

Ryerson Creek Outfall Great Lakes Legacy Act Project:

Feasibility Study technical discussion of alternatives and clean-up goals

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Agenda

Objective: Discuss Feasibility Study progress and next steps for Remedial Design and Remedial Action

- Project update
- Sampling efforts to-date
- Developing clean-up goals
- Determining project area
- Screening of remedial alternatives
- Cost
- Schedule

Feasibility Study Update

- EPA, EGLE (MDEQ), and TDY Industries signed a Great Lakes Legacy Act Project Agreement on February 11, 2019 to conduct an FS/RD.
- Project Team identified data gaps and has conducted sampling (April 2019), but awaiting results.
- A clean-up goal analysis has begun.
- Remedial Design will occur through summer.
- Remedial Action targeted for late 2020.

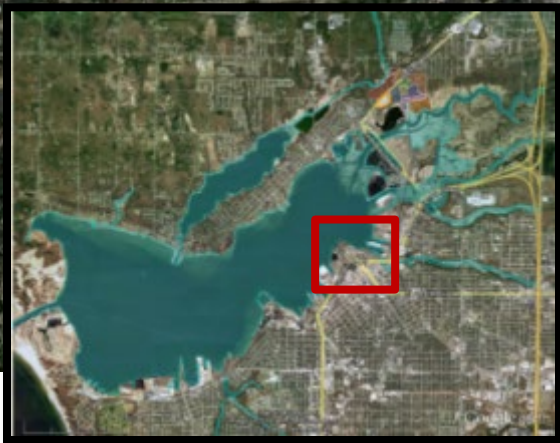
Chemicals of Concern

- Total Petroleum Hydrocarbons (TPH)
 - Diesel Range Organics (DRO)
 - Oil Range Organics (ORO)
- Oil and Grease
- Metals
 - As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Si, Zn
- Polycyclic Aromatic Hydrocarbons (PAHs)

Ryerson Creek Update

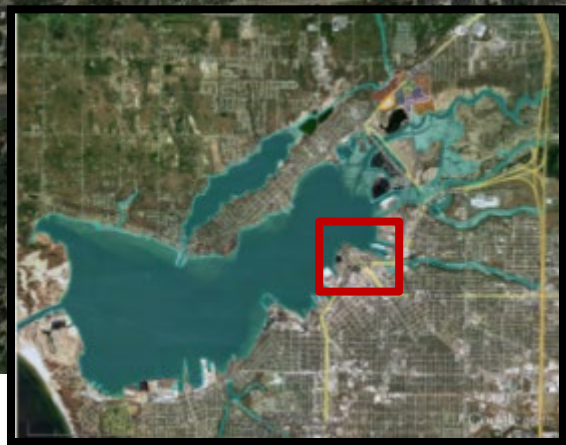
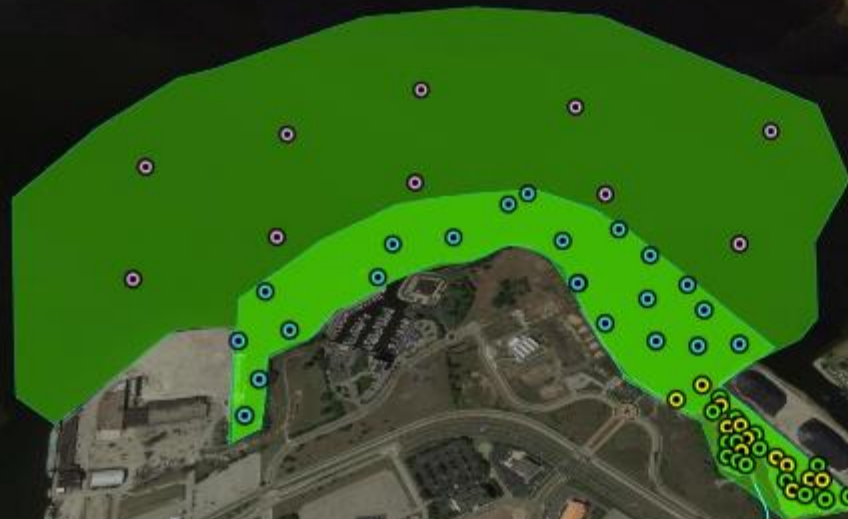
- 1994 - Site was identified as one of the priority orphan sites to be evaluated for sediment contamination.
- Sampling
 - 2005/2006
 - 2012
 - 2015
 - 2019
- Remediation of the Ryerson Creek Site is the last contaminated site to be addressed to delist the Area of Concern (AOC)

Ryerson Creek Outfall

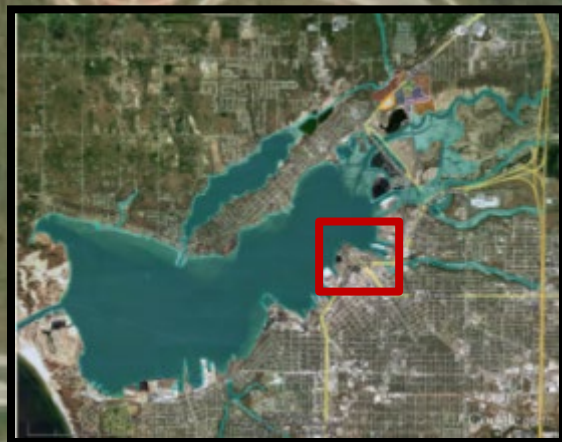


Previous Sample Locations

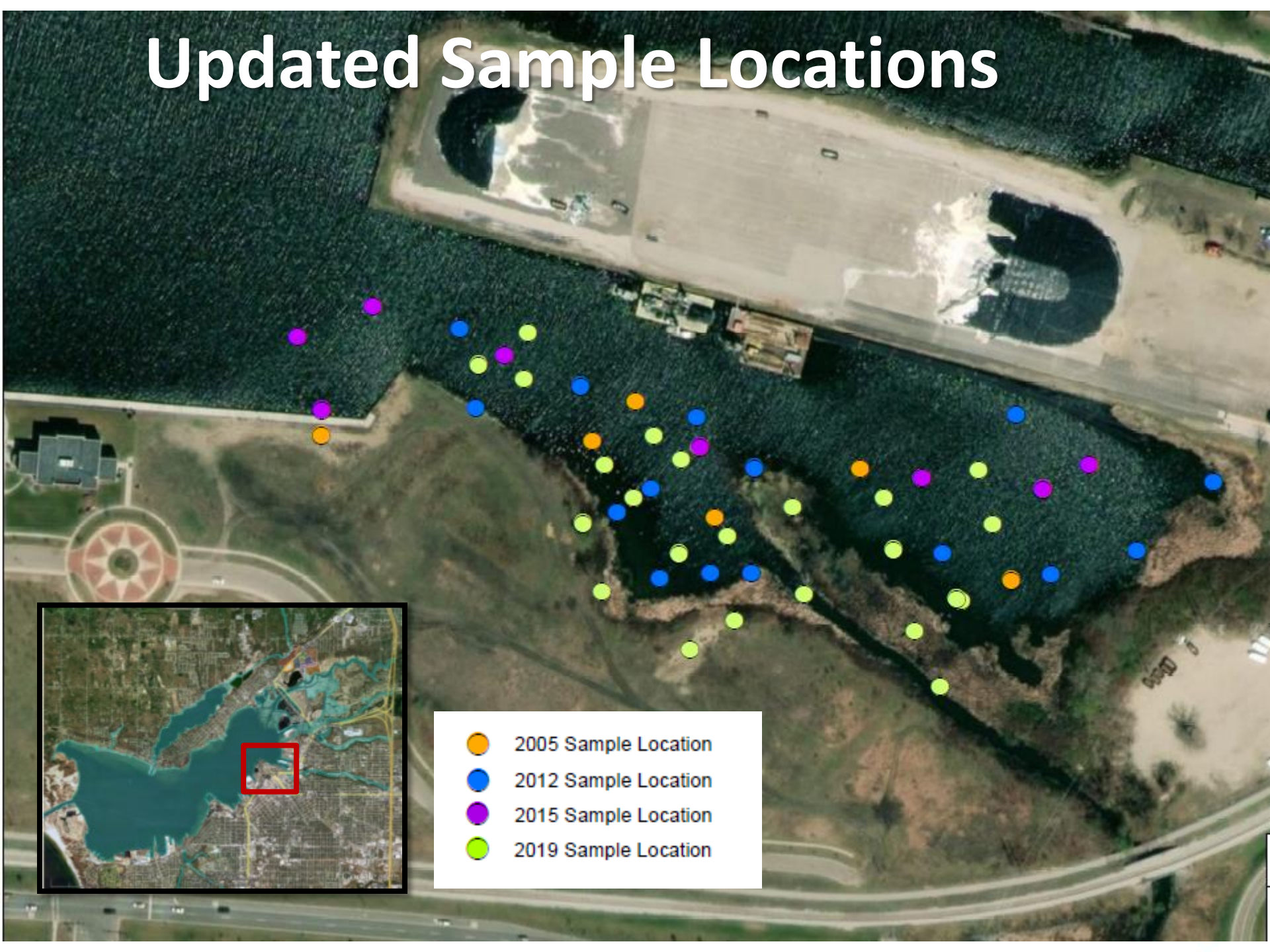
- 2005 - Creek
- 2012 - Zone 1
- 2012 - Zone 2
- 2012 - Zone 2 surface grabs



Updated Sample Locations



- 2005 Sample Location
- 2012 Sample Location
- 2015 Sample Location
- 2019 Sample Location



Sampling Results

- Petroleum Hydrocarbons (TPH): Diesel Range Organics (DRO), Oil Range Organics (ORO), and Oil and Grease (OG) are the most pervasive contaminants at exceedingly high-levels.
- Polycyclic Aromatic Hydrocarbons (PAHs) are present at high-levels but do not show up in all parts of the project area.
- Heavy metals (Pb, Cr, Cd, Hg) co-locate with the extent of TPH but do not show up in all parts of the project area.
- TPH and Oil and Grease are being used as the main COC for Clean-up Goal development.

Clean-Up Goals: Petroleum and Oil and Grease

Approach: Multiple lines of evidence

- Consider adjacent deep water data as a background for “non-impacted” sediment concentrations.
- Examine previous thresholds of other GLLA projects.
- Evaluate data using previously published methods to calculate probable toxic ranges.

Project Decision Areas

- The site was divided into surface (0-12") and sub-surface (>12") depths to describe contamination levels.
- The site was also divided into "units" which are our decision areas
- Boundaries (horizontal and vertical) for these decision areas will be refined based on the recent 2019 data.

Anticipated Remedial Action Areas



Screening Alternatives

- Technical Feasibility
- Implementability
- Long-term effectiveness in reducing risk to benthic communities
- Short-term impacts
- Long-term impacts
- Relative Cost
- Public Acceptance

Alternative Array

- No Action
- Shallow Removal + Cover
- Deep Removal + Cover
- Deep Removal + Shallow Removal + Cover
- Deep Removal + Cover

Cost

- Amended project agreement to include remedial action
- Total Cost ~\$5.5 M
 - Federal Match \$3.6 M
 - Non-Federal \$1.9 M
- Non-Federal Contributions
 - TDY Industries LLC. \$550k (consulting services)
 - MDEQ up to \$1 M (1:1 of other NFS contributions)
 - County Landfill and Wastewater Treatment Plant ~\$350k

Schedule

Phase	2019								2020								
	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Feasibility Study	Feasibility Study																
Remedial Design	Remedial Design																
		60%	80%	100%													
Project Agreement	App	Signed PA by 9/15															
Contracting						Solicitation			Contract Award								
Remedial Action											Remedial Action						



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