

EWN Guiding Principles

As a leading practice, EWN is:

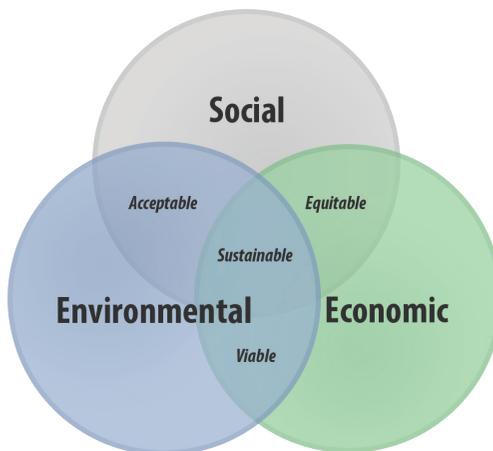
- **Holistic** – an ecosystem approach for planning, designing, constructing and operating projects where social, economic and environmental factors are equitably weighed in the decision-making process.
- **Sustainable** – focused on the long-term sustainability and resilience of project solutions and 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 rework, while minimizing social friction.
- **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 partnering 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 Jansen
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, viable and equitable and ultimately, more sustainable.



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US Army Corps
of Engineers®

Buffalo District

EWN



BUILDING STRONG®

Engineering With Nature (EWN) Opportunities

Three ongoing examples from the wider Buffalo District's EWN portfolio are described below. To learn more about EWN please view our website at www.engineeringwithnature.org. If you have ideas for an EWN project or for potential EWN partnership opportunities, please contact us at EWN-Buffalo@usace.army.mil.

Braddock Bay, NY Ecosystem Restoration

Funding: Great Lakes Restoration Initiative

At Braddock Bay an augmented stone breakwater adds features for the restoration of a barrier beach. The goal of this project is to reduce erosion behind the breakwater where additional restoration measures will increase habitat diversity, extent of emergent wetlands, and ultimately increase the system's suitability for wildlife.

The restored barrier beach will help return Braddock Bay to a low energy system; as a result reductions in wetland erosion will be accompanied by natural expansion of submerged aquatic vegetation.



The Elements of EWN

- Use science and engineering to produce operational efficiencies supporting sustainable delivery of project benefits.
- Use natural processes to maximum benefit, thereby reducing demands on limited resources, minimizing the environmental footprint of projects, and enhancing the quality of project benefits.
- Broaden and extend the base of benefits provided by projects to include substantiated economic, social, and environmental benefits.
- Use science-based collaborative processes to organize and focus interests, stakeholders, and partners to reduce social friction, resistance, and project delays while producing more broadly acceptable projects.



Cleveland Harbor, OH Green Breakwater

Funding: Operation and Maintenance, and Great Lakes Restoration Initiative

The Cleveland Harbor Breakwater demonstration project involved modifying the design of the standard concrete toe blocks used for breakwater maintenance. The goal was to provide features that could create habitat opportunities for Great Lakes fish and invertebrates that would not otherwise be present.

Successful implementation of the project has already led to additional projects on Great Lakes breakwaters. These have considerable potential to be replicated at other federal and non-federal breakwaters.

Presque Isle Bay, PA Beneficial Use of Dredged Material

Funding: Energy and Water

This demonstration project involves the placement of Erie Harbor sediment at locations near the end of Presque Isle. The goal of the project is to contribute to the growth and maintenance of Gull Point, a habitat critical to breeding populations of piping plover and other species.

The project will monitor, analyze, and evaluate the fate and transport of sand and silty clay fractions based on results of a tracer study to be performed as part of Erie Harbor dredging in 2015.

