



# Final Report: Morris J. Berman Oil Spill

*San Juan, Puerto Rico*

*Prepared by the Morris J. Berman Trustee Council  
With funds from the 2000 Morris J. Berman Oil Spill Settlement  
April 2015*



## Morris J. Berman Restoration Projects

On January 7, 1994, the barge Morris J. Berman ran aground on a reef off Punta Escambrón, releasing approximately 925,000 gallons of fuel oil into waters near San Juan, Puerto Rico. The oil spread along the northern coast of Puerto Rico, injuring resources along the shoreline and impairing their use for an extended period.



*Berman grounding site and spill area.*

The National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), and Puerto Rico Department of Natural and Environmental Resources (PRDNER) are the natural resource Trustees for this spill. A settlement agreement reached on December 28, 2000, among the Trustees and the parties responsible for the spill resolved claims for natural resource damages. The settlement included payment of nearly \$10 million to the Trustees for compensatory restoration projects in three injury categories: grounding-related reef injuries, lost recreational beach use, and lost visitor use of national historic site resources.

To meet their responsibilities to plan and implement restoration using settlement funds, the Trustees prepared a Restoration Plan/Environmental Assessment, proposing restoration projects to address the injuries. After receiving input during a public comment period and two public meetings, several restoration projects were selected. This report describes these projects under the category of injury they address. The Restoration Plan and Environmental Assessment (RP/EA) may be found at <http://www.darrp.noaa.gov/southeast/berman/admin.html> and <http://parkplanning.nps.gov>.

## Projects to Restore Reef Resources

The RP/EA for Morris J. Berman Oil Spill selected 3 projects to restore reef habitat and other reef resources injured by the barge grounding and subsequent oil spill. Those 3 projects were the Condado Coral Trail Project, Condado Seagrass Restoration and Land Acquisition. This section describes what was executed for these 3 projects.

### Condado Coral Trail Project

The Coral Reef Trail Project in Condado Lagoon provides compensation for lost resources associated with the injured eolianite reef. This restoration project, led by the San Juan Bay Estuary Partnership, was completed in the fall of 2008 for \$66,000. Thirty prefabricated cement reef-replication modules (known as Taino reef modules) were placed at designated sites within the Condado Lagoon to create reef habitat similar to that lost as a result of the grounding.

The Condado Coral Reef Trail consists of three underwater educational trails, each consisting of 10 Taino reef modules. These trails are located in front of the public beach between the Dos Hermanos Bridge and the breakwater that separates the Condado Lagoon from the Atlantic Ocean. The underwater trails combined with the comprehensive outreach and educational component of the project provides students and the public an opportunity to learn about coral reefs and natural resource restoration.

The San Juan Bay Estuary Partnership was contracted on March 10, 2008 to implement this restoration project. A baseline benthic survey of the site was conducted prior to deployment of the 30 Taino reef modules by the San Juan Bay Estuary Partnership, working with HJR Reefscaping.



*Thirty Taino reef modules were placed in Condado Lagoon to create reef habitat similar to that lost as a result of the grounding.*



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A dedication event celebrating the completion of the project was hosted by the San Juan Bay Estuary Partnership at Punta Escambrón on April 8, 2009.



*The Condado Coral Project partners, including the San Juan Bay Estuary Partnership, the Puerto Rico Department of Natural and Environmental Resources, EPA, NOAA, and HJR Reefscaping celebrated project completion at a dedication event on April 8, 2009.*



*Interpretive signs educate the public about ecological benefits of the project.*



## **Condado Seagrass Restoration**

The purpose of the Condado Seagrass Restoration Project was to restore seagrass habitat within the lagoon system. This planned to utilize dredged marine sediments from San Juan

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Harbor to fill dredge holes within Condado Lagoon, approximately 1 mile southeast of the barge grounding site. Once these depressions were filled to grade and leveled, sunlight would be able to reach the seafloor and seagrass recovery could proceed naturally.

However, due to issues with the planned joint funding process it was not possible to implement this project. Accordingly, the Trustees reallocated these funds from the seagrass project for their use in acquiring additional land within the San Miguel Natural Reserve. This alternative use of funds was contemplated in the Final Restoration Plan in the event the Condado Seagrass Project was not feasible. The following Section Land Acquisition provides greater detail on the property acquired.



*Aerial view of the Coral Reef Trail Project and the (aborted) Seagrass Restoration Project in Condado Lagoon, San Juan, Puerto Rico.*

## ***Projects to Restore Lost Recreational Beach Use and Lost Reef Services***

### ***Land Acquisition***

The Trustees evaluated numerous restoration projects intended to provide equitable compensation to the public for the lost reef services and lost recreational beach use caused by the grounding of the barge Berman. With extensive input from the public, through a public comment period and two public hearings, the Trustees determined that acquiring lands for conservation purposes would best compensate the public for the injuries and losses sustained.

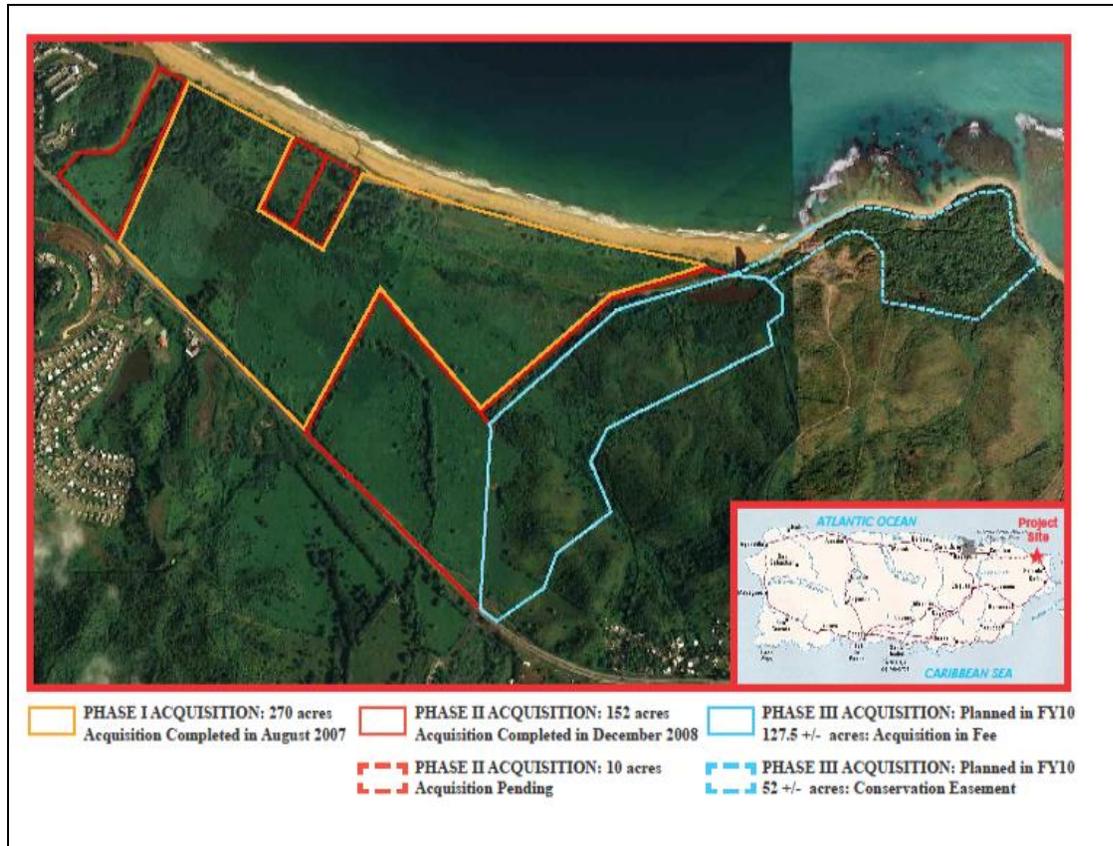
Several potential sites were evaluated, after which the Trustees selected a 270-acre privately-owned shoreline property. In August of 2007, led by The Trust for Public Land, settlement funds were used to purchase this first parcel (Phase I) titled the San Miguel Natural Reserve, a part of Puerto Rico's Northeast Ecological Corridor. The San Miguel Natural Reserve is a mosaic of coastal habitats including near shore coral reefs, more than a mile of beachfront, intertidal areas, wetlands, coastal dry forests, and mangroves. The reserve is home to 16 federally listed threatened and endangered species, including the endangered leatherback turtle which nests here. The land will be managed as a natural reserve under the PRDNER and the public will have access for low-impact recreational activities.



*The San Miguel Natural Reserve is located on the northeast coast of Puerto Rico and is managed by the PRDNER.*

In December of 2008 Phase II of the land acquisition was successfully completed adding an additional 152 acres to the San Miguel Natural Reserve. This second land acquisition effort protects and conserves a wide variety of important coastal habitats that include intertidal and emergent wetlands, coastal dry forests, mangrove habitat, and riverine habitat at the confluence of two rivers. The conservation importance of the sea turtle nesting beaches found on these two parcels of land are identified in Recovery Plans for both Leatherback and Hawksbill sea turtles (National Marine Fisheries Service [NMFS] 1992, NMFS 1993).

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*The San Miguel Natural Reserve is made up of 422 acres of protected coastal lands. Phase I and Phase II parcels were acquired with settlement funds to compensate the public for injured natural resources and lost recreational use of the beaches impacted by the spill.*

In January of 2009 the Phase I and Phase II land acquisition efforts of the San Miguel Natural Reserve were completed by the Trust for Public Land (TPL). TPL acquired the first 270-acre parcel of land in 2007 utilizing \$5.6 million in Berman settlement funds allocated to compensate the public for the lost reef resources and grounding-related reef injuries. The second phase of acquisition utilized the \$2.6 million in Berman settlement funds allocated for projects to compensate the public for lost recreational beach use, as well as the \$750,000 reallocated from the Condado Seagrass Restoration Project. Phase II adds an additional 152-acres of land adjacent to Phase I. Having the two parcels connected provides protection of more than a mile of important coastal habitat and it is the hope that this will help to leverage additional land acquisition efforts in the future.

The combined 422-acres of land acquired by TPL were transferred to the PRDNER as a natural reserve. Completion of these land acquisition efforts coincided with the 15<sup>th</sup> anniversary of the Barge Berman grounding and spill, and compensates the public for the lost recreational beach use and reef injuries. The acquisition of the San Miguel Natural Reserve is a significant accomplishment as it helps to preserve the health of our coasts, provides public access opportunities for recreation, and protects an important stretch of coast utilized by a variety of threatened and endangered species within northeast Puerto Rico.

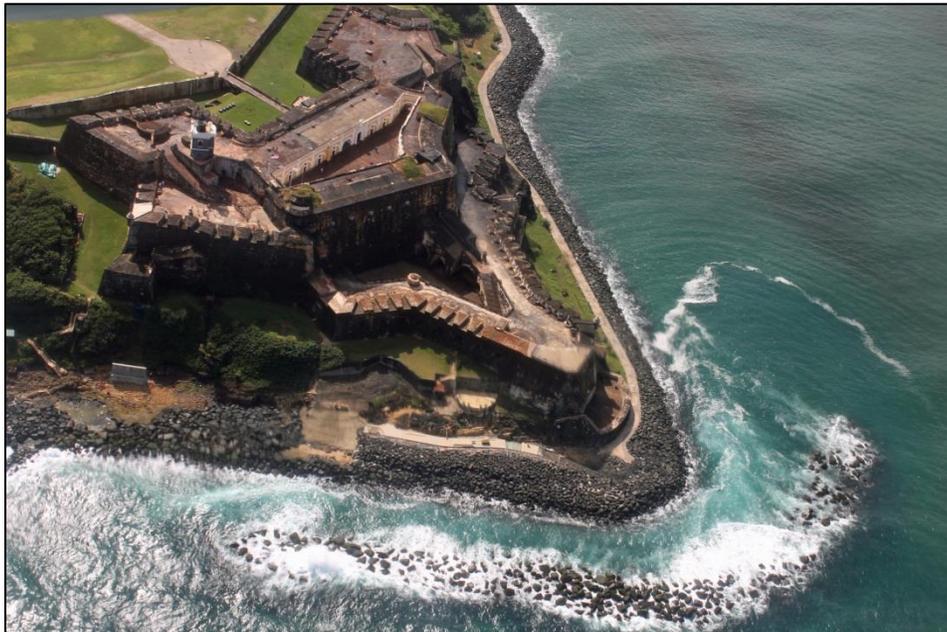
## Projects to Compensate for Lost Visitor Use of San Juan National Historic Site

The oil spill and grounding caused a reduction in visitor services at San Juan National Historic Site for approximately six weeks. More than 123,000 visitors to the El Morro and San Cristobal forts were affected. Approximately \$1.8 million (including \$1,493,604 in settlement funds plus interest accrued in the NRDAR Fund) is available for projects to address lost visitor use of the historic site. The three restoration projects selected are described below.

### *Improve and Extend the Coastal Promenade at El Morro*

The Promenade, a National Recreational Trail, provides access to an area of the historic site adjacent to the coast. The Promenade enhances visitor appreciation of the forts, the city walls, and their historic settings as well as the natural resources along the shoreline. As a result of the Improvement to and Extension of Coastal Promenade restoration project, now inaccessible natural areas with natural shorelines, vegetation, tide pools with sea life, and birds have become accessible and some resource protection features are in place. The restoration project offers opportunities to view the geology of the area and experience the coastal and marine resources that gave the El Morro fortifications their strategic importance.

This project at the El Morro Coastal Promenade (or “Paseo”) involved several subprojects: (1) extending the Promenade from its current terminus at the Water Battery eastward to connect with an existing stairway accessing the upper levels of the fort; (2) completing the overlook at the Water Battery; and (3) applying a non-slip treatment to the existing walkway. This project was the highest priority of all the lost visitor use projects.



*El Morro Historic Site at tip of the San Juan Peninsula. Water Battery is shown at the point with the Paseo under construction.*

The designs for the Promenade extension and the overlook were completed in 2008. The project suffered significant delays when contractor bids for the Rip-Rap portion of the project greatly exceeded estimates. The park had to take a second hard look at the project and the funds available for the project. The Trustees agreed to reallocate the \$350,000 for the Clean and Stabilize Exterior Walls of El Morro project to the completion of the Promenade. The park re-bid the project and worked closely with the contractor to complete the project within the available funds. The park did the concrete work and fabricated new light bollards in-house as well as the resurfacing of the existing trail. The project was completed on October 1, 2014 and opened for the public to enjoy.



*View of the Paseo extension under construction where stairs connect to the plaza shown on the left.*



*Visitors enjoying the completed Phase III of the Paseo del Morro.*



*Dedication ceremony for completed Phase III Paseo held October 2014.*

### ***Restoration of El Morro Water Battery***

The purpose of this project was to stabilize and preserve the interior and exterior surfaces of the historic Water Battery area as well as adjacent exterior walls facing the shoreline. Unsafe conditions were corrected, resulting from hundreds of years of deterioration caused by the tropical climate and wind and wave erosion.



*El Morro Water Battery and walls restored.  
The existing Promenade ("Paseo") is shown in the foreground.*

The parks Masonry Staff removed vegetation and repaired brick work from a major section of the exterior walls in the Water Battery.

Concrete was typically used by the U.S. Army to repair walls throughout the fortifications of San Juan National Historic Site, and has been found to do more harm and damage to the structures that were traditionally built using lime. Once old concrete repairs were removed, the Masonry Staff used traditional materials such as lime and brick to make repairs and stabilize the area. These traditional materials and practices used by the Spanish to build the forts allow the materials to “breathe” and absorb moisture without causing damage to the structure. The Water Battery which is typically open to the public had to be closed a few months while repair was made. This work in the Water Battery was completed June 2011 and reopened to the public.



*Wall restoration using traditional techniques used by the Spanish.*

### ***Clean and Stabilize Exterior Walls of El Morro***

This project proposed to clean, stabilize, and restore approximately 25,000 square feet of the exterior walls of El Morro adjacent to the Water Battery. The estimated cost of the project was \$350,000. However, due to increased costs of the Promenade project there were insufficient funds to complete the planned Promenade project. The Trustees reallocated these funds to the highest priority Promenade project.

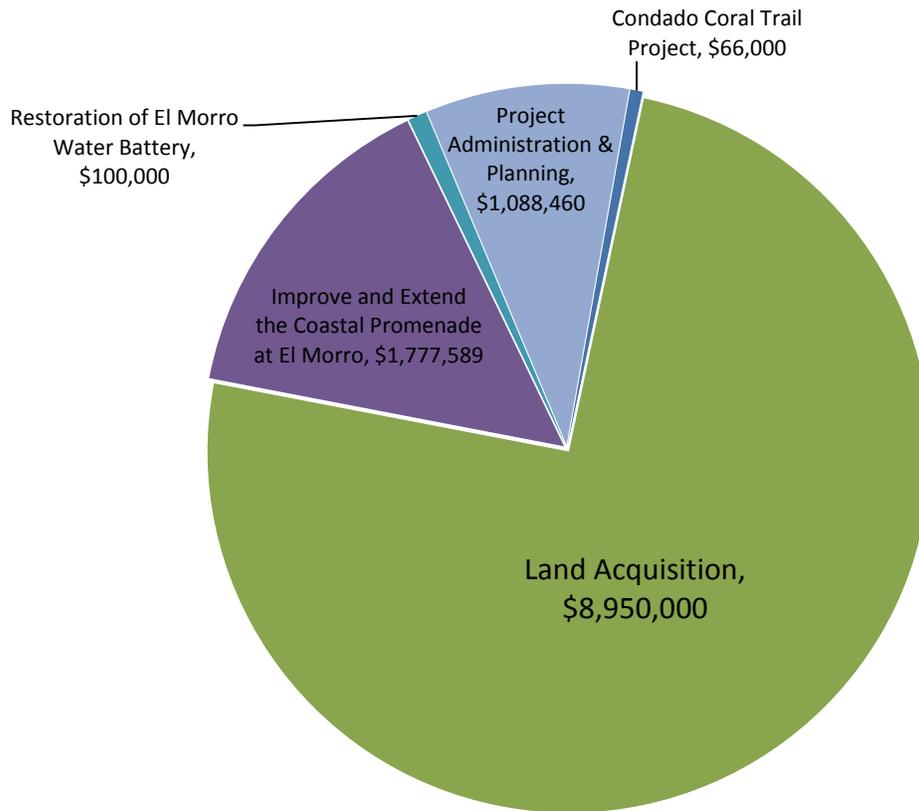
## **Financial Summary**

### ***Settlement Fund Expenditures 2000 – 2014***

A total of \$11,982,048 was used from settlement monies (including settlement, deferred payment, and interest) to accomplish the projects outlined in this report. Over 90% of the funds were used directly on restoration projects. The remainder was spent on planning and administration.

**Project Funding Breakdown**

	Project Funds	% Total
<b>Restore Reef Resources:</b>		
Condado Coral Trail Project .....	\$66,000	0.6%
Condado Seagrass Restoration .....	\$0	0%
<b>Restore Lost Recreation Beach Use and Lost Reef Services:</b>		
Land Acquisition .....	\$8,950,000	74.7%
<b>Compensation for Lost Visitor Use of San Juan NHS:</b>		
Improve and Extend the Coastal Promenade at El Morro .....	\$1,777,589	14.8%
Restoration of El Morro Water Battery.....	\$100,000	0.8%
<b>Planning and Administration:</b> .....	\$1,088,460	9.1%
<b>Total Project Monies</b> .....	<b>\$11,982,049</b>	<b>100%</b>



## Appendices

None from San Juan National Historic Site or National Park Service

## References

SS Cape Mohican Trustee Council, *Restoration Plan / Environmental Assessment for Morris J. Berman Oil Spill, San Juan, Puerto Rico*, April 2007

<http://www.darrp.noaa.gov/southwest/cape/pdf/moh-frp1.pdf>

Berman Trustee Council, *Memorandum of Understanding?????? (Do we want to add the MOU? I did not see it on the NOAA site.)*

## Partners

The Berman Trustee Council would like to thank the following people and agencies indispensable to the success of the restoration projects:

Ask trustees for Agencies and or Partners to insert here