Commercial Township Salt Hay Farm

July 2017

Location: Commercial Township Salt Hay Farm, Delaware Bay

Type: Habitat restoration

Area: 42 ha within 1670 ha

City: Commercial Township

County: Cumberland

Main Agencies: Estuary Enhancement Program, New Jersey Marine Sciences Consortium, Woods Hole Group, Public Service Electric and Gas Company, Office of Environmental Council

State/Province: New Jersey

Country: United States

Weinstein and Weishar, 2012

Background

The Commercial Township Salt Hay Farm is located on the southern portion of the Delaware Bay and is part of a larger Estuary Enhancement Program. The Estuary Enhancement Project encompasses 2,318 ha of formerly diked coastal marsh that was drained for agricultural use. The Estuary Enhancement Program and subsequent restoration of the Commercial Township Salt Hay farm is the result of a legal settlement to offset environmental effects, particularly loss of fish biomass, from power generation on the Delaware Bay.

The Commercial Township Salt Hay Farm restoration project is one of several salt hay farms restored under the Estuary Enhancement Program. The restoration project comprises of 1,670 ha of degraded coastal marshes as a result of being diked. The combination of reduced sedimentation, soil compaction from heavy machinery, and soil oxidation have resulted in the subsidence of the marsh surface. The objective of this project was to restore salt marsh function to the area and improve high marsh and channel habitat; the use of thin layer placement of dredged material was used to accelerate marsh restoration.

Project Description

The addition of sediment to low elevation areas within the restoration site occurred in 1996 by utilizing dredged material from the site construction, mainly from excavation of channels and breaches in the dike. The addition of dredged material to areas of low elevation resulted in raising the marsh elevation greater than mean high water to support high marsh habitat. A total of 42 ha of marsh was restored to high marsh. The elevation of the high marsh resulted in 0.3 m inundation depth at high tide. Channels were excavated to 0.6 m below mean low-low water to provide nekton habitat. Site monitoring and adaptive management were integrated in the original restoration plan. Four years of monitoring included geomorphological features, vegetation, hydrology, algal production, and nekton.

Findings

After three years, the *Spartina alterniflora* cover was 10% of the marsh surface at the Commercial Township Salt Hay. The slow recovery of the vegetation may be attributed to lower elevations than necessary for *Spartina alteriflora* to vegetate. The increase in tidal exchange resulted in a decrease in *Phragmites australis* across the marsh surface.

References

Weinstein, M.P. and L.L. Weishar. 2002. Beneficial use of dredged material to enhance the restoration trajectories of formerly diked lands. Ecological Engineering 19:187-201.

Point of Contact

Michael P. Weinstein
New Jersey Marine Sciences Consortium
Sandy Hook Field Station, Building #22
Fort Hancock, NJ 07732
mikew@njmsc.org

Main Agencies:

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Information on thin layer placement (TLP) case studies has been compiled as part of a DOTS/EWN project to provide a source of information, knowledge, and experience on TLP of sediment or dredged material in aquatic environments. The Thin Layer Placement Website and Map-Portal are funded by the US Army Engineer Research and Development Center (ERDC). The POC for the Thin Layer Placement Website and Map-Portal is:

- Damarys Acevedo-Mackey, PE
  Damarys.Acevedo-Mackey@usace.army.mil, 601-634-4845