

## Scott Run Stream Stabilization Project

RedHorse Environmental partnered with Dave Derrick at River Research and Design and Dave Hails at Ecological Restoration Inc. to design a stream stabilization project on Scott Run in Erie County. Scott Run is a heavily impacted urban stream with most of its former drainage channel in underground culverts. Stormwater emerges from an outlet about  $\frac{3}{4}$  of a mile from Presque Isle Bay. The channel is highly unstable due to the hydrology associated with stormwater discharges. Those highly variable discharges result in poor instream habitat, channel-bed down cutting, and failing banks. Bank failures are contributing large amounts of sediment to Presque Isle Bay.

RedHorse Environmental and River Research and Design conducted an extensive assessment of Scott Run and developed a stabilization design plan that includes nine engineered rock riffles to eliminate down cutting and lateral erosion. RedHorse Environmental secured a Chapter 105 Environmental Assessment and Restoration Waiver from PADEP to allow construction. Ecological Restoration Inc. completed detailed budget documents to guide grant development for funding applications. Penn Soil RC&D is leading grant development and submission.



**Scott Run Culvert Outlet**



**Channel Degradation from Urban Stormwater Flows**



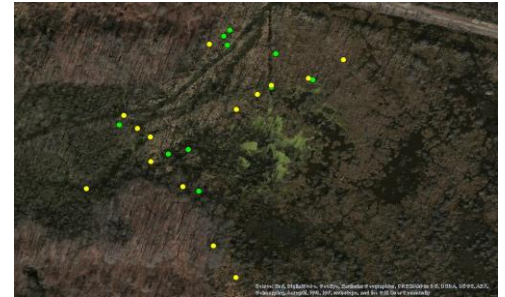
**Large Bank Failure**

## Wetland Compensation: Enhancement By Means Of *Phragmites* Control

RedHorse Environmental conducted an environmental site assessment to facilitate the replacement of a defective section of a liquid fuels pipeline along a right-of-way near Braceville, Trumbull County, Ohio. Located within a NWI mapped wetland along an abandoned rail line, an extensive site evaluation including a wetland delineation per U.S. Army Corps of Engineers protocols and an Ohio EPA ORAM Assessment of the approximate 200 acre wetland was completed. The wetland was a Category 3 (ORAM score of 91). The site was also screened for the presence of sensitive species.

The USACE Pittsburgh District issued a Nationwide Permit for the site following a public hearing by OEPA. As part of the permit a *Phragmites* control program as compensation was developed to maintain the integrity of this exceptional wetland. RedHorse secured all permits, managed all construction work, and is implementing the compensation and long-term monitoring program.

*Phragmites* stands were initially treated in the fall of 2011 with Habitat herbicide. Effectiveness was evaluated in spring 2012 with control exceeding 95%. Successive yearly herbicide applications have nearly eliminated *Phragmites* from the majority of the wetland complex. Transport of vegetative materials down Eagle Creek has enabled new, albeit very low-density stands, to become established. The long-term prognosis is that when enhancement requirements are met in 2016 *Phragmites* may eventually become reestablished in this high quality wetland.



Locations of treated *Phragmites* stands within 200 acre wetland



Recolonization of revisly treated *Phragmites* stand by *Peltandra virginica*



*Phragmites* stand treated Fall 2014

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