



United States
Department of
Agriculture

Natural Resources
Conservation Service

Massachusetts

CONSERVATION *Showcase*

Jump Starting Succession

NRCS helps Friends of Wissatinnewag restore native grasses at burial site, Greenfield

A 70 foot gravel embankment at a Native American burial site in Greenfield, Massachusetts, will soon be carpeted in native grasses if the recent efforts of USDA Natural Resources Conservation Service staff and local volunteers are successful.

At one time the land was a sand and gravel operation. In 2001, Friends of Wissatinnewag purchased the land, the last undeveloped quadrant of the ancient Native

American village and burial grounds that originally surrounded the great falls on the Connecticut River.

The “Friends” now tend traditional Native American gardens on the site, which is listed

on both the state and federal registers of historic places, and is believed to have been continually inhabited for as long as 10,000 years, making it one of the oldest settlements in the region.

In May 2001, the “Friends” contacted the NRCS office in Greenfield for technical assistance in restoring vegetation to



Seeding the slope at the Friends of Wissatinnewag site

prevent the embankment from eroding and exposing graves.

Revegetating the slope has proved challenging. After a 2005 trial hydro-seeding didn’t produce the expected results, NRCS staff consulted with Chris Miller, Plant Materials Specialist at the agency’s Plant Materials Center (PMC) in Cape May, New Jersey, who came up with several new alternatives to try.

He shipped six types of native grass seed from the Cape May PMC and the Big Flats PMC in Corning, New York, to Massachusetts. Then Miller traveled north to oversee the seeding and planting effort in person, bringing with him 1,200 plugs of a variety of American beach grass developed at the Cape May PMC and also available at the Big Flats PMC.



A traditional Native American garden at the site

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Chris Miller prepares American beach grass plugs

A dozen volunteers and staff using hand seeders distributed a seed mixture of Fireball Red Top, Tioga Deer Tongue, New England Indian Grass, Niagara Big Blue Stem, New England Little Blue Stem and Brooklyn Switch Grass. After raking in the seed, a portion of the slope was covered with erosion control blanket as mulch; the rest remained uncovered.



In addition to the warm season grass seed, the American beach grass plugs were planted, two stems to a hole, in one section of the slope where the sand was coarser and more devoid of vegetation.

“Although American beach grass is native to the coastal sand dunes of the mid-Atlantic and southern New England coastline, we’ve used it successfully at inland sites to jump start succession,” explained Miller. “The beach grass grows well in droughty, hot, sterile environments and it creates sort of a microclimate for other native grasses and plant species to become established.”



According to Miller, the beach grass is a temporary measure that will help the native grass seed take root by catching organic debris and providing shade. “We didn’t intend for the beach grass to live long term. In time it will probably die out because it’s not receiving accumulating sand like it does on a sand dune,” said Miller.

Beach grass has also been used successfully at former strip mine sites in West Virginia and Pennsylvania.



Several different seeding methods were tested on the slope

“We’re very excited to see how the three different techniques used perform over time,” said Monique Fordham, President, Friends of Wissatinnewag, Inc. “We greatly appreciate the NRCS staff’s resourcefulness and dedication to this very important project, and we look forward to celebrating great results that will stabilize the bank, provide increased wildlife habitat, and protect the burials in the upper terrace from erosion.”

Rita Thibodeau, District Conservationist for Franklin County, and her staff will monitor the site to determine which of the methods worked best: the hydro-seeding, seed with mulch, seed without mulch or the beach grass and seed combination. Though some vegetation is expected this summer, if successful, the grasses won’t be fully established for several years. ☪