

Buffalo District Regional Sediment Management & Engineering With Nature Proving Ground Update

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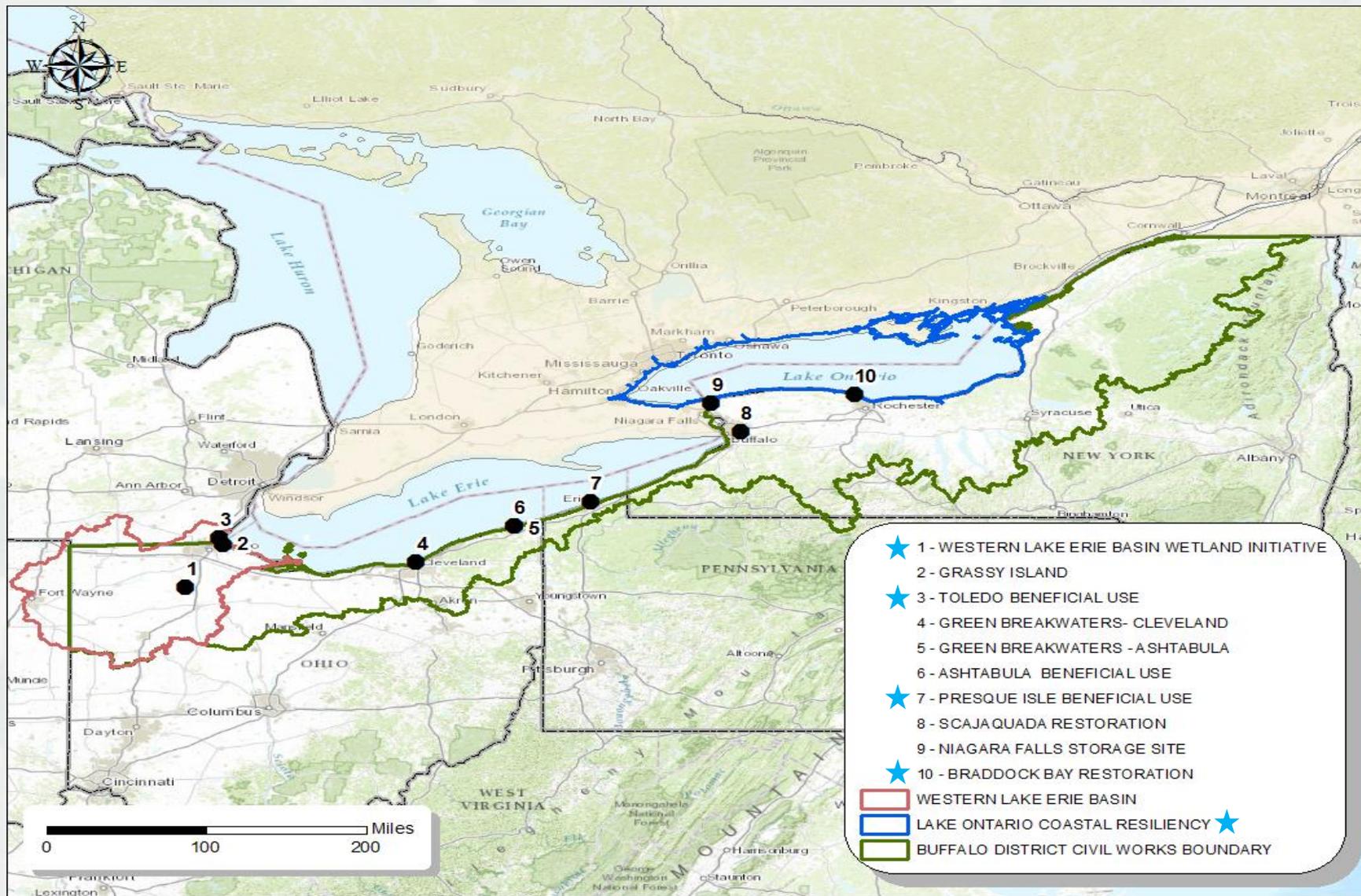
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Challenge Internal: Perception of conducting “studies” rather than using innovation to effectively evaluate and solve a problem

Challenge External: Perception of sediment characteristics as imperfect and therefore dismissed

Challenge Regional: Beneficial use projects are often unattainable across the Great Lakes (GL) due to partners inability to cost share

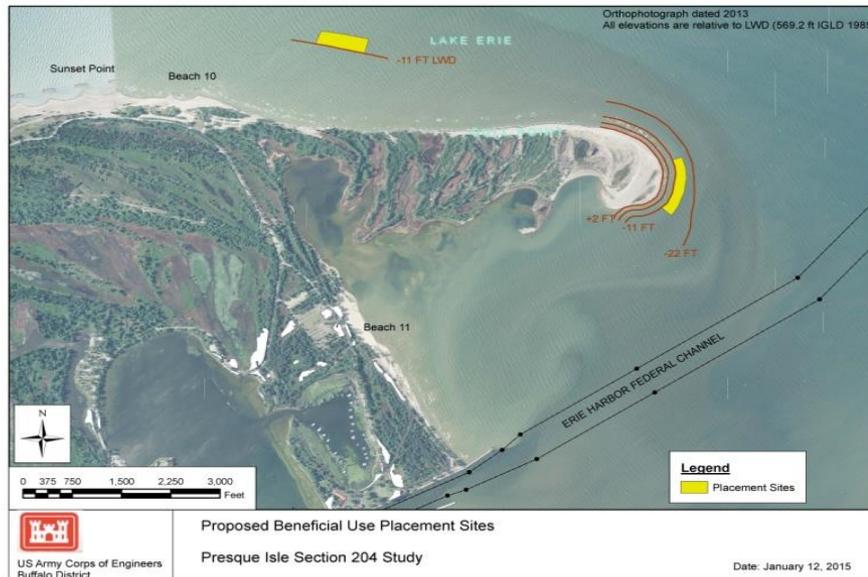
Sediment is a Resource

- Spoils Dredged Material Sediment
- Negative Neutral Positive
- Confined Disposed Placement

We are shifting the way we think and talk about sediment

How EWN is Changing the Conversation:

- LRB used the language of EWN & RSM to change a negative policy interpretation of “studies” to approval and accolades for an innovative project evaluation with potential cost saving measures
- Partners allowed unconventional methods to be evaluated thru a collaborative process
- The ability to share the outcomes of this effort across the GL could open the door to further cost saving innovation over time



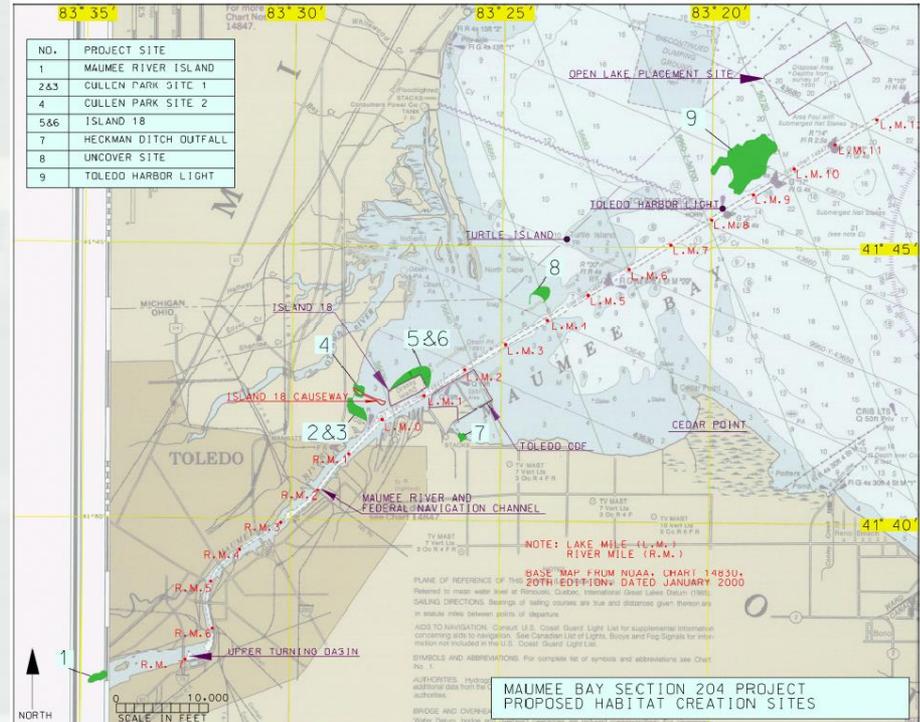
Challenge Internal: Perception that previous efforts are the only models to follow

Challenge External: Perception that USACE is too rigid and unable to offer integrated RSM solutions

Challenge Regional: Beneficial use projects are becoming critical as harbors become “cleaner” and as states reject open lake placement options

How EWN is Changing the Conversation:

- LRB now relies on lessons learned from EWN (Duluth) to brainstorm zero or low N-Fed cost beneficial use opportunities that peak imaginations
- Partners have expressed an appreciation for less rigid opportunities and the OHDCX is a breakthrough opportunity for placement
- Toledo Harbor is a high visibility GL harbor. It has incredible volumes dredged annually as well as several other high stakes variables surrounding efforts there. Success here is a success across the GL



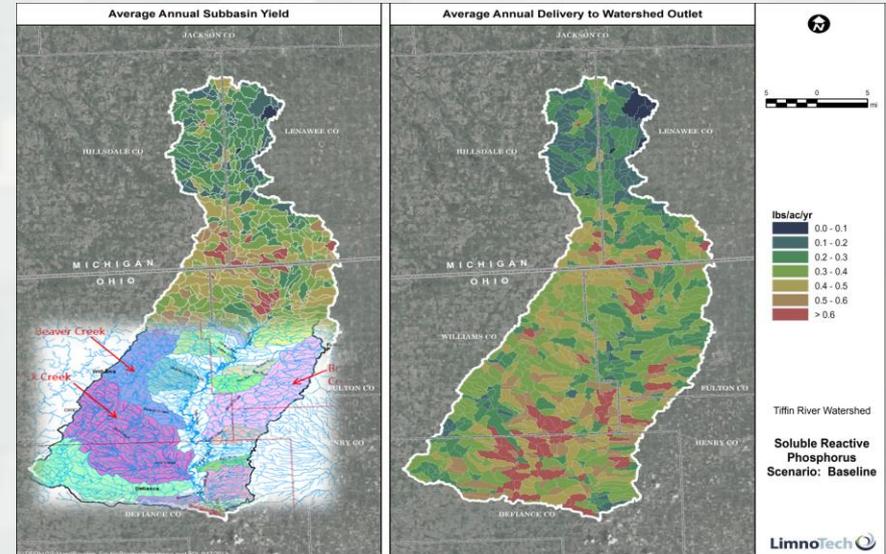
" We need to change the perception of dredged material from a spoil to a valuable resource." - BG Kaiser, Great Lakes and Ohio River Division Commander



Challenge Internal: Reluctance to recognize that an important strategy for reducing dredging costs is keeping sediment and related NPS pollution on the land

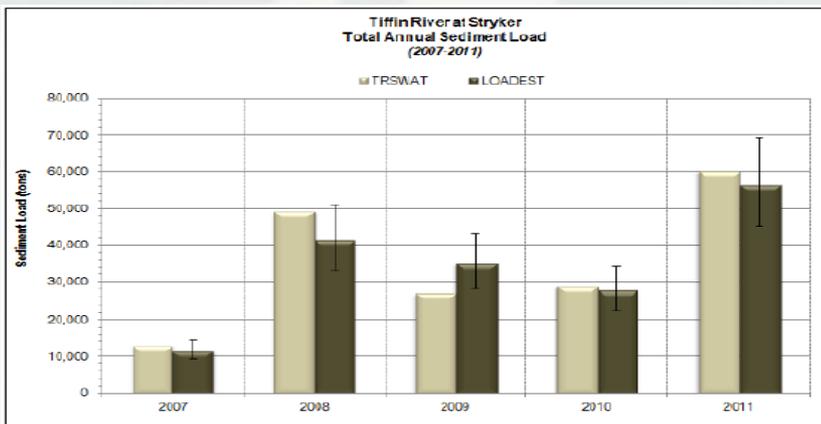
Challenge External: Perception that USACE is unable to recognize the full extent of benefits and partnerships related to watershed effects on RSM

Challenge Regional: USACE is not well recognized as a contributor to solutions for HABs and has difficulty in socializing the benefits of our constructed wetland partnering strategy for GL priority watersheds



How EWN is Changing the Conversation:

- LRB used the language of EWN combined with RSM & GLRI internally and externally to initiate collaborative technical assistance to Land Conservancy's, NGOs and traditional partners
- This is a high visibility priority and there is significant interest for future collaboration with ERDC across the GL



Braddock Bay Restoration (Biologists meet Engineers)

Challenge Internal: Perception that traditional engineering design uncertainty applies to ecologic function that thirsts for dynamic events and thrives on a range of coastal outcomes

Challenge External: Perception that any coastal structure is bad for ecological systems and RSM

Challenge Regional: Misperceptions about eco-values could impact our ability to realize the full potential for ecological services related to future coastal restoration including beneficial use projects across the GL

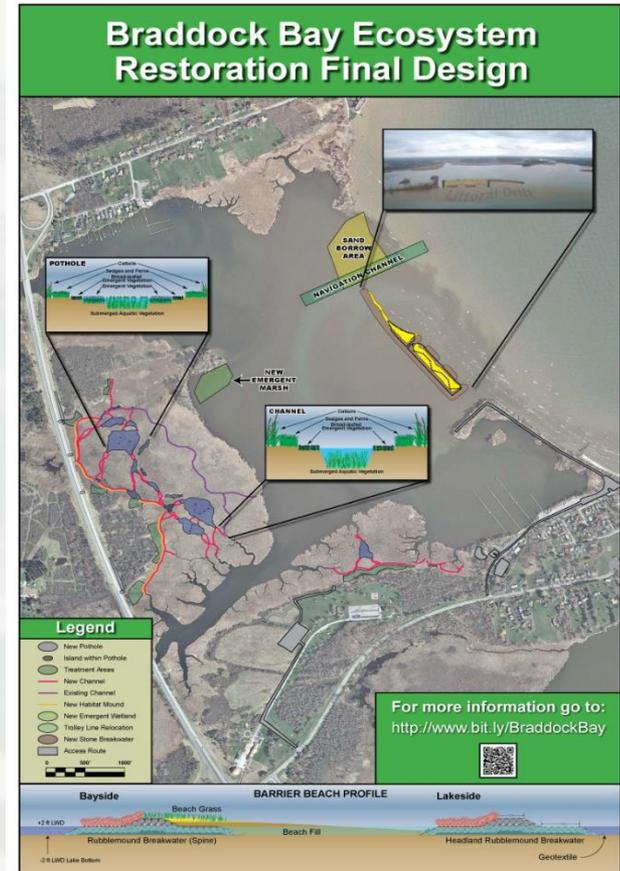
How EWN is Changing the Conversation:

- LRB used the language of EWN combined with RSM & GLRI internally and externally to overcome institutional thinking
- The Natural & Nature Based Features (NNBF) concept and this application of NNBF are being socialized across all five GL Nearshore Action Plans to make room for stakeholder choice and additional benefits related to future funding scenarios



“This \$9.5 million investment will not only bring the Bay back to its former glory; it will restore boating access, create wildlife habitats and bring opportunities that make this a tourism and recreational magnet.”

– Sen. Charles Schumer



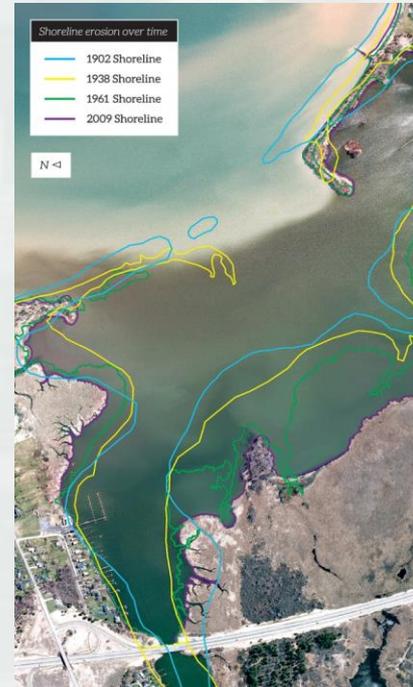
Challenge Internal: USACE ability to integrate a vision for GL specific multi purpose coastal resiliency opportunities for Lake Ontario

Challenge External: Current institutional leads focus on the Natural (N) in NNBF but do not acknowledge or recommend Nature Based Features (NBF)

Challenge Regional: The other four GL Nearshore Action Plans also currently suffer from the same lack of vision and provide no choice for States to evaluate multipurpose /multi benefit EWN RSM solutions

How EWN is Changing the Conversation:

- LRB used the language of EWN combined with RSM & GLRI internally and externally to receive GLRI funding for technical support and will lean forward on a potential future GI study
- This is also a high visibility priority where there is significant interest for future collaboration with ERDC across the GL
- A critical kickoff meeting will be held in Rochester New York on Nov 5th. Success here can translate to the other four lakes



EJC PRAISES GOV. AS CHIEF FOR INNOVATIVE NEW BUILDING STRATEGY FOR TOLEDO HARBOR

Buffalo District: A proving ground for Engineering with Nature

By Andrew Karnicki
U.S. Army Corps of Engineers
Buffalo District

Buffalo District has been named one of the Army Corps of Engineers' top 100 proving grounds for the U.S. Army Corps of Engineers' Engineering with Nature (EWN) program.

Buffalo is the international center of research and engineering innovation in natural and engineered systems. Through collaborative processes, EWN is based on the following four fundamental tenets:

1. Use natural processes to maximize benefits, thereby reducing dependence on limited resources, minimizing the environmental footprint of projects and enhancing the quality of project benefits.
2. Use science and engineering to produce additional ecological benefits and enhance the quality of project benefits.
3. Educate and extend the use of benefits provided by projects to include substantial economic, social and environmental benefits.
4. Use science-based collaborative processes to explore and test ideas, stakeholders and partners to reduce social, economic, and project risks while producing more broadly acceptable projects.

The EWN team conducted a successful proving ground implementation working with Buffalo District's Buffalo River Project and the Environmental Laboratory and Coastal and Hydraulics Laboratory of the Engineer Research and Development Center (ERDC) located in Vicksburg, Miss. with the Galveston District. The Buffalo District has been named as an EWN Proving Ground for demonstrating implementation of the EWN concepts and practices.

"Our association with the EWN program affords an excellent opportunity to exercise our regional leadership while demonstrating our commitment to USACE Environmental Operating Principles," said LTC Karl Jensen, Buffalo District commander. "Stakeholder partnership and collaboration builds trust with the public we serve and balancing human development with natural systems will preserve the Great Lakes Navigation System's infrastructure and environment for future generations."

LTC Karl Jensen
Buffalo District Commander



Options are currently being analyzed from the local municipalities to be in the spring of 2012 and 2014. Each municipality are that some differences among the local types are evident with the ground being and located about 100 feet from the shoreline, the greatest abundance of open (shallow) water and a very sandy shoreline (Cleveland Harbor, etc.) compared to them when compared to the proposed or unmodified bays.

Stacy F. Ferrara, Buffalo District commander, said the project is a "win-win" for the region and the nation. "The project is a great example of how we can work together to solve a problem and create a better future for all."

EWN Guiding Principles

- As a leading practice, EWN is:
- Holistic – an ecosystem approach for planning, designing, constructing and operating projects where social, economic and environmental factors are equally weighted in the decision-making process.
 - Sustainable – focused on the long term sustainability and resilience of project solutions and the benefits streams provided by the system over time.
 - Science-based – built on first understanding, then working deliberately with natural forces and processes to accomplish engineering goals.
 - Collaborative – based on effective partner and stakeholder communication, engagement and collaboration through the entire life cycle of a project, beginning at the earliest conceptual stages.
 - Efficient and cost effective – reducing time and costs, while maximizing social function.
 - Socially responsive – aligned with the values, objectives, interests and priorities of USACE, partners, stakeholders and society at large.
 - Innovative – embracing new and emerging technologies and incorporating continuous learning, technology transfer and adoption of new and leading practices.
- "Our association with the EWN program affords an excellent opportunity to exercise our regional leadership while demonstrating our commitment to USACE Environmental Operating Principles. Stakeholder partnership and collaboration builds trust with the public we serve and balancing human development with natural systems will preserve the Great Lakes Navigation System's infrastructure and environment for future generations."
- LTC Karl Jensen
Buffalo District Commander

Moving Toward Sustainable Practices

Triple-win outcomes can be achieved through EWN by systematically integrating social, environmental and economic considerations into decision making and actions at every phase of a project. The result will be innovative and resilient solutions that are more socially acceptable, visible and equitable and ultimately more sustainable.



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opportunities due to the freshwater nature of the harbor.

The Cleveland Harbor Breakwater project is a multi-phased project that is currently in the design phase. The project is a great example of how we can work together to solve a problem and create a better future for all.

US Army Corps of Engineers
Buffalo District



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS
Buffalo District

For Immediate Release:
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Corps of Engineers awards contract for Presque Isle Bay

Buffalo, NY – The U.S. Army Corps of Engineers (USACE) Buffalo District awarded a contract for \$47.5 million to US Corporation and Baid Inc. to conduct a beneficial use of dredged material braced study at Presque Isle Bay, Erie, Pennsylvania.

The USACE contract for the project is a demonstration project that will evaluate the feasibility of using dredged material to create artificial islands in the bay. The project is a great example of how we can work together to solve a problem and create a better future for all.

US Army Corps of Engineers
Buffalo District

