

Invasive Vegetation Control

Walnut Beach, Ashtabula, Ohio



Walnut Beach consists of approximately 43 acres of wetland habitat along Lake Erie. Managed by the U.S. Army Corps of Engineers (USACE), the site features a unique sand dune system along a migratory bird pathway. This ecologically-unique habitat is home to rare beach plants such as *Ammophila breviligulata* (American beach grass) and *Lathyrus japonicus* (inland beach pea).

Davey Resource Group, Inc. (DRG) was retained by Ecology and Environment Engineering, P.C. to implement a five-year, two-phase demonstration project funded by USACE. This project included three herbicide treatments each year to different sections of the site; mowing and removal of biomass created by treatments; and native plantings throughout the site starting in the third year of the project.

Davey Resource Group biologists treated over 43 acres of invasive vegetation—including *Artemisia vulgaris* (common mugwort) and *Phragmites australis* (common reed)—to restore valuable Lake Erie shoreline habitat.

During the first phase, DRG biologists treated invasive vegetation across the entire site, dividing it into three treatment units; glyphosate, imazamox, or a combination of both. While all non-native, invasive vegetation was treated, species that were specifically targeted as part of the demonstration include *Alnus glutinosa* (European alder), *Artemisia vulgaris* (common mugwort), and *Phragmites australis* (common reed). Other species treated include *Lythrum salicaria* (purple loosestrife), *Melilotus spp.* (sweet clover), *Phalaris arundinacea* (reed canary grass), *Typha spp.* (cattail), and *Cirsium arvense* (Canada thistle).



The second phase of the project is ongoing and includes installation of the native plant materials over three years. The plant materials include five native seed mixes totaling 1,220 pounds, 3,920 containerized trees and shrubs, 11,200 herbaceous plugs, 7,000 bare-root/live stakes, and 75 facines.

Specific species and quantities are designated for each of the five different habitat zones, and are installed during the spring and the fall seasons each year. All plant materials are installed by hand according to a designated planting plan. Davey will also install several deer exclosures around major planting areas to prevent browse.



The goal of this ongoing project is twofold: to restore native shoreline habitat by eradicating invasive plant species from Walnut Beach using both mechanical and chemical treatment methods; and to use the site as a demonstration area to study the effectiveness of different control methods, including various herbicide formulations.

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| Client Name | Contact Name | Contact Phone Number | Contract Value (Initial) | Schedule (Initial) | Schedule (Final) |
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| Ecology and Environment, Inc. | Kris Erickson | 716-848-8060 ext. 2533 | \$348,346.44 | 5/30/2016 | 12/31/2019 |