

NJDEP Priority Restoration Site Information

The New Jersey Department of Environmental Protection's (NJDEP's) list of priority sites with associated information is identified below. The projects described below are a subset of a larger list of available restoration projects found within the State of New Jersey. Should additional restoration projects be needed to offset natural resources injured by the Athos oil spill, or should some of the projects identified below be found to be infeasible, additional projects from the larger list should be added to the compilation of priority projects.

A. Reapaupo Creek Restoration Project

1. Project Description

Reapaupo Creek is located in Logan and Greenwich townships and is currently obstructed from tidal flow by a levee and floodgate system. The once tidal wetland and open water system now consists of a mix of forested and emergent marsh that is partly dominated by phragmites. The levee and floodgates currently offer some flood protection but are in degraded condition and are in need of repair that will cost millions of dollars to implement.

As an alternative to repairing the levee and floodgates, the levee and these structures could be removed, returning tidal flow to the creek and approximately 400 acres of adjacent wetlands. Water control structures would be needed at Route 44 to protect the residents of Gibbstown and it is likely that some berms would need to be constructed to protect structures outside of the restoration area but lie West of Route 44. Public access improvements should also be included in the design, which would allow both recreational and emergency watercraft access to the river.

Some potential obstacles associated with this project would likely center around approximately 12 residences that currently exist in the area. These houses would need to be removed before the tide could be restored to the restoration area. These properties would need to be purchased and this process may be lengthy and expensive. The project may provide more restoration than what is needed to offset Athos related ecological injury. It should be noted that this project is in the early planning stages and the time it will take to adequately plan and construct the project may not fit with the desired time schedule for implementation of Athos restoration projects.

In addition to the ecological benefits described below, this project would also result in an increased level of flood protection for residents behind Route 44, monetary savings from not having to provide city water to the 12 houses (new State requirement), maintenance costs for the existing levee and floodgates would be eliminated, decreased emergency response time to the Delaware River in case of an emergency. This project would have a clear nexus to the injury since many of the services lost from the spill would be restored. It is also located in proximity to the spill area.

2. Ecological Benefit

The levee and floodgate system has degraded the quality of the natural wetland /open water system by stopping tidal flow, altering the natural hydrology, obstructing fish passage and allowing phragmites establishment. By restoring the hydraulic connection between Reapaupo Creek, wetlands and Delaware River, all three components of the system would benefit. The Ecological resources benefited would include but not be limited to water quality, juvenile fish, migratory fish, migratory waterfowl habitat, raptor foraging, etc. Wild rice and other native freshwater emergent plants could replace the phragmites portion of the existing wetland.

3. Costs

There will need to be additional study and project design before any cost approximation could be constructed. The US Army Corps of Engineers is hoping to have an aerial survey implemented at this site in the near future. This survey will be the first step in determining what needs to be considered in project design and will help determine the scope of necessary design components.

Repaupo Restoration Aerial photo



B. Mad Horse Creek Wetland Enhancement and Restoration

1. Project Description

The former Quashne property is located along in Lower Alloway Creek Township in Salem County New Jersey and was acquired by the New Jersey Department of Environmental Protection for the sum of \$115,500 in 1997. The 182 acre property contains salt marshes, transitional wetlands (Phragmites dominant), agricultural lands and associated buildings. The acquisition provides public access to the Hope Creek and Alloway Creek salt marsh complexes.

The former Quashne property is now part of the Mad Horse Creek Wildlife Management Area. Past agricultural practices on this property included altering and filling the brackish marsh fringe. These alterations have resulted in a phragmites invasion of the wetland.

The NJDEP's Office of Natural Resource Restoration (ONRR) and the NOAA Restoration Center are now in the design phase of a tidal and freshwater wetland restoration project. The site location near the Delaware Bay, within tidal waters, will allow for the construction of *Spartina alterniflora* habitat at the appropriate elevations. NJDEP's ONRR staff and the NOAA Restoration Center staff have begun working on a conceptual plan to ensure that wetland restoration will be incorporated into future development of the park. A contract for an aerial topographic flight was completed as part of current design phase - to determine the current elevations on the site, and provide a base map for future restoration planning. Currently a design contract is being finalized with the Louis Berger Group through the NJDEP (August 2006).

2. Ecological Benefit

Approximately 40 acres of salt marsh enhancement will be conducted on the 182-acre site. The enhancement will consist of changing a Phragmites dominated marsh to a Spartina marsh. This will be accomplished through the removal of fill material and lowering the marsh elevation so that tidal inundation can occur. The ecological/habitat value of upland fill areas or phragmites dominated areas is far lower than a Spartina marsh. A conceptual design of this system has been discussed among NOAA, NJDEP and the design contractor.

This 182-acre site also holds opportunity to create and enhance freshwater wetlands in areas that are still being farmed. Habitat improvements would be realized by converting agricultural land to a protected functioning freshwater wetland system. Although a conceptual design of this system has been discussed among NOAA, NJDEP and the design contractor, the concept may change pending the review of site specific information that will be gathered in the near future (i.e. depth to ground water).

It is important to note the this property is also part of the Mad Horse Creek Wildlife Management Area and increasing the amount of wetland habitat would likely result in increased usage from waterfowl hunters. There is currently a road and plenty of parking available at this site and in proximity to the restoration area. This would make hunting opportunities and access available to hunters that do not have watercraft available.

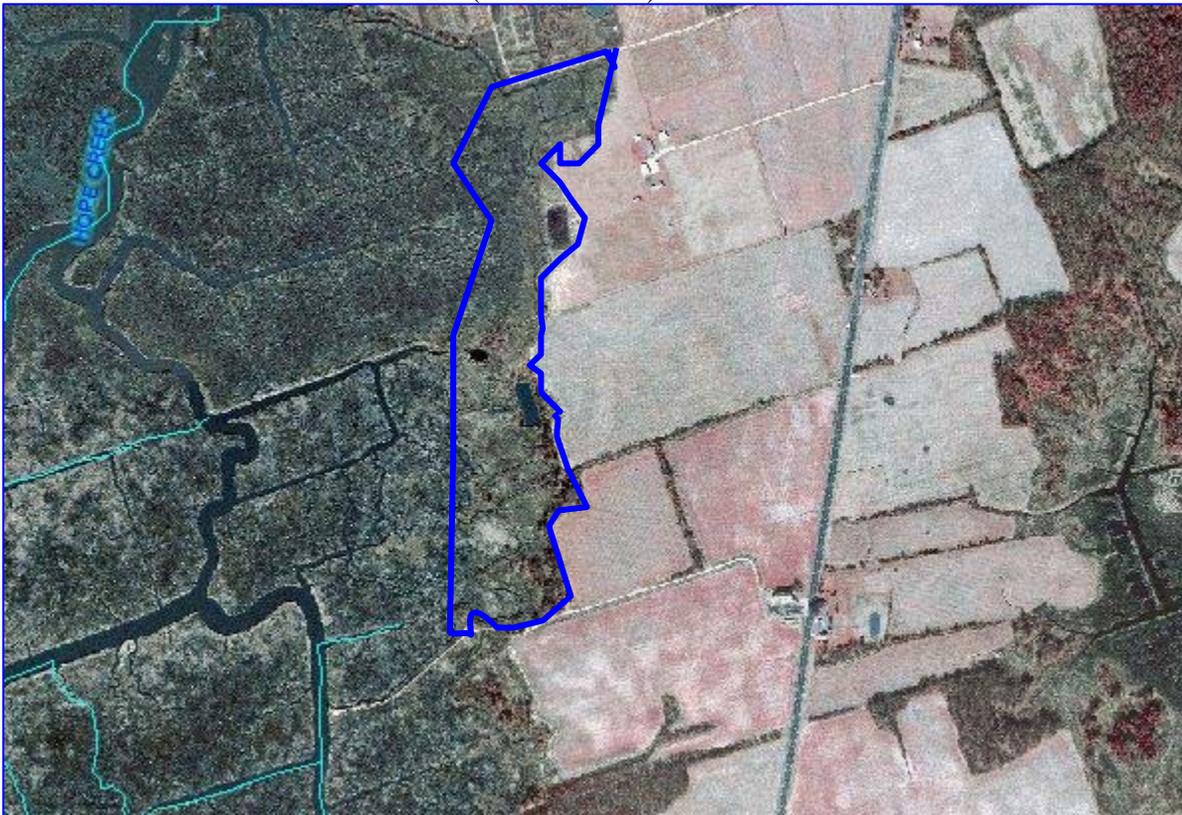
3. Costs

The location and disposition of this site will make the construction costs low relative to most other restoration sites. The factors resulting in relatively low cost would include: the property is owned by the NJDEP, there is no evidence or reason to suspect that contamination would be present, excavated material may be reused on-site and the area of excavation for the tidal portion is in a band and would require only very minimal wetland/open water crossings.

Since the design is not complete for this project we do not have a final cost. However, based on similar projects we would expect the tidal portion of the project to cost approximately \$100,000 per acre or approximately \$4,000,000 for the 40-acre enhancement/restoration.

The NJDEP has already spent \$9,052 for aerial photos and survey work in GIS format. The NJDEP is in the process of contracting for complete design work with 100% design plans at a cost of \$181,696.20. If this project is implemented as part of the Athos restoration effort, the NJDEP and NOAA would like to be reimbursed for costs already incurred since these cost should have been funded by the Athos Restoration effort. Reimbursed funds will be used on another restoration site.

Mad Horse Creek Tidal Enhancement Area (outlined in blue)



C. Stow Creek Boat Ramp Reconstruction

1. Project Description

Green Acres worked with the NOAA Restoration Center and NJDEP Office of Natural Resource restoration to secure fee title ownership of the 186-acre parcel known as the Wosniak property in Stow Creek Township, Cumberland County, NJ on Stow Creek. This site has a substandard boat ramp that is in poor condition. The existing ramp is constructed of asphalt, is extremely narrow, very short and does not have dock to temporarily tie up to. Although this site is suitable for a small amount of ecological restoration it would be more appropriate to focus restoration efforts on reconstructing the boat ramp.

The scope of the reconstruction and access improvements should include:

- widening the ramp
- lengthening the ramp
- removing the existing asphalt and replacing with concrete
- constructing a small dock so that boats can be safely boarded, loaded and unloaded.

2. Lost Use Improvements

Even though this ramp is in poor condition, it receives heavy usage for fishing, hunting, and ecological tours, making it an ideal site to compensate for lost use injuries. When this site is improved as described above, the boat ramp and dock will accommodate more hunters, fisherman, and ecological tourists. People that use the facility will also be able to more safely launch their watercraft and it will be more compatible for people with disabilities. Since the property is 186 acres and consists mostly of uplands, the upgraded boat launch could potentially serve as a centerpiece for additional future park improvements.

3. Project Costs

The NJDEP Division of Parks and Forestry has recently been involved in several boat ramp projects and are very familiar with current costs for such projects. An approximate cost estimate for the proposed improvements would be \$400,000.



D. Green Acres Land Preservation

1. Project Description

The NJDEP's Green Acres program functions to actively acquire land parcels for preservation and possible future restoration projects. This program has been very successful in their goal of land acquisition.

At the request of ONRR staff, Green Acres has provided a list of properties that currently exhibit or have the potential to harbor aquatic and/or wetland ecological resources. This list of properties was provided since they may be desirable acquisition sites for the purposes of offsetting Athos related injury. Green Acres is in actively negotiating for purchase each of the properties provided. Green Acres has requested that the details of the parcels remain confidential at this time. General information regarding the sites is provided below. If the information provided herein is not sufficient for the purposes of narrowing the number of restoration projects, ONRR will seek to provide additional, more specific information with Green Acres approval.

A total of 6 sites were presented all of which drain into the Delaware River or Bay and most sites are contiguous to tributaries that flow into the Delaware River or Bay. The combined acreage for the 6 sites presented is 1770 acres and the total estimated cost is \$10,700,000.

2. Ecological Benefit

Sites preserved under the Green Acres Program would not be able to be developed and may be suitable for various future ecological enhancements.

Values associated with preserved land as compared to impacted wetlands are available in literature. The NJDEP's Land Use Regulation Program uses a ration of 27 acres of preserved land for each acre of lost wetland.

3. Costs

The approximate total purchase price for all 6 projects is \$10,700,000. The Green Acres Program has the flexibility of accepting funding at almost any level. Funding of individual parcels or even portions of parcels would be acceptable.

E. Camden Greenways

Information to be provided as it becomes available.