

Partnering Team Award (External): The New Jersey Intracoastal Waterway Dredging with Innovative Placement: Post-Sandy Projects to Restore the Mission and Build Coastal Resilience

Purpose

- (1) The purpose of the team is to implement innovative post-Sandy projects that restored navigation within the NJ Intracoastal Waterway (NJIWW) while using dredged material beneficially to benefit degraded marsh and build coastal system resilience.
- (2) The award package is being submitted to recognize the dedication and efforts of each and every team member that helped these projects come to fruition. The team was incredibly committed and passionate about ensuring the success of this project, especially given the innovative and uncertain nature of this work. At all times, this team leveraged knowledge, cooperated through cross-discipline issues, treated every idea and every person with respect, solved problems as they arose and embodied a true spirit of teamwork.

Goals. The goals of the team's projects were to clear critically shoaled portions of the NJIWW while beneficially using the material to restore degraded marsh and create habitat on land owned and managed by the NJ Department of Environmental Protection's Division of Fish and Wildlife (NJDFW). A Regional Sediment Management approach and Engineering with Nature principles were utilized as part of this work effort. All partners came together quickly, seizing opportunities to make these projects happen using post-Sandy Emergency Supplemental Operations and Maintenance funds and a grant obtained through the National Fish and Wildlife Foundation (NFWF). Following construction, the projects are being monitored through the NFWF grant and USACE Research & Development programs in order to gain knowledge that will inform future dredging and beneficial use placement opportunities within NJ and throughout the country. Innovative construction techniques were implemented including a thin layer placement technique using both sand and fine-grained materials as well as creating nesting habitat on the marsh for endangered species. Many obstacles were encountered while working with the resource agencies and validating that these projects would be beneficial. It took over a year of working through many issues and each team member was critical to working through these issues. Finally, projects were approved and went to construction including a nesting bird habitat creation on Ring Island in August 2014, a small thin layer placement demonstration project near Avalon in December 2014 that informed a larger project on the marsh near Avalon completed in February 2016. (A fourth project, Mordecai Island, was also constructed in Nov 2015 with many team members, but not directly with same NFWF team)

Impact. The major direct impact for USACE is that the most-shoaled section of the entire NJIWW was finally dredged, restoring safe navigation between Markers 389 and 399 to the west of Avalon and near Markers 419 to 422 to the west of Stone Harbor. Critical depths in the channel prior to dredging were 2 to 3 ft MLW. The dredging operation cleared the most critical shoaling and restored the channel to its authorized depth, removing significant public safety threats. Users of the channel had complained about the hazardous nature of the pre-dredge condition and expressed gratitude that the project team was able to work together and clear the channel (shown via emails, press event in Nov 2015, multiple public presentations and stories including an article in *The Military Engineer*). Without the team's efforts, this dredging would

not have been possible since there were no readily available placement areas for USACE to utilize. Previous dredging efforts near Stone Harbor had utilized the Nummy Island Confined Disposal Facility (CDF, now full) and dredging efforts near Avalon had created successful habitat on land owned by the NJDFW which could subsequently no longer be utilized for current requirements. Instead of an outright “no” for use of the previous area near Avalon, NJDFW had the foresight to create a team, seek a National Fish and Wildlife Foundation grant and partner with USACE to locate an alternate property owned and managed by the NJDFW for placement. The property contained marshland that was in danger of disappearing due to continued degradation and sea level rise. The team worked together and designed projects that were ultimately constructed and will be monitored. The successful completion of these projects demonstrated an approach that beneficially used dredged material from a channel to restore a degraded marsh instead of placing into a CDF where the material was removed from the natural sediment system.

Statement. The contributed knowledge and exceptional technical expertise of all team members, ranging from wetlands to dredge operations, led to successfully implemented projects. Just as important, the “can-do” attitude and commitment of every member demonstrated an outstanding team approach. Although these pilot projects are relatively small in size and will be monitored to evaluate their success for future restoration efforts, the projects are already considered successful for furthering beneficial use of clean dredged material within the region.

US Army Corps of Engineers Team Members

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External Partners

Barnegat Bay Dredging Company, Inc (Joe Hill, POC)
NJ Department of Environmental Protection (Dave Golden, POC)
The Nature Conservancy (Metthea Yepsen, POC)
Green Trust Alliance (Greenvest and Princeton Hydro) (Jackie Jahn, POC)
Stone Harbor Wetlands Institute (Lenore Tedesco, POC)