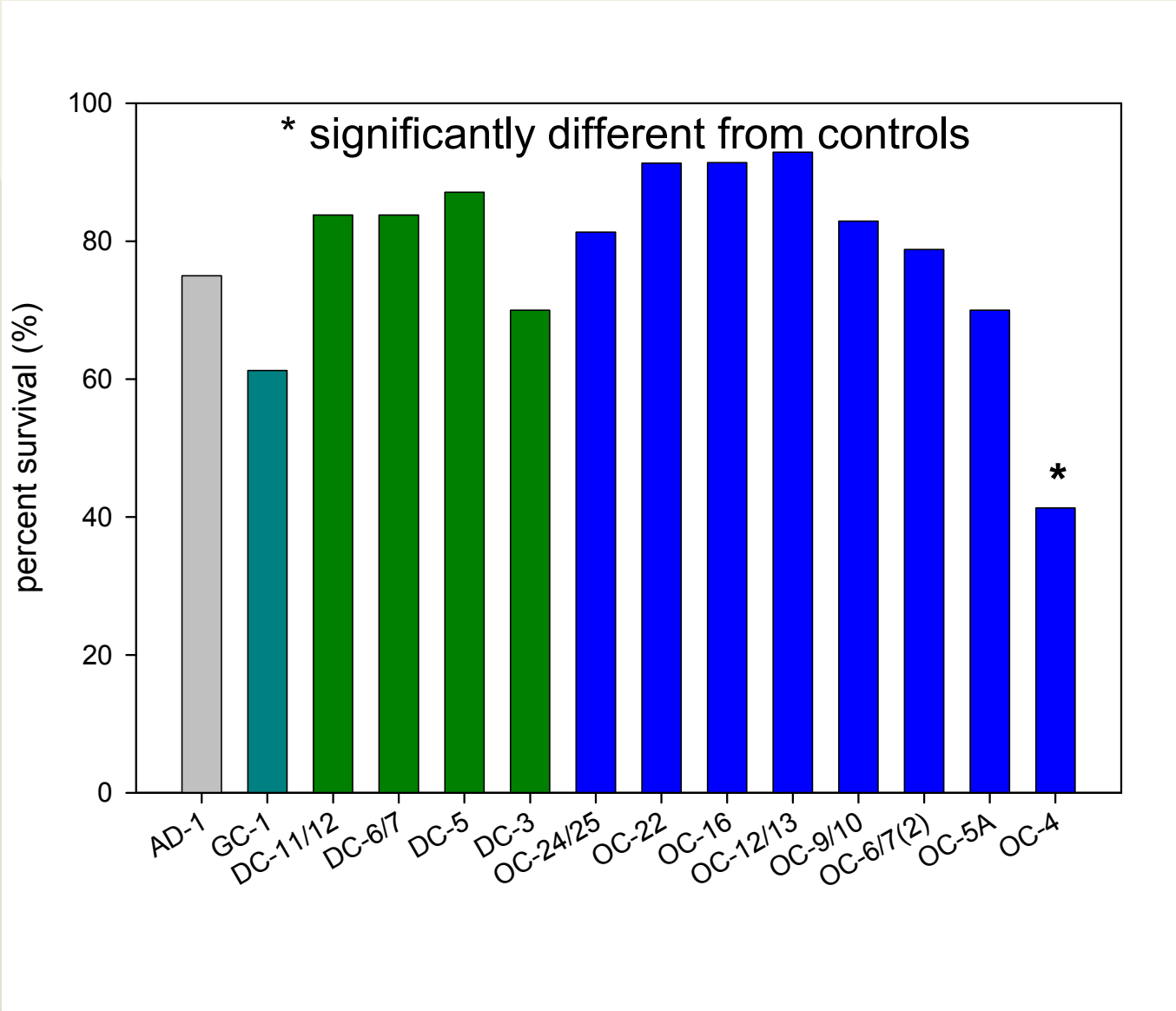
Summary of Toxicity Tests

- Control Survival ranged from 82.5% to 93.8%
- Indigenous organisms affected survival of test organisms
  - 2 of 2 Urban comparison stream locations - retested
  - 2 of 4 Duck Creek locations
  - 5 of 8 Otter Creek locations
  - Overall 9 of 14 locations

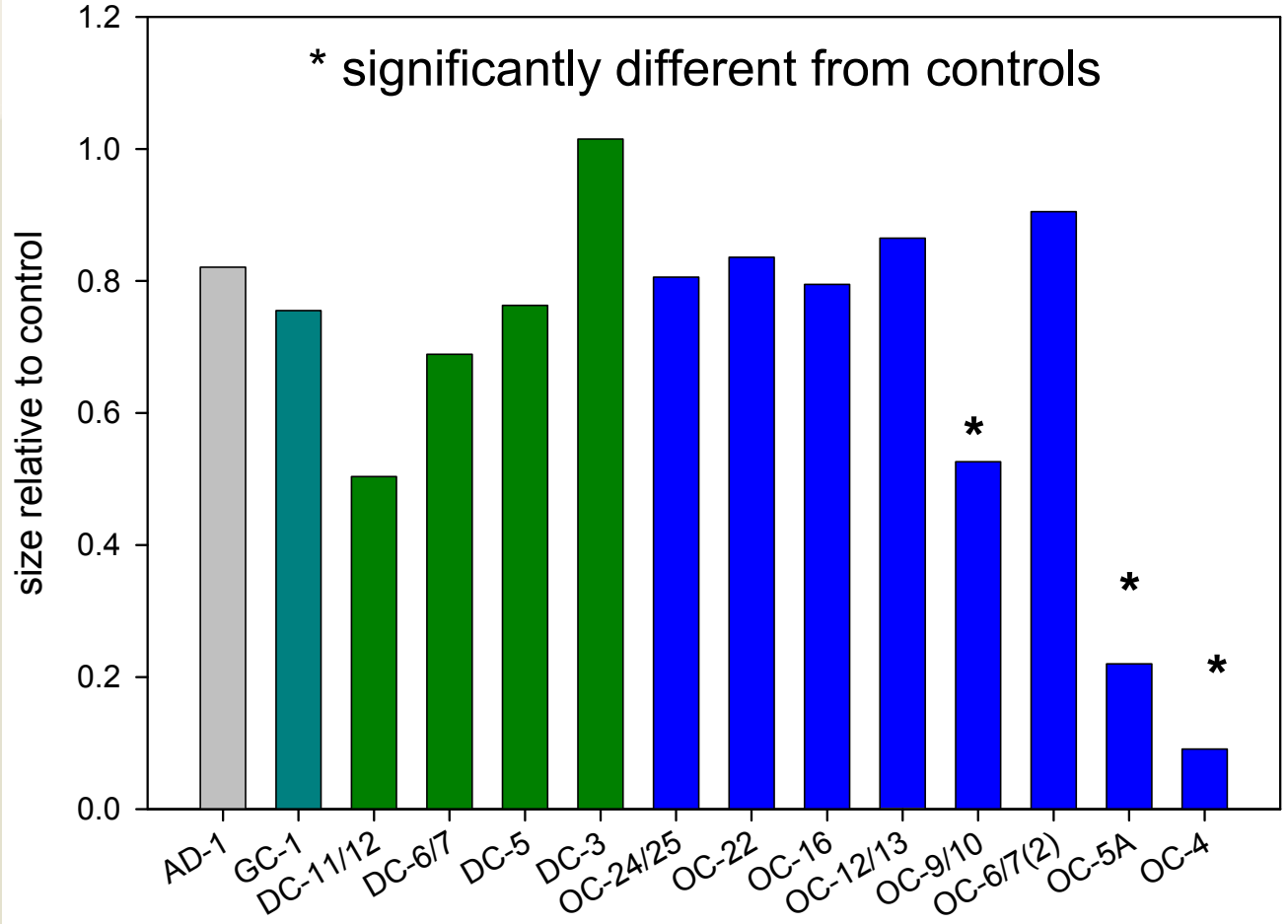
Urban Comparison Stream survival: 37.5% to 85.0%



Toxicity Test: Midge Survival – triad locations only



Toxicity Test: Midge Growth – triad locations only



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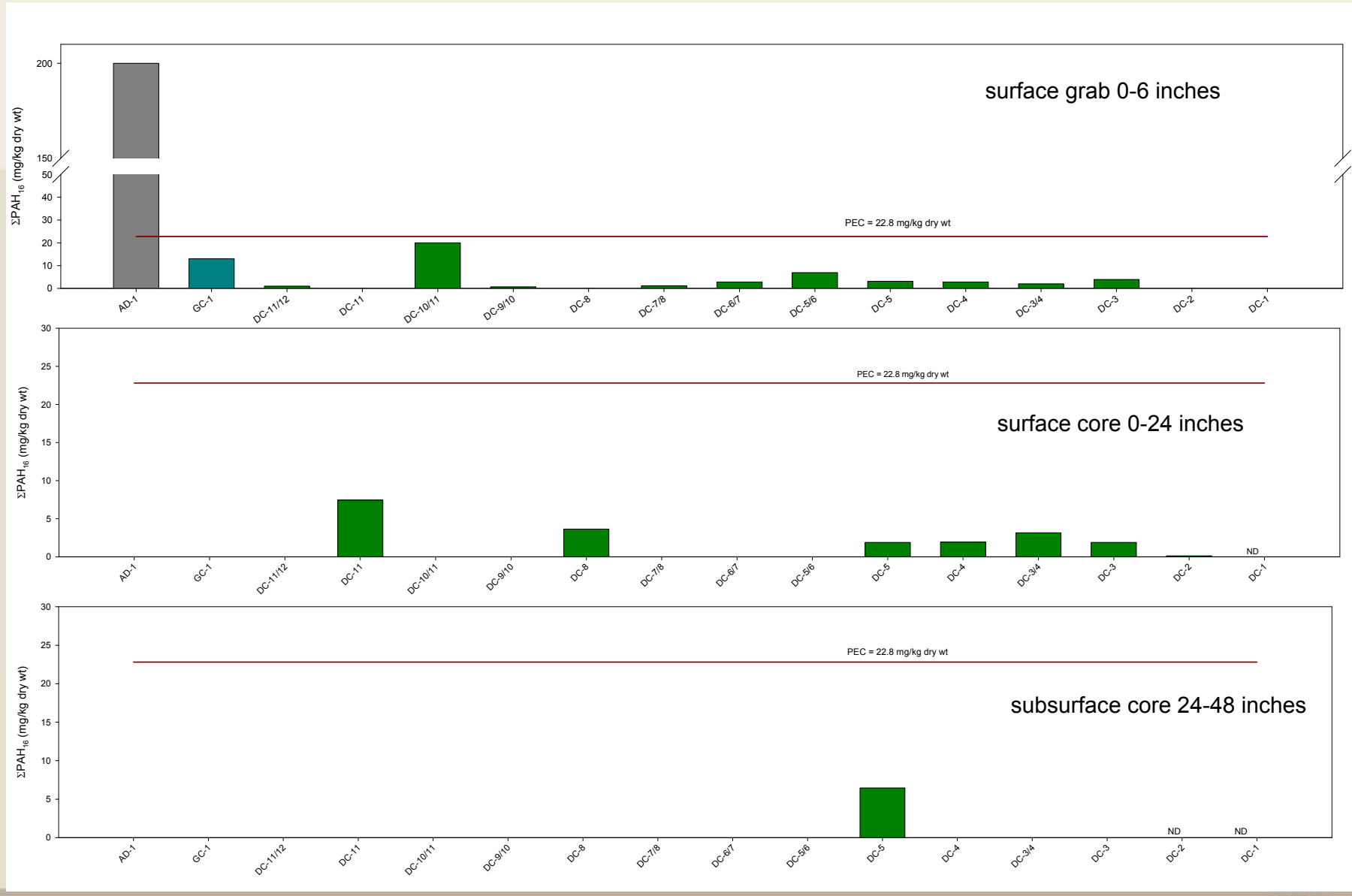
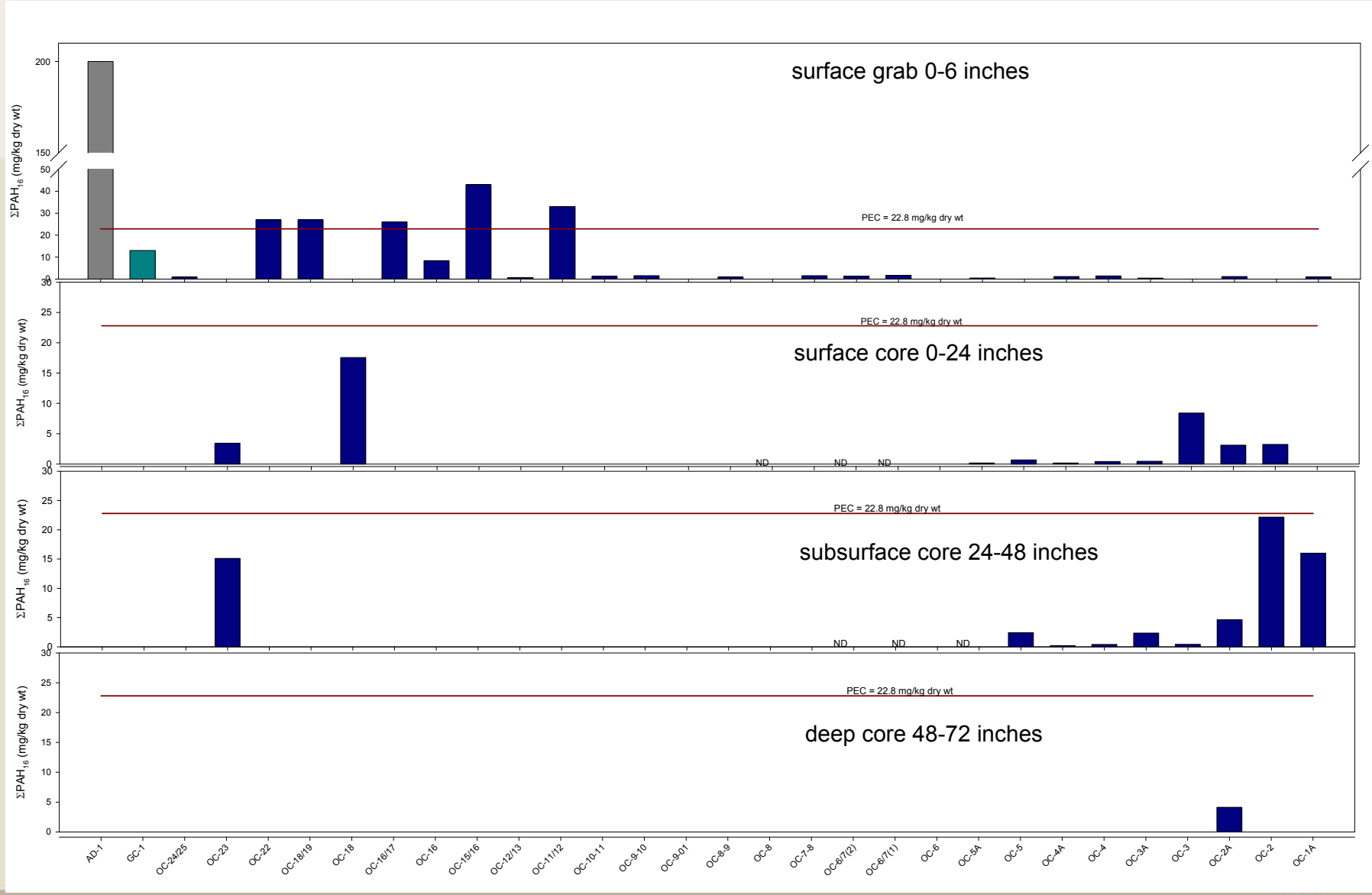
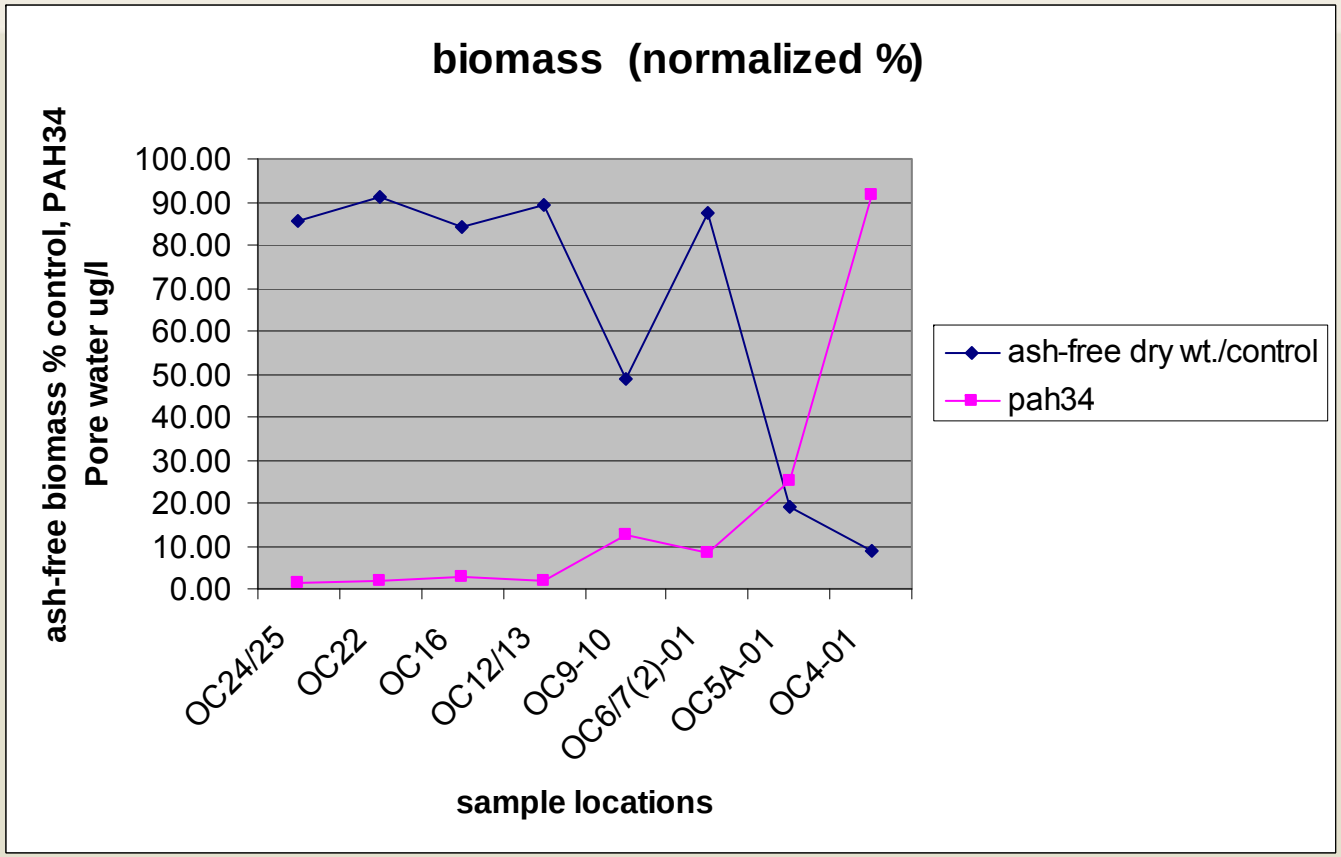
DRAFT $\sum PAH_{16}$ – Duck Creek sediments



DRAFT $\sum PAH_{16}$ – Otter Creek sediments



SEDIMENT PORE WATER PAH vs. TOXICITY (GROWTH)



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  - √ PAH
  - – TPH
  - – PCB
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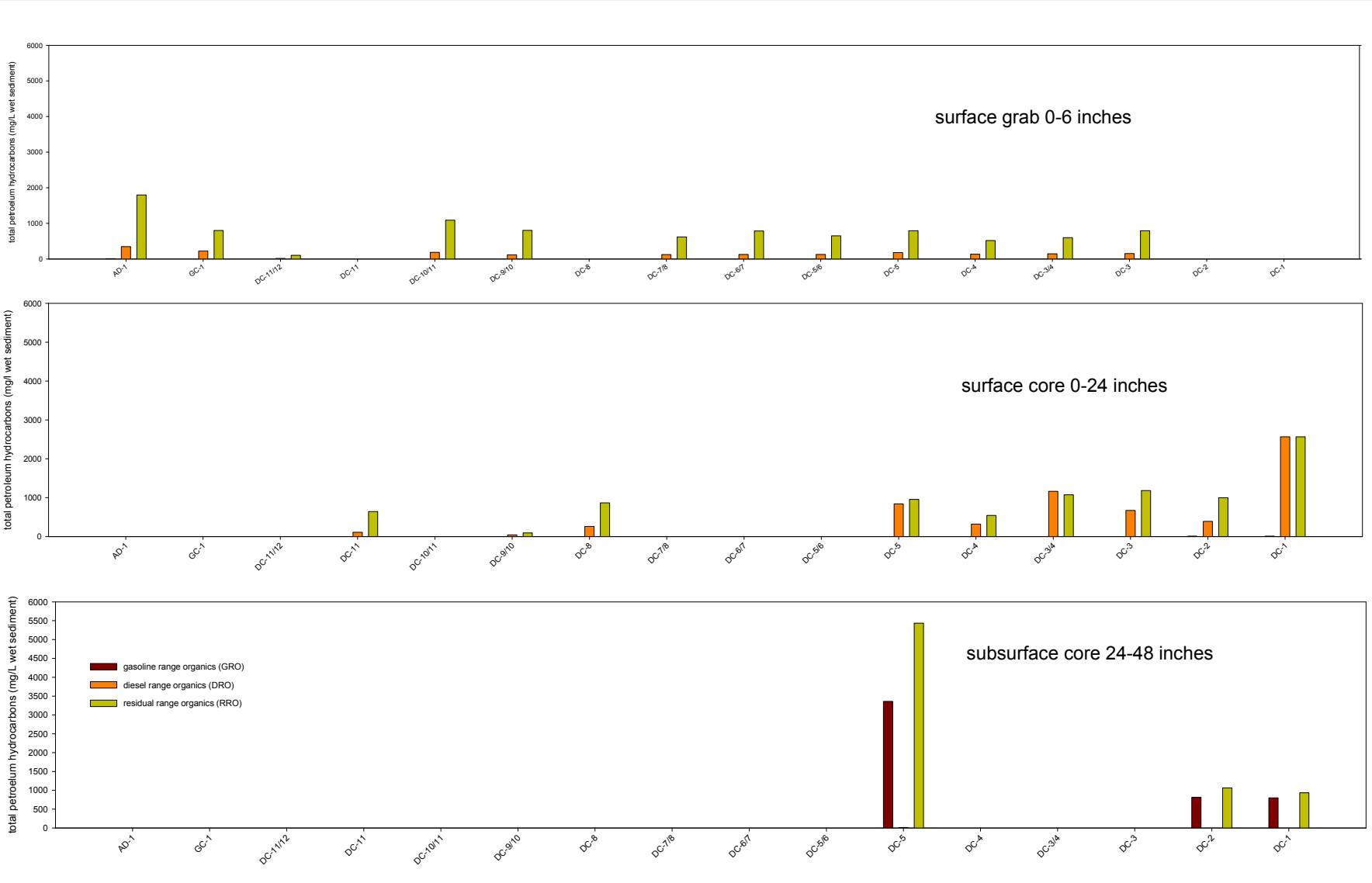
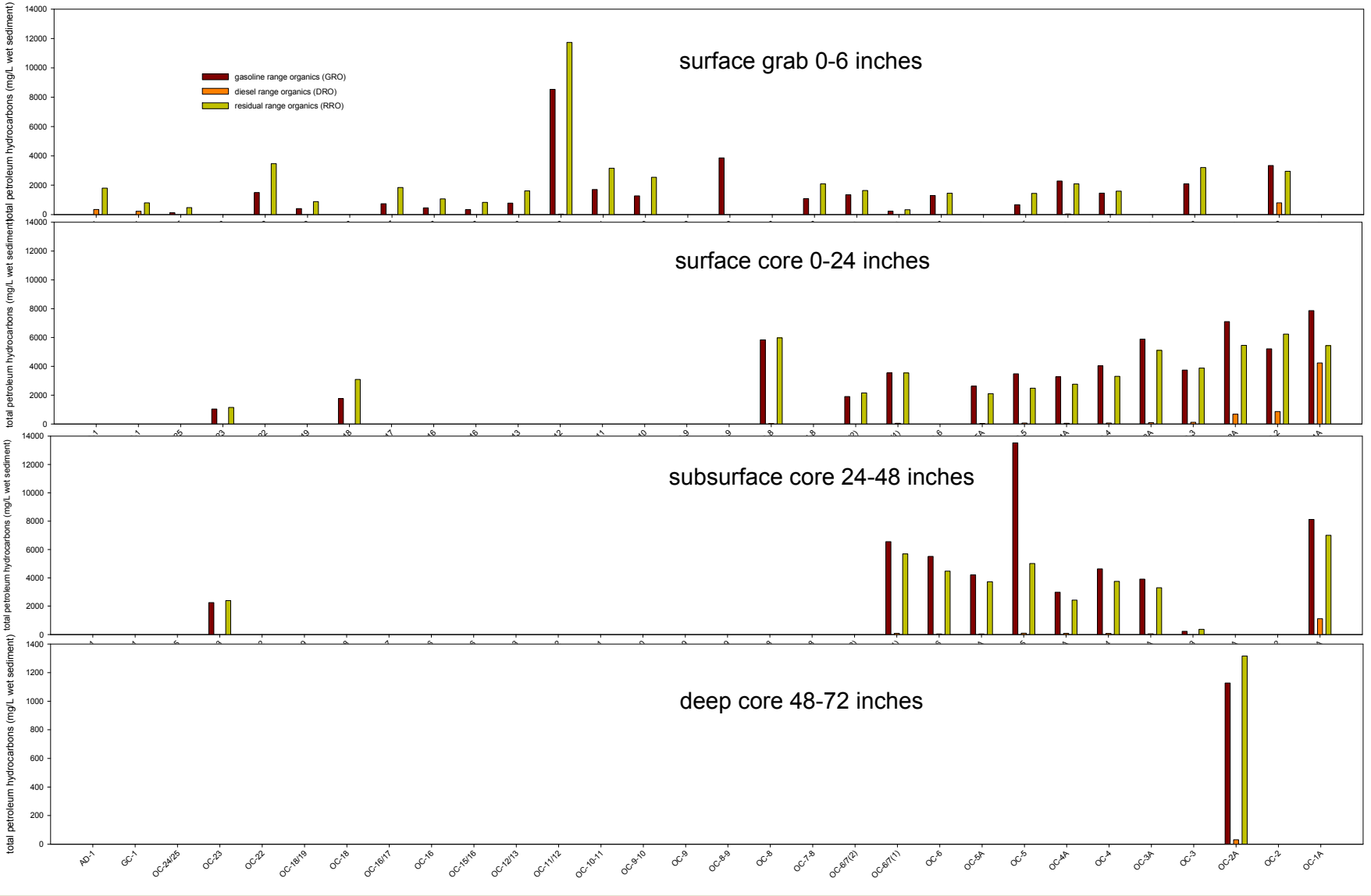
  - – Arsenic

DRAFT TPH – Duck Creek sediments



DRAFT TPH – Otter Creek sediments



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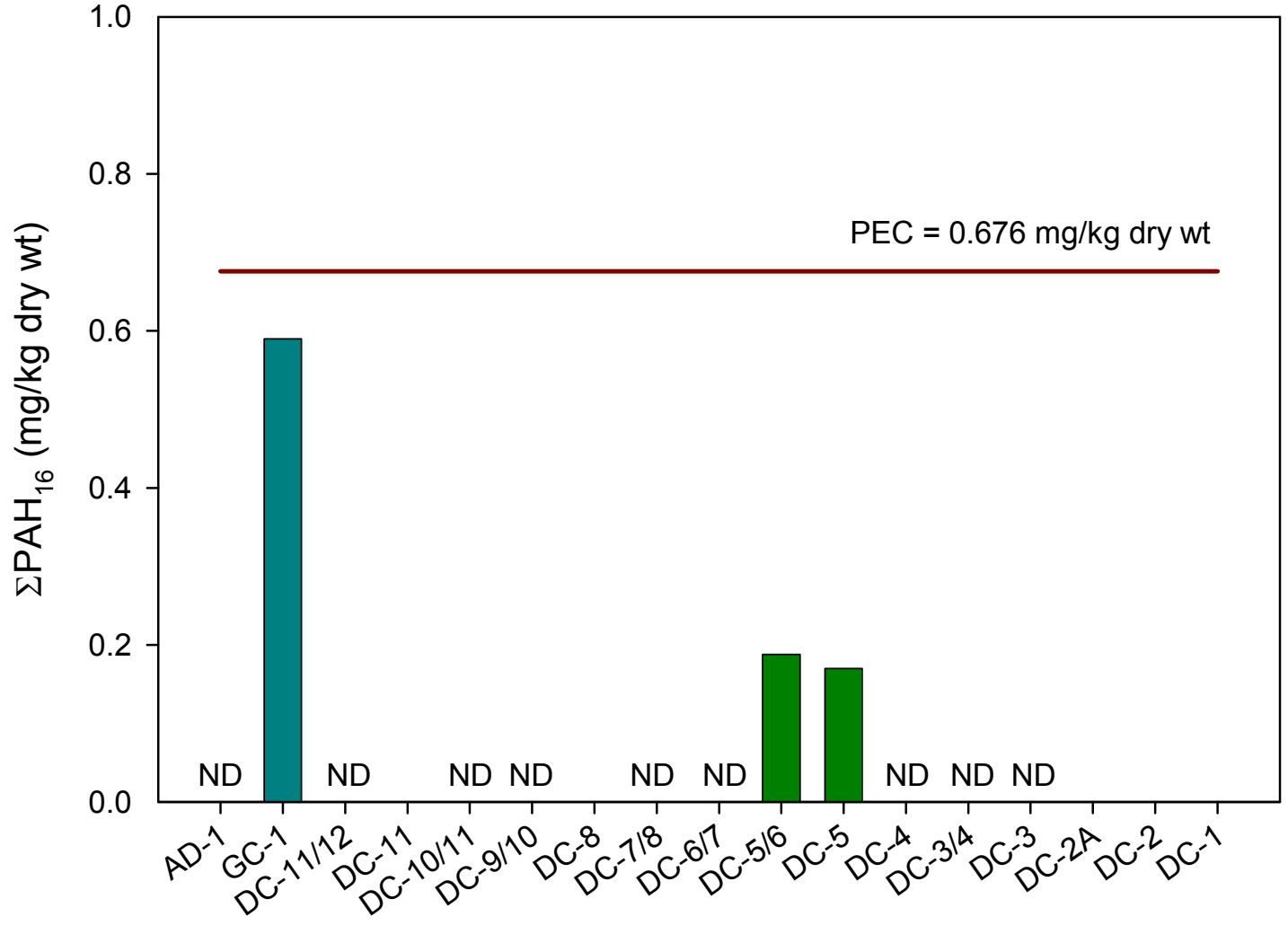
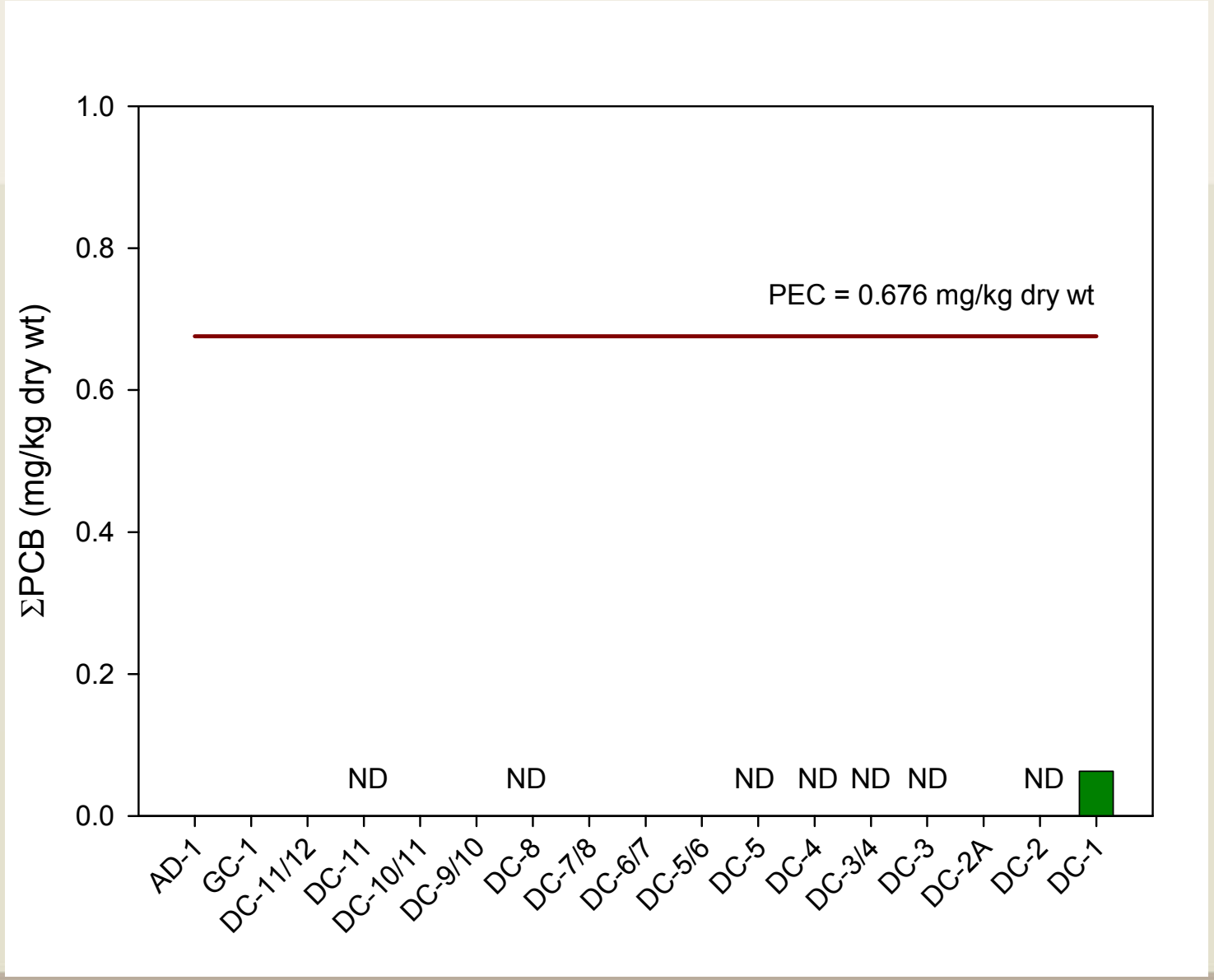
  - √ TPH
  - – PCB
  - – Lead
  - – Arsenic

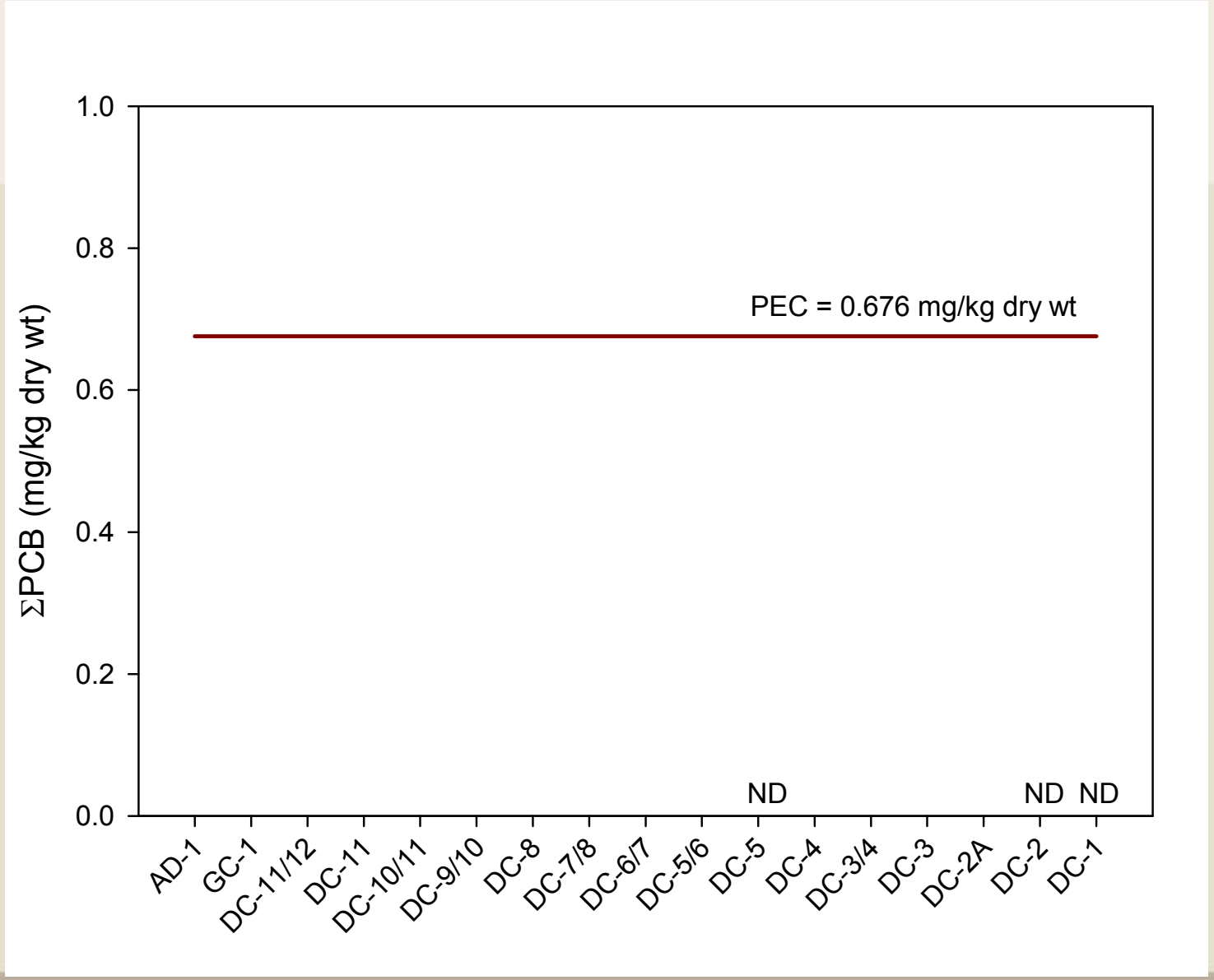
DRAFT ∑PCB – Duck Creek surface (0-6 inches)



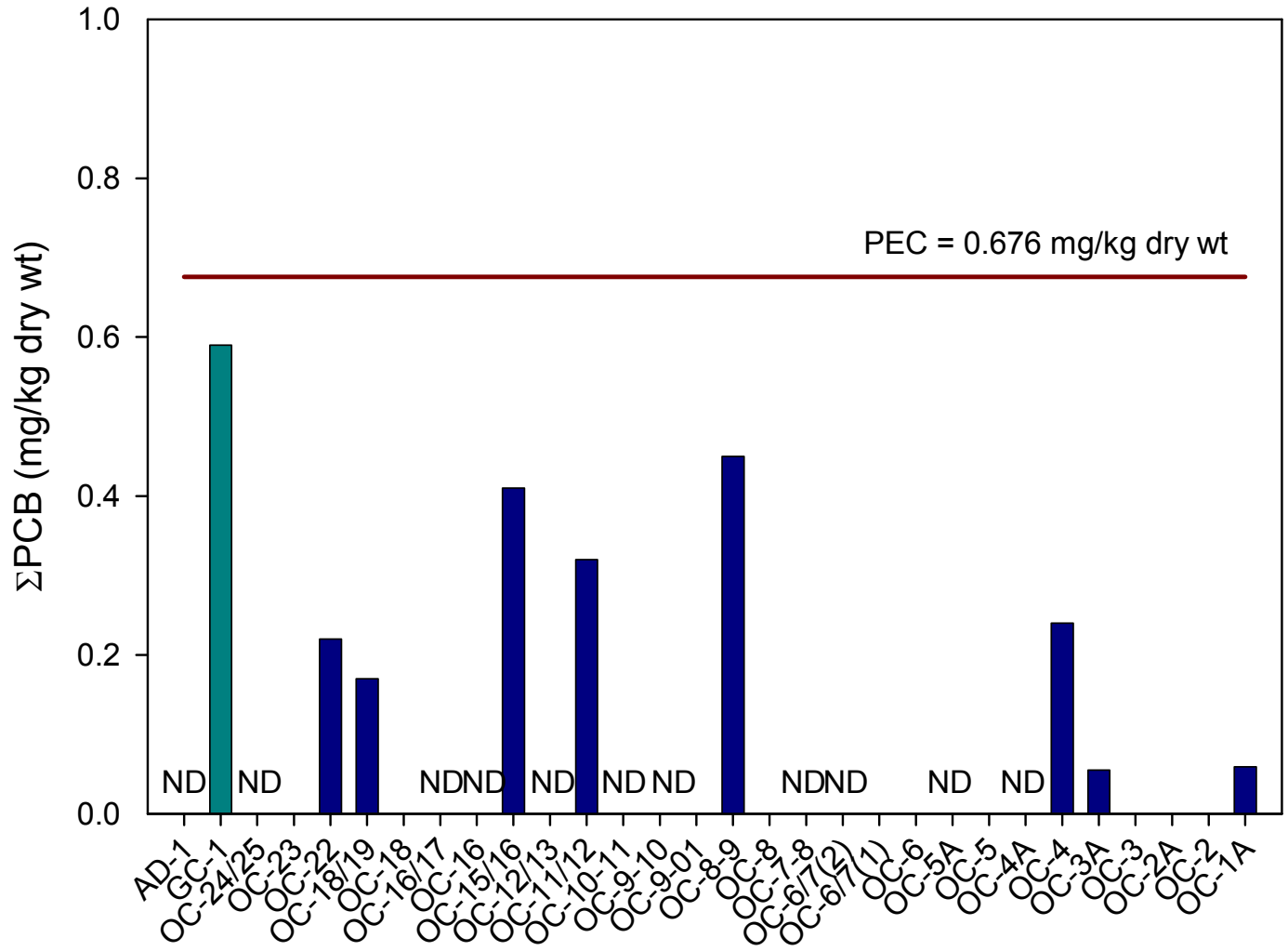
DRAFT ∑PCB – Duck Creek cores (0-24 inches)



DRAFT ∑PCB – Duck Creek cores (24-48 inches)



DRAFT ∑PCB – Otter Creek surface (0-6 inches)



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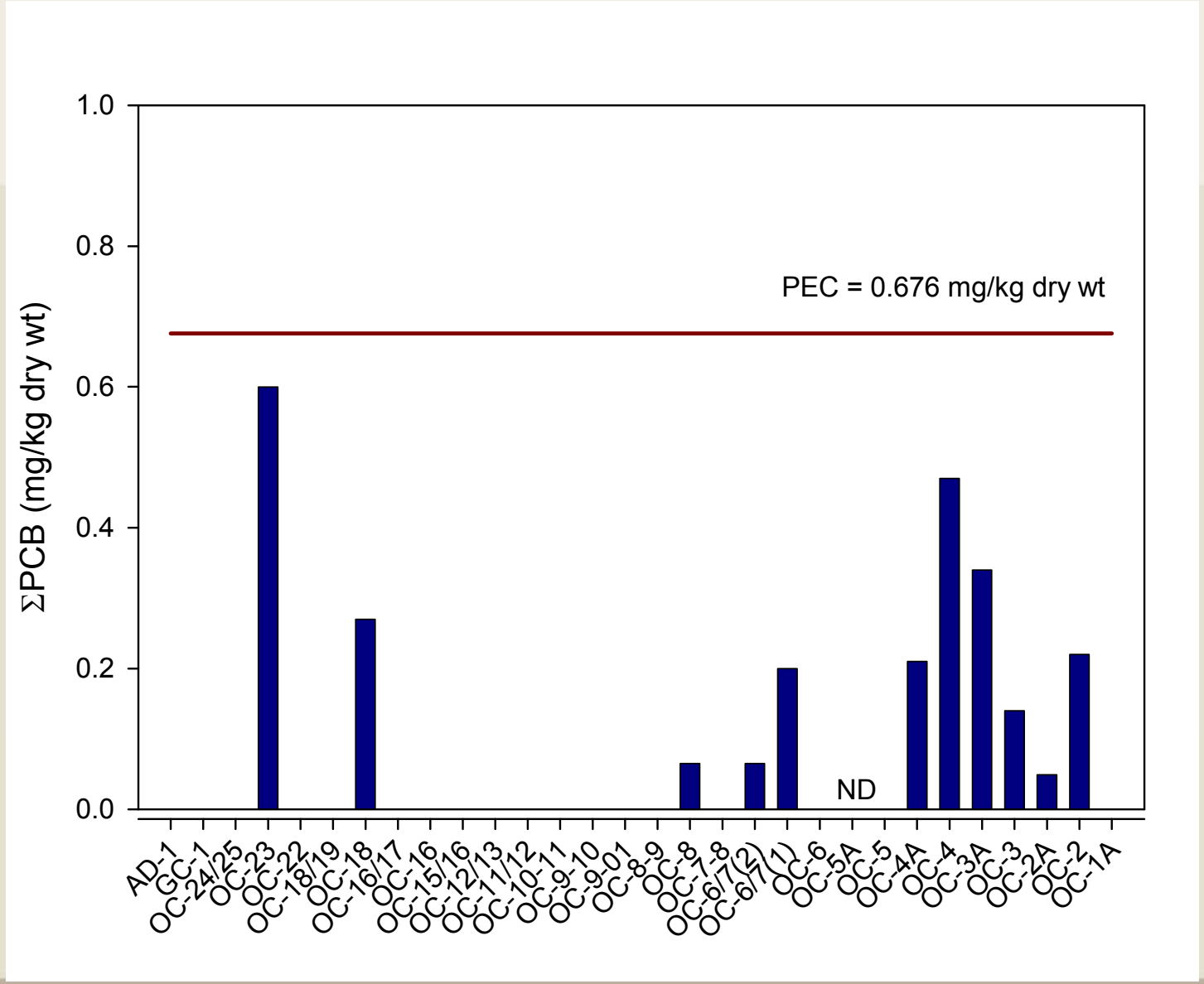
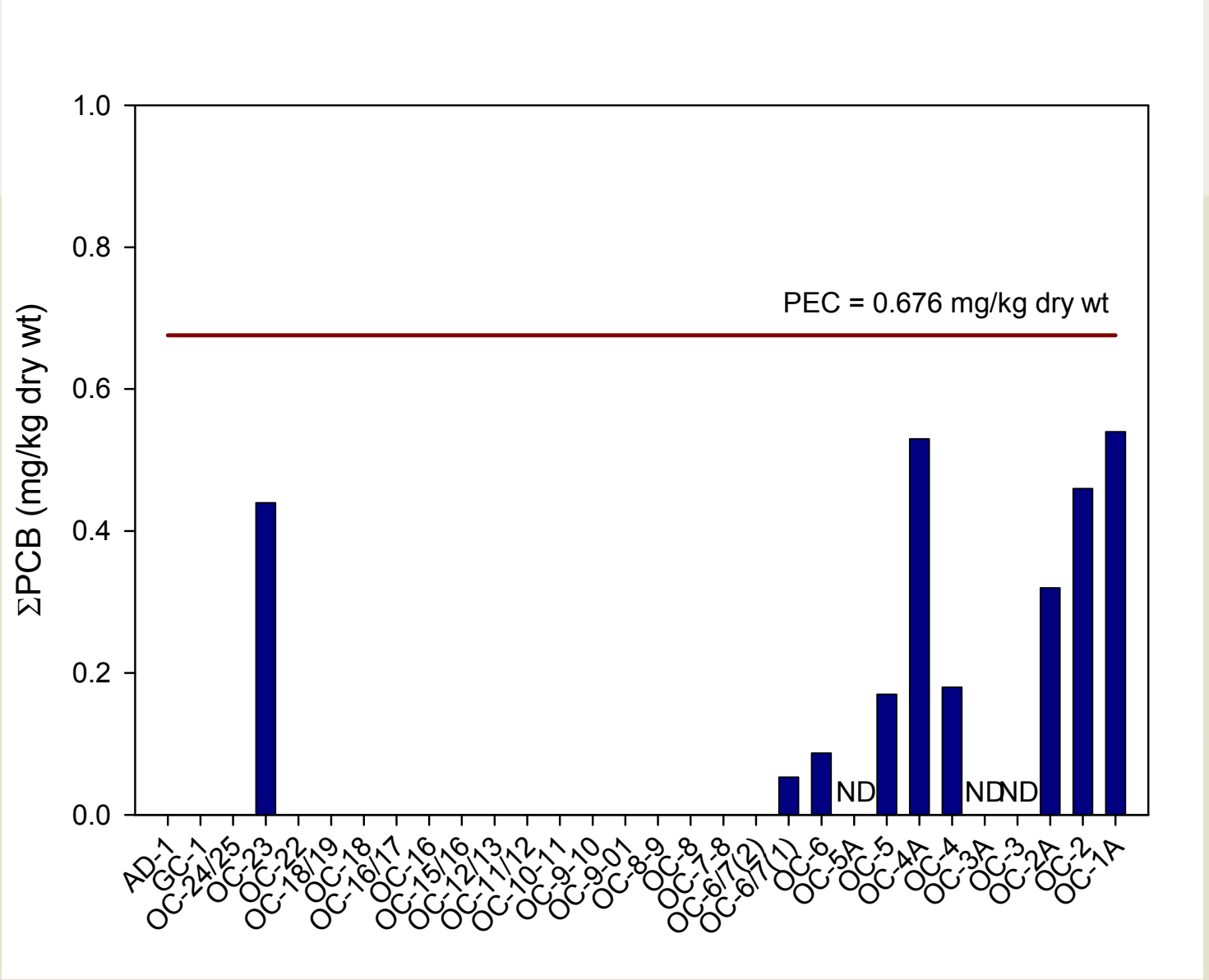
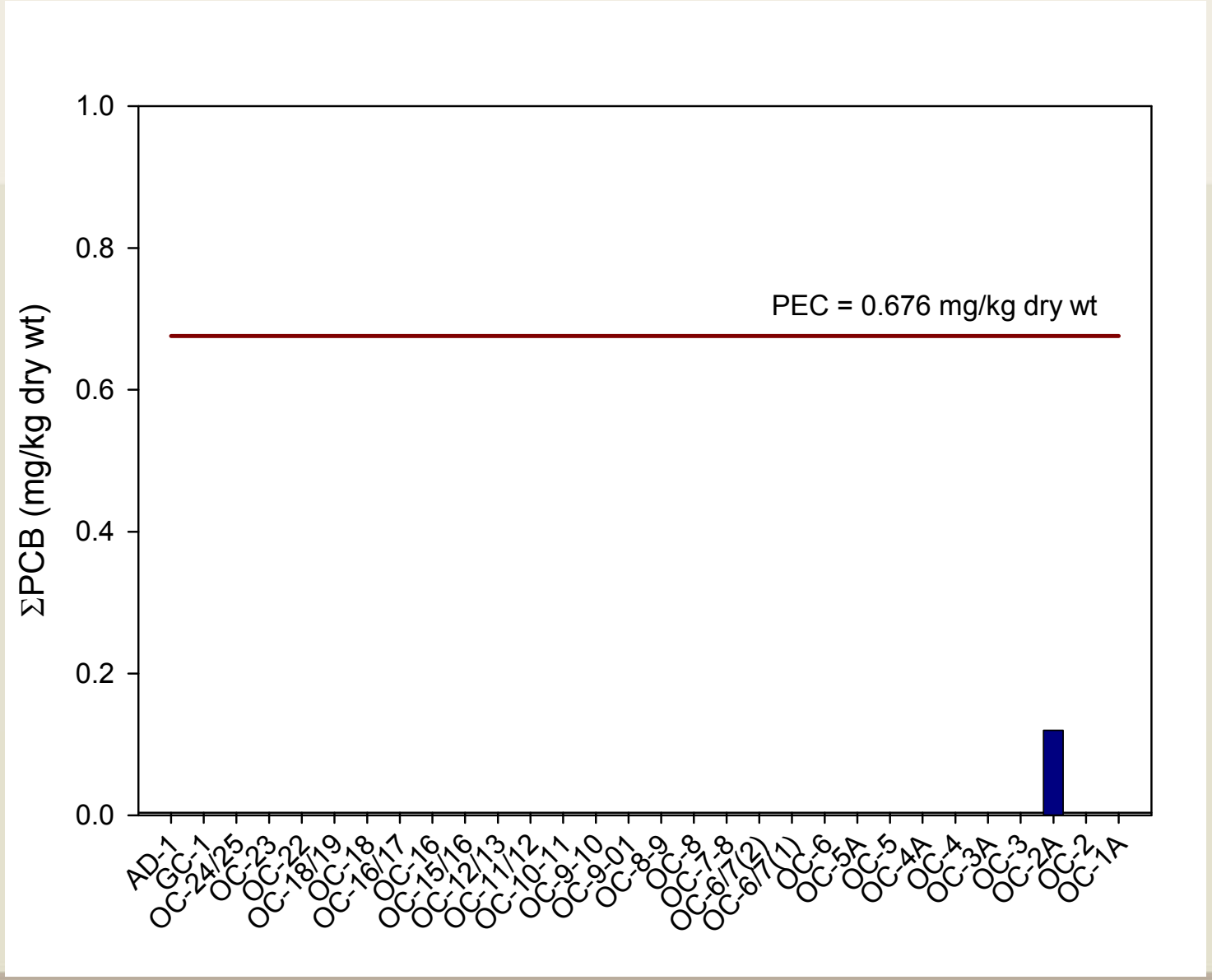


DRAFT ∑PCB – Otter Creek cores (24-48 inches)



DRAFT ∑PCB – Otter Creek cores (48-72 inches)



Preliminary Data Summary Slides

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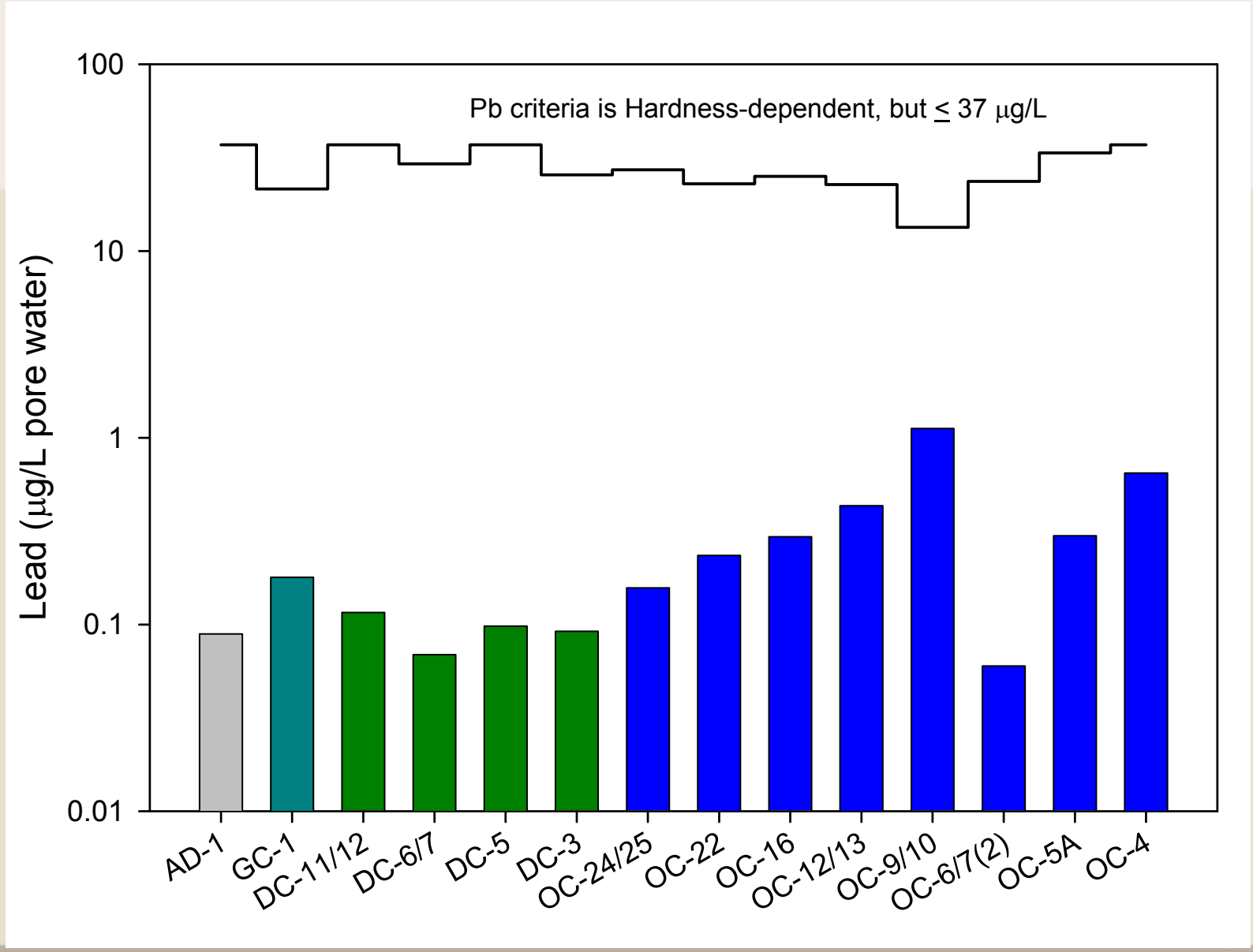
- √ Toxicity Test
- √ Chemistry (Selected Constituents)
  - √ PAH
  - √ TPH
  - √ PCB
  - – Lead
  - – Arsenic

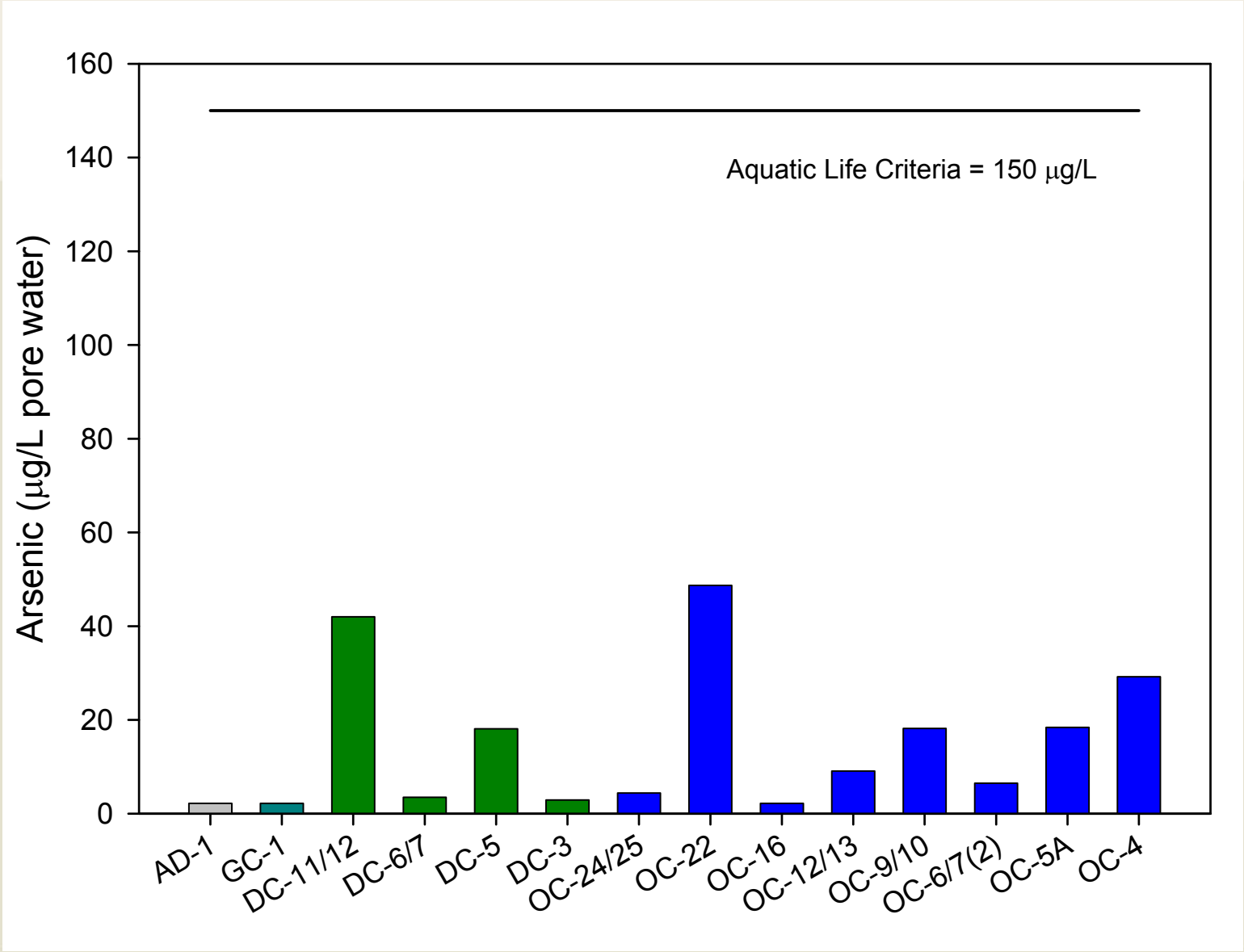
DRAFT Lead in sediment pore water (0-6 inches)



Preliminary Data Summary Slides

- √ Habitat Quality
- √ Benthic Community Structure
- √ Toxicity Test
- √ Chemistry (Selected Constituents)
  - √ PAH
  - √ TPH
  - √ PCB
  - √ Lead
  - – Arsenic

DRAFT Arsenic in pore waters (0-6 inches)



Preliminary Data Summary Slides

- √ Habitat Quality
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  - √ Lead
  - √ Arsenic

Preliminary Executive Summary

Draft Conclusions

1) Metals, PCBs, pyrethroid pesticides, and non-PAH SVOCs can be ruled out as sources of toxicity in the 2010 Data Gap Investigation data set because these classes of contaminants generally are not elevated in sediments, or are not bioavailable.

2) Generally poor habitat quality within the study area makes it difficult to discern between the potential influence of chemical contamination versus the influence of physical habitat modifications on the benthic communities of Duck and Otter Creeks.

3) Otter Creek, downstream (north) of Millard Avenue, differed from the other stream reaches of Otter Creek, the Duck Creek segments, and the urban comparison streams Grassy Creek and Amlosch Ditch.

4) 2010 data does not indicate there are issues with Duck Creek and the other stream segments of Otter Creek.

Preliminary Executive Summary

Draft Recommendations

1) Further evaluate potential remedies for Otter Creek, north of Millard Avenue, in a subsequent phase of the project

2) Further evaluate the combined 2007 and 2010 data sets for the remaining stream sections in a subsequent phase of the project.

Duck and Otter Creeks Confluences Great Lakes Legacy Act Site Characterization Results

Fall/Winter Maumee AOC Summit

December 1, 2011

by

Brenda R. Jones

U.S. EPA Great Lakes National Program Office

Presentation Overview

- Site characterization background
- Sampling strategy
- Results
- Next steps

Background

- OEPA request - 2010
- 100% federal funding
- Duck & Otter Creek Industrial Partners declined participation

Study Areas

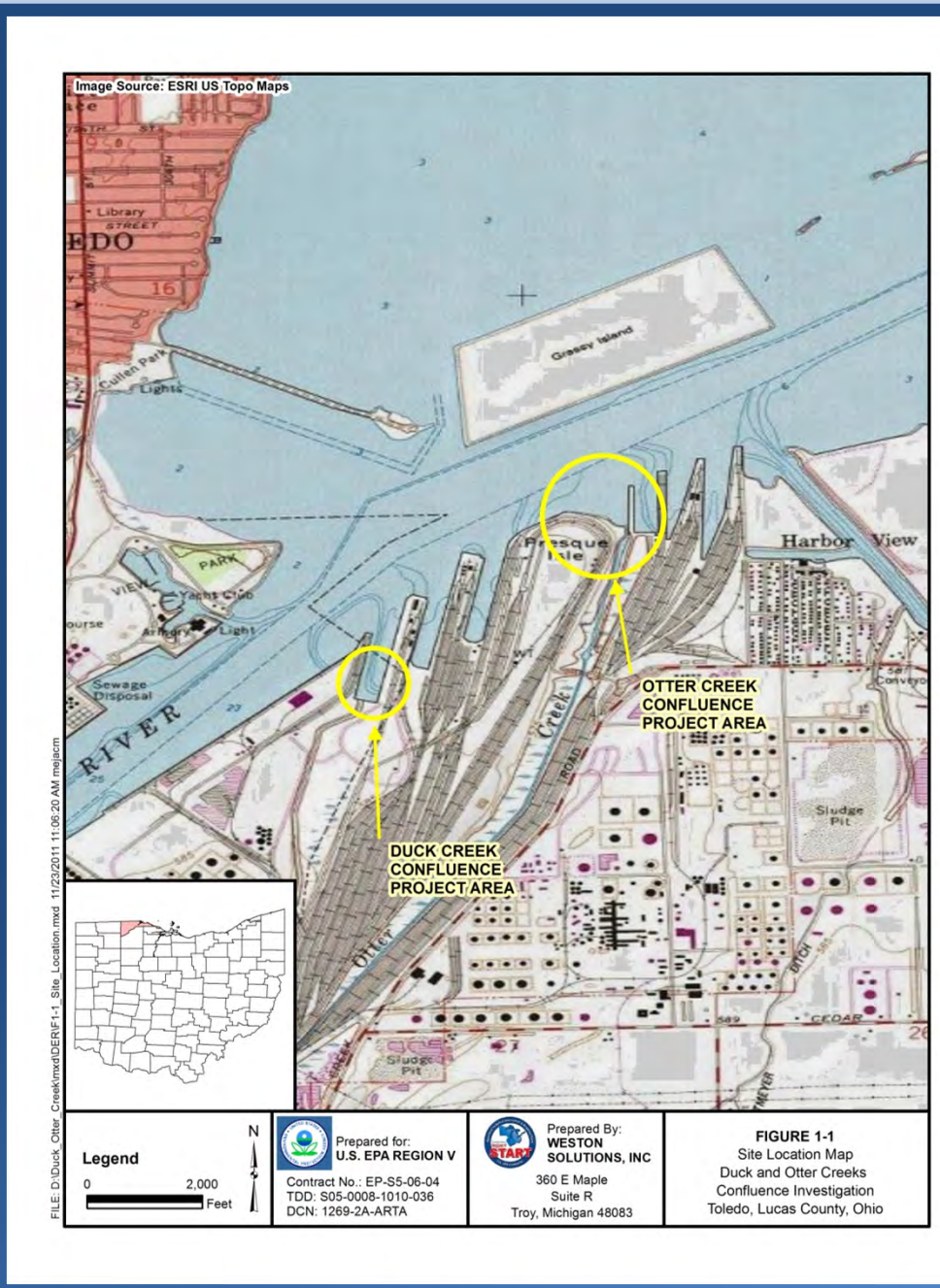
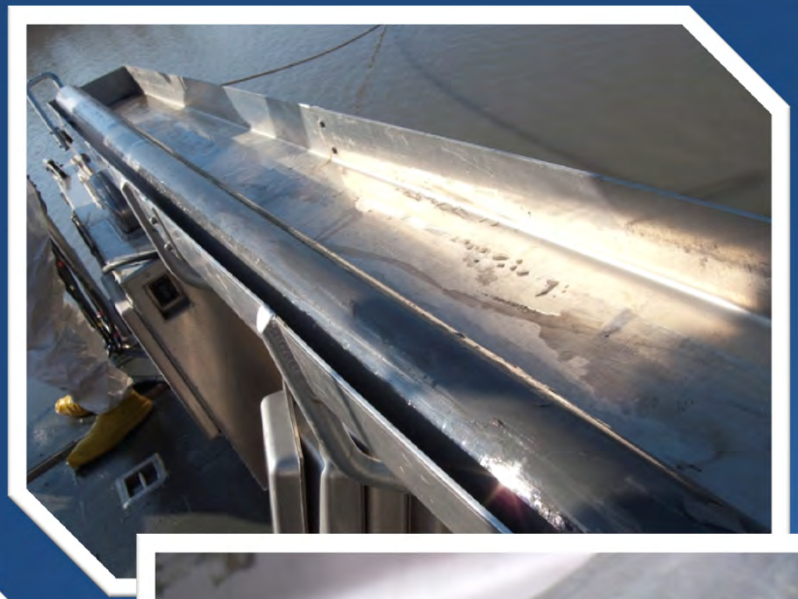


Image Source: ESRI US Topo Maps
Grassy Island
Harbor View
OTTER CREEK CONFLUENCE PROJECT AREA
DUCK CREEK CONFLUENCE PROJECT AREA
Sewage Disposal
Sludge Pit
Legend
0 2,000 Feet
N
Prepared for: U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0008-1010-036
DCN: 1269-2A-ARTA
Prepared By: WESTON SOLUTIONS, INC
360 E Maple
Suite R
Troy, Michigan 48083
FIGURE 1-1
Site Location Map
Duck and Otter Creeks
Confluence Investigation
Toledo, Lucas County, Ohio

Sampling strategy

- R/V Mudpuppy II & contractor sampling vessel
- Sample types
  - Surface & subsurface sediment
  - Pore water
- Sampling events: 10/10, 05/11 & 11/11

Mudpuppy II sediment cores



Analyses

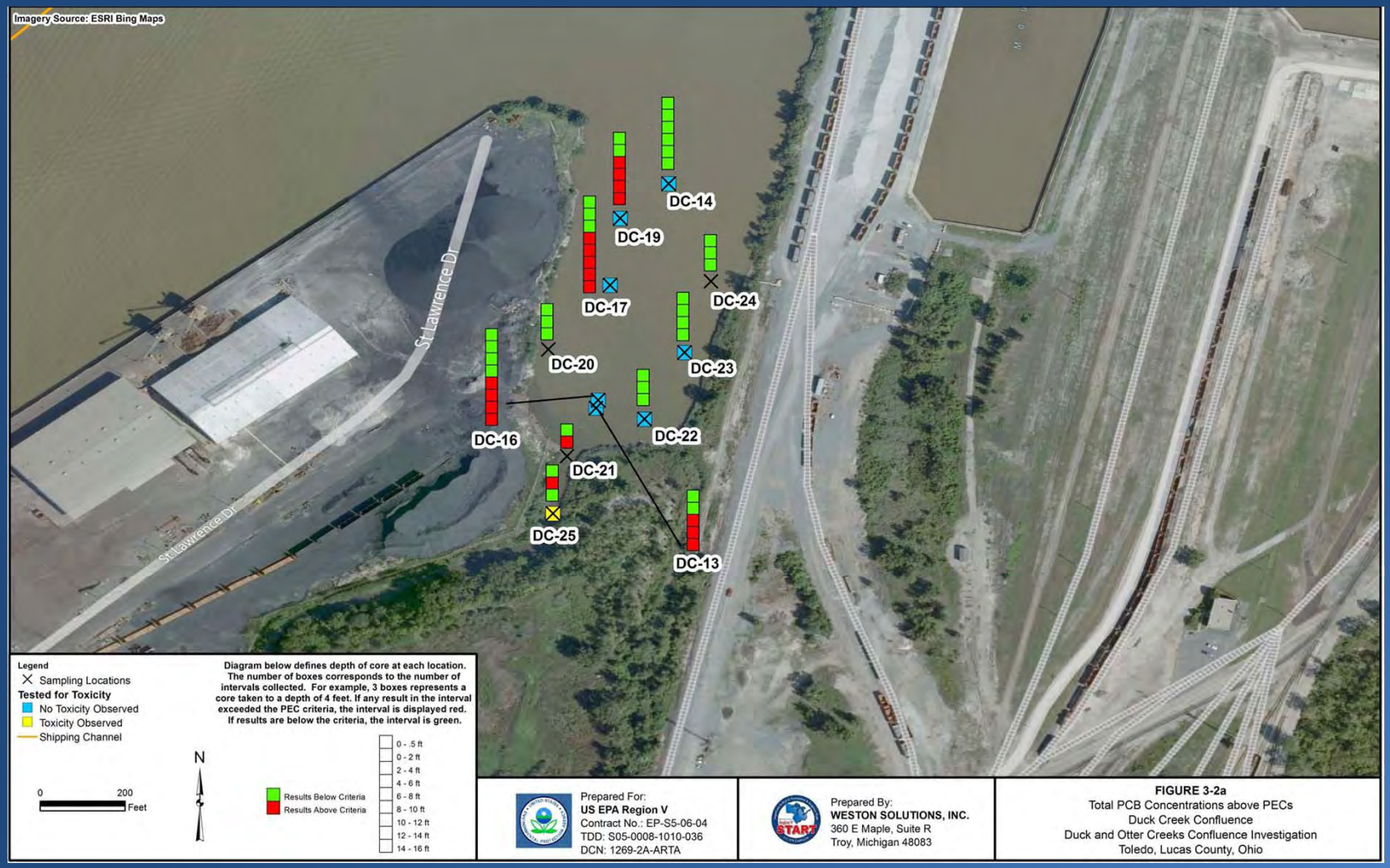
- Chemistry
  - PAHs, PCBs, metals
  - Physical
    - Total organic carbon
    - Grain size
    - AVS/SEM
- Toxicity – survival and growth

Observational sheens & odors

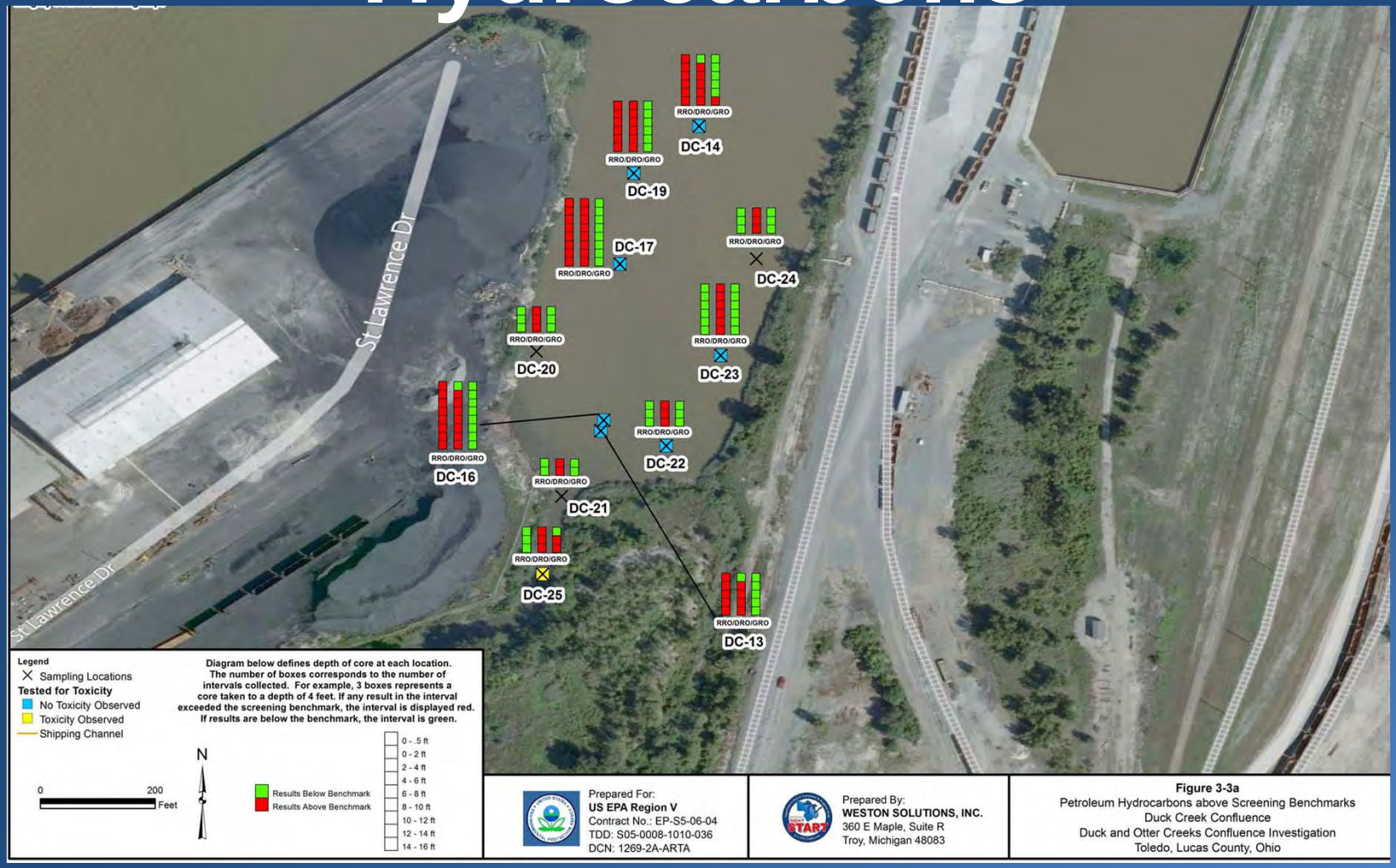
Duck Creek sample locations

Duck Creek – Metals Results

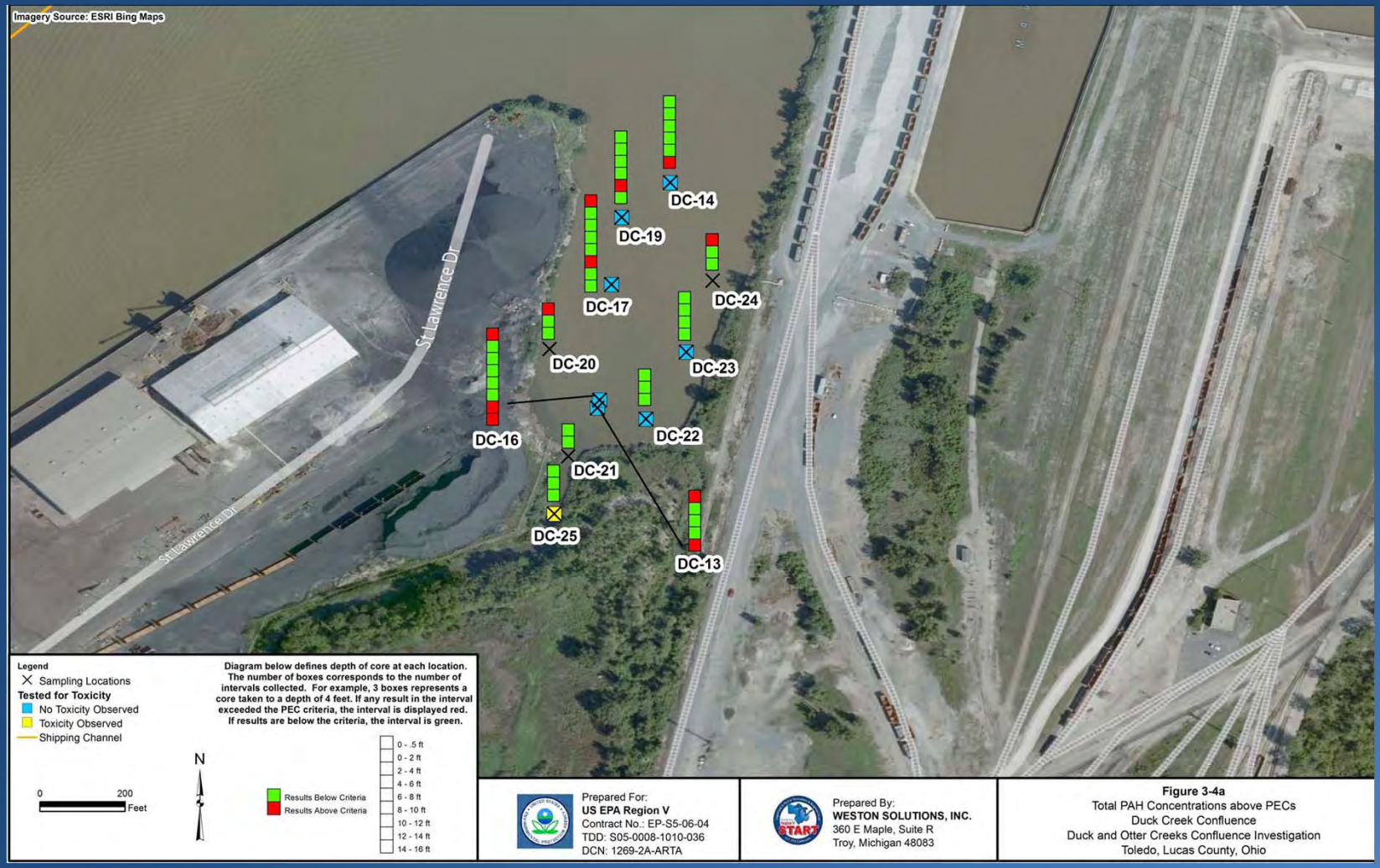
Duck Creek – PCB Results



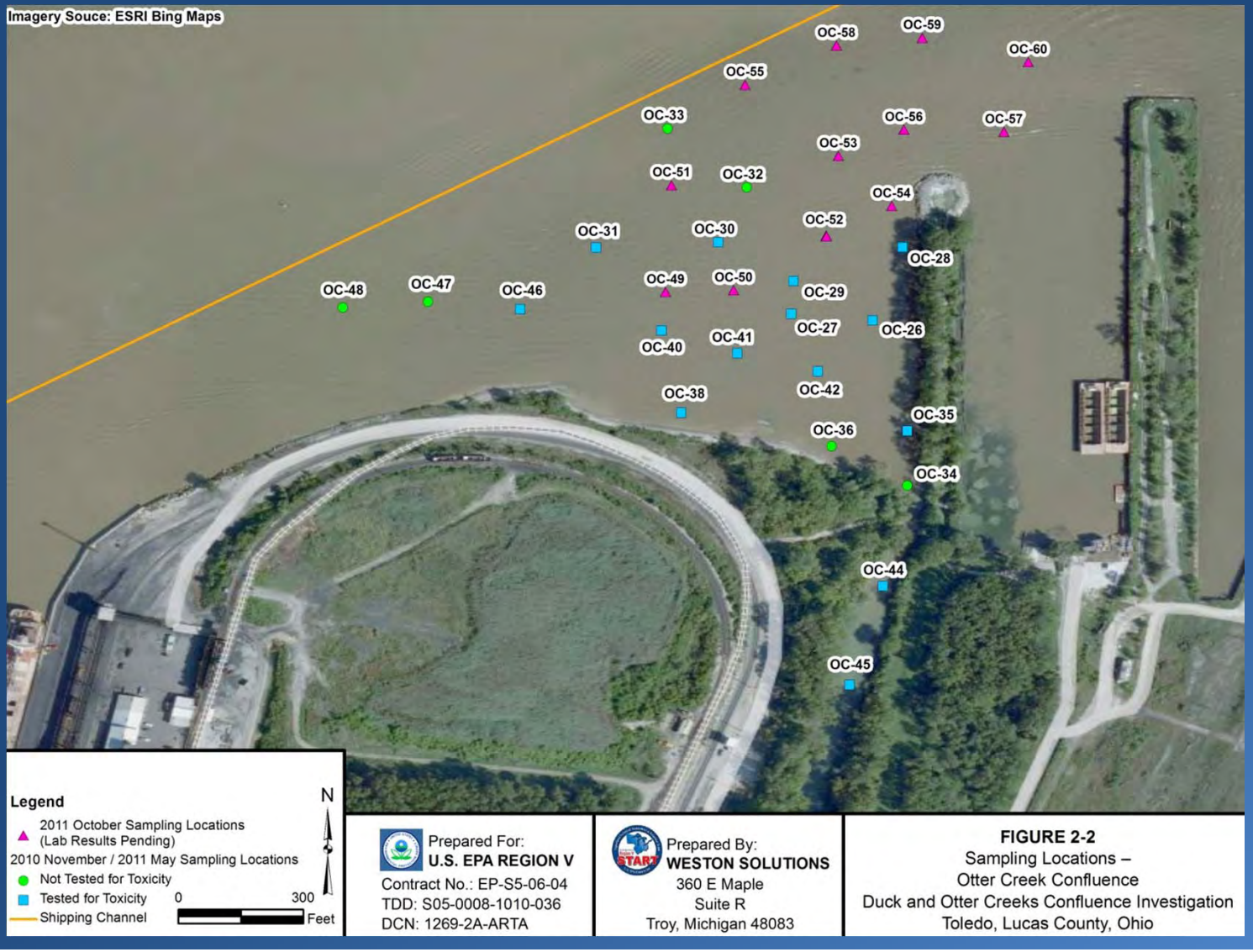
Duck Creek – Total Petroleum Hydrocarbons



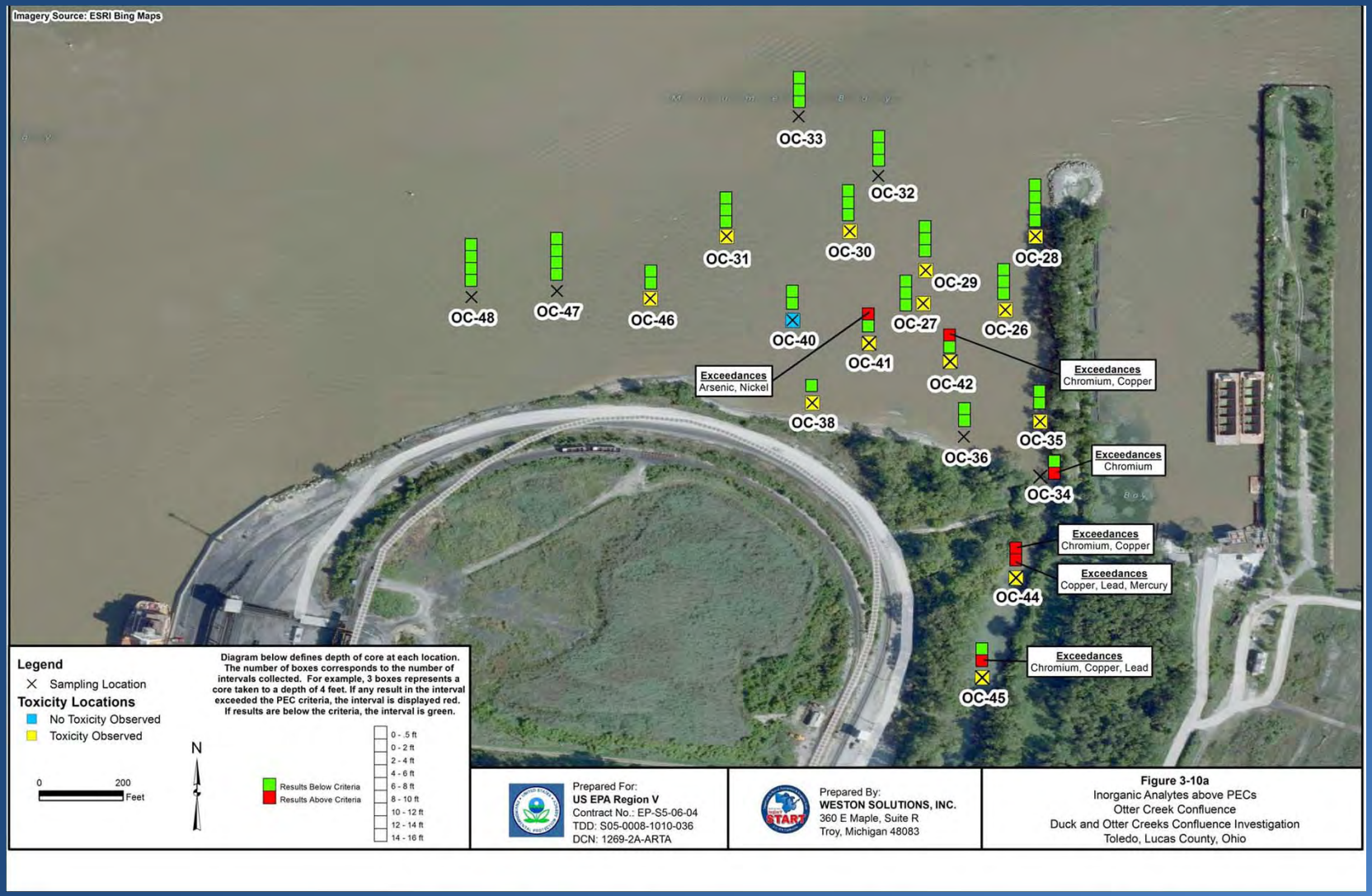
Duck Creek – PAH results



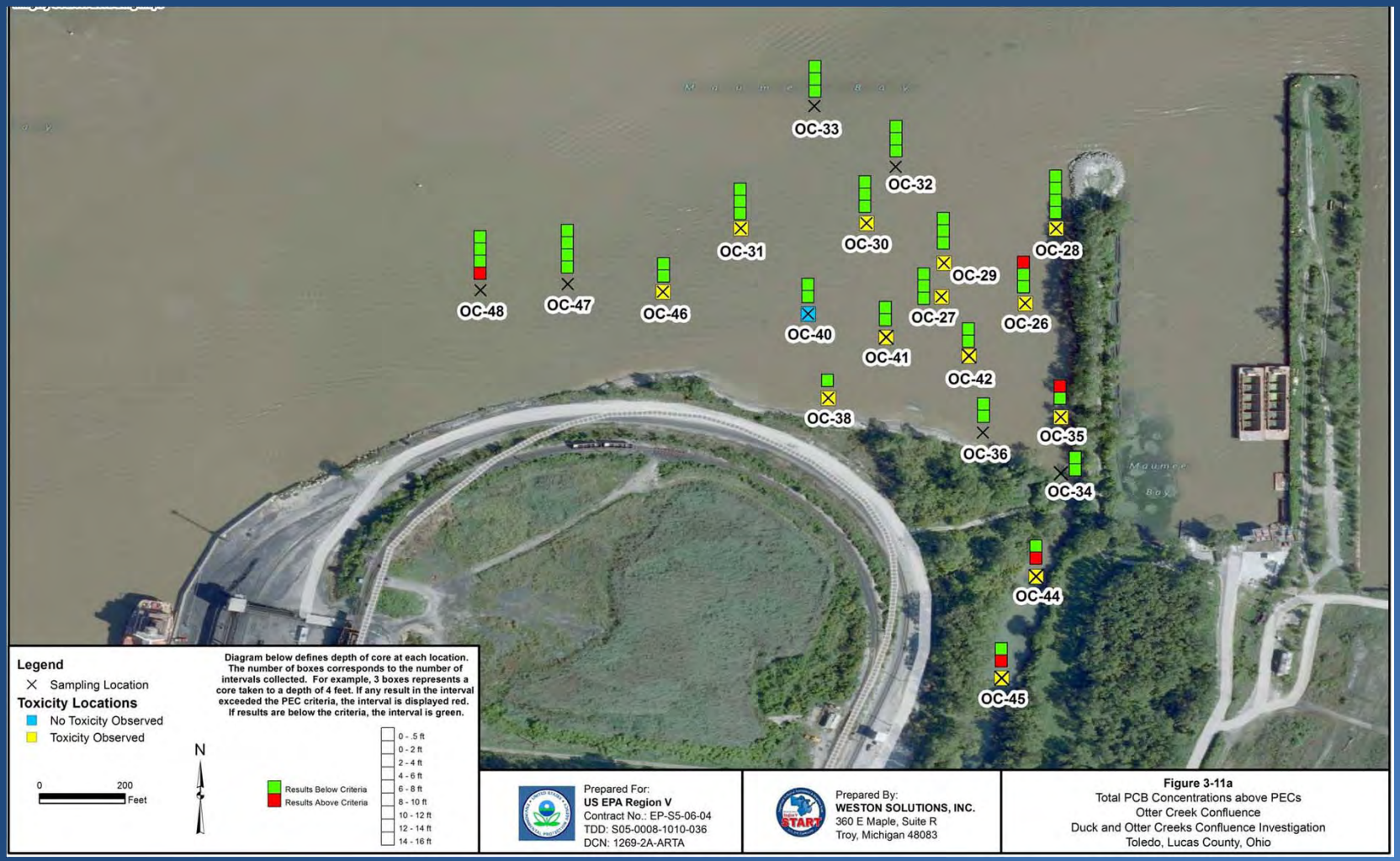
Otter Creek – sample locations



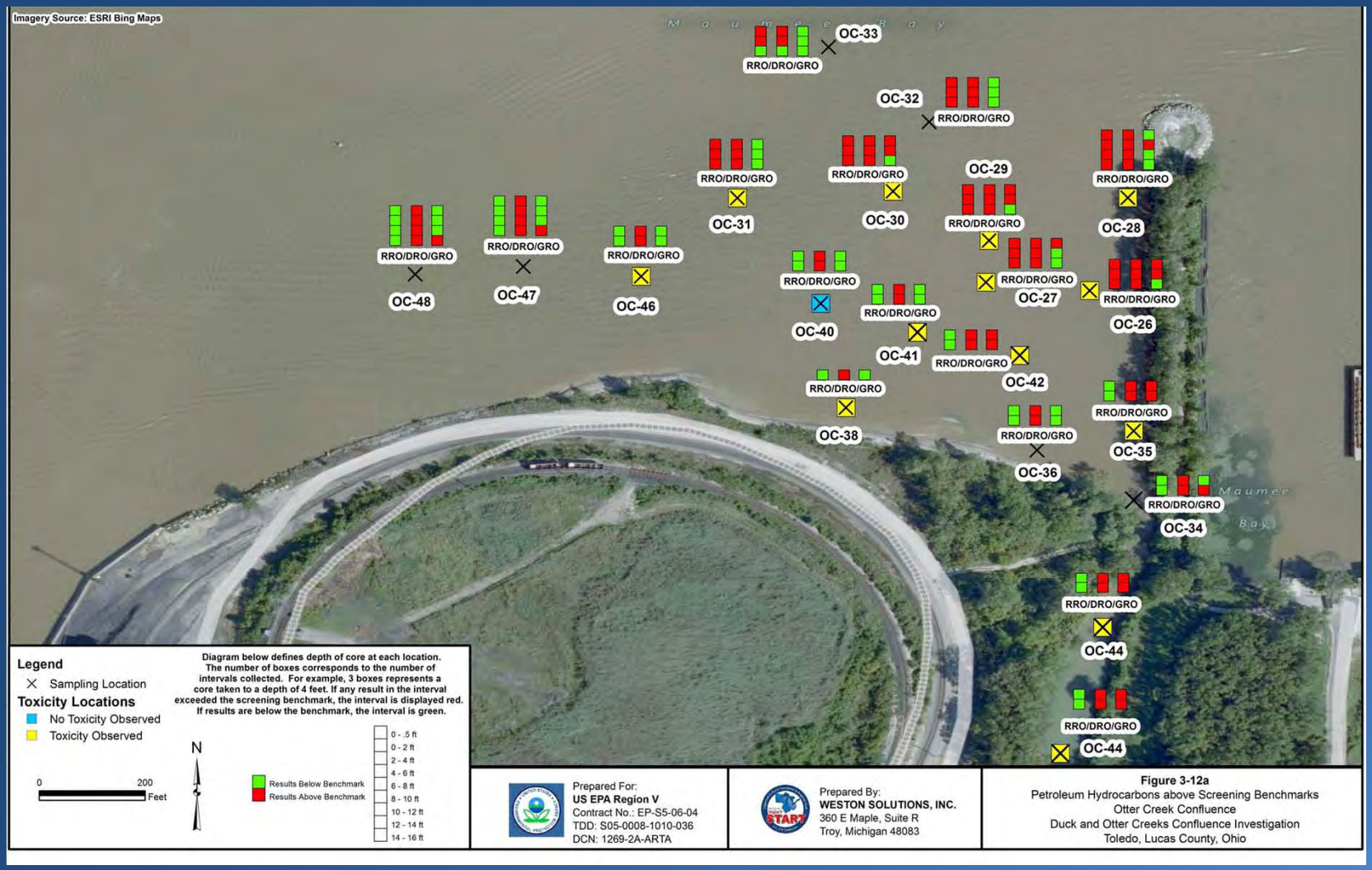
Otter Creek – metal results



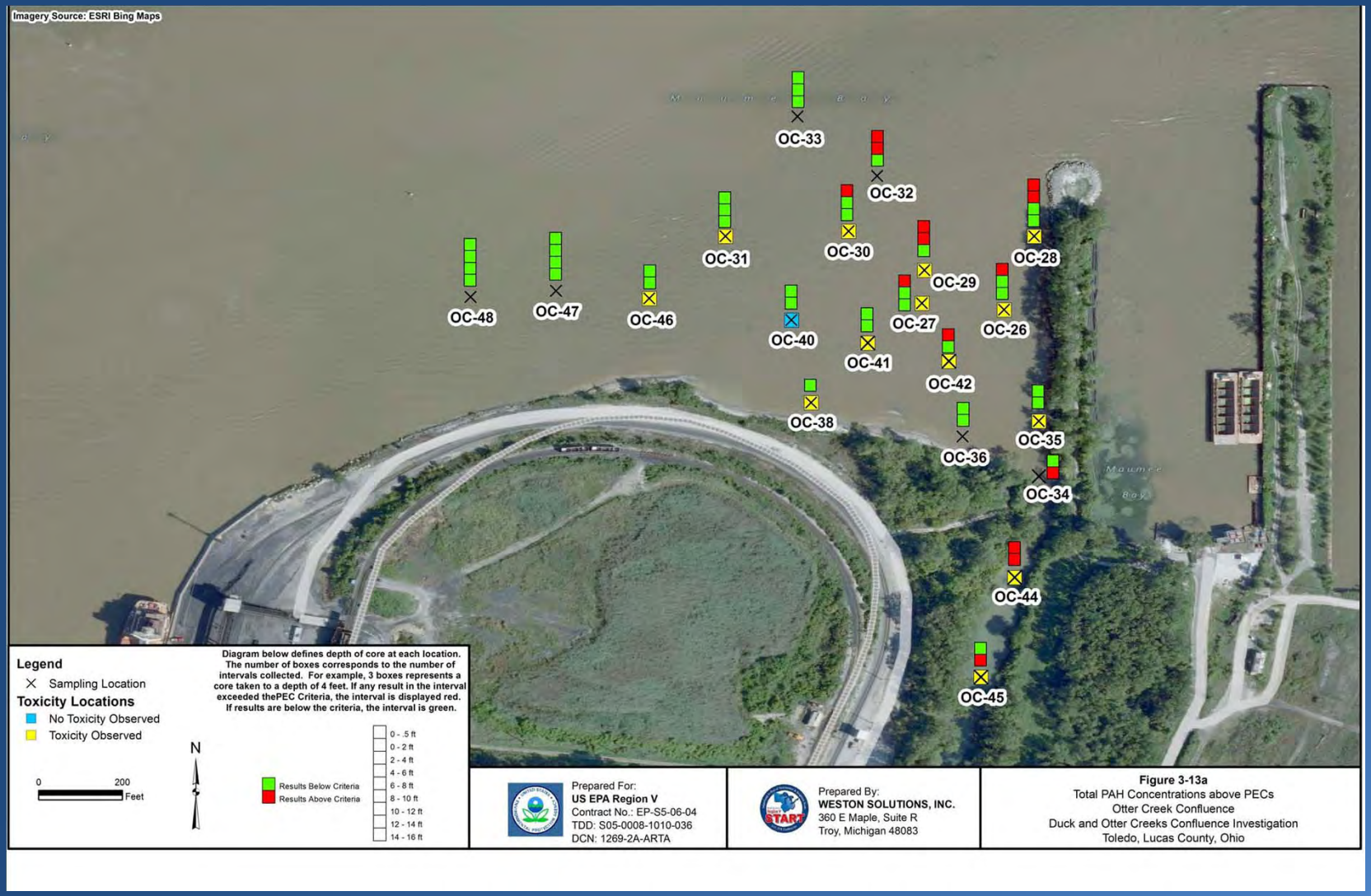
Otter Creek – PCB results



Otter Creek – petroleum detections



Otter Creek – PAH results



Next Steps

- Draft Report
- Share results and data with OEPA
- Final Report – Early 2012
- ???

Contact Information

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