



**NATIONAL
CONSERVATION
LANDS**

Eastern States
2022: Annual Manager's Report

Jupiter Inlet Lighthouse

Outstanding Natural Area



Map



Accomplishments

The Jupiter Inlet Lighthouse Outstanding Natural Area (ONA) continued to make significant progress on the overall reduction of deferred maintenance projects at the Site. Funding from the Great American Outdoors Act, and through the BLM's deferred maintenance program supported the replacement of damaged roofs, major plumbing repairs and electrical upgrades. Long awaited projects broke ground, including the Septic to Sewer conversion and the remodeling of the interior of one of the historic structures to serve as a meeting space and restrooms for visitors on-site. In addition to the BLM's work, the Loxahatchee River Historical Society (LRHS) and The Nature Conservancy (TNC) completed approved renovations and upgrades to shared facilities whose use is supported through new partnership and friends group agreements.



Aside from major construction works, the site also hosted the most visitors ever, and completed a critical population enhancement project for the federally listed endangered perforate reindeer lichen. This project took small populations of the endanger species from nearby private lands under development to establish additional populations within the ONA.

Challenges

The biggest challenge facing the ONA continues to be the rapid erosion of the ONA's shoreline. A mix of natural processes, climatic factors, and public use has led to erosional rates of up to 7 ft per year along the shoreline. Dramatic impacts have occurred to several resources including loss of habitat, damage to sensitive archaeological sites, loss of recreation opportunities and scenic impacts. Two projects designed to resolve these issues, funded by Great American Outdoors Act and the Bipartisan Infrastructure Law, made progress this year with design and engineering completion and submittal for Florida Department of Environmental Protection and U.S. Army Corps of Engineers Permits. The project is anticipated to receive permits in 2023 and begin construction in early 2024.



Visitors

Throughout the year, the Jupiter Inlet Lighthouse ONA supported visits from over 140,000 individuals. Visitation increased approximately 49% over the previous year and exceeded peak pre-COVID-19-pandemic visitation levels by 12%. The increase in visitation came as on-site programs returned to pre-pandemic levels, new programs were added, and general visitation grew with regional increases in tourists. Dispersed used visitation remained high after a significant increase from the previous year.

This year also marked the return of many of the partner organizations' large scale in-person events at the ONA, ranging from the Family Adventure Day that typically attracts 2,000 participants, to the Wild and Scenic Film Festival and Lighthouse Rendezvous.



The Jupiter Inlet Lighthouse ONA is a popular destination for a wide range of activities from birdwatching and photography to beach and motorboat use. Visitors enjoy a range of cultural and historic interpretive and educational activities, along with a robust program of environmental science activities to include marine science education, natural area interpretation and wildlife appreciation. Visitation occurs year-round, with peak visitation in March for those interested in touring the Historic Lighthouse. Memorial Day is typically the highest single day visitation of the year, primarily due to dispersed use of the ONA.

Partnerships

Several formal partnerships supported ONA management for the duration of the year. Long-running partnerships with the Loxahatchee River Historical Society (LRHS) and Palm Beach County (PBC) continued to support visitor services and natural area management. An assistance agreement with FishingCommunities.org enhanced veterans' experiences at the ONA. A partnership with the American Conservation Experience continued to support youth internships, and the partnerships with Florida Atlantic University continued to provide support for change detection monitoring and enhancement of archaeological education and interpretation on-site. In addition to these partnerships, law enforcement agreements with the Jupiter Police Department, Tequesta Police Department, and PBC Sheriff's Office supported routine patrols of the ONA and emergency response as needed.

Throughout the year, the LRHS assisted with management of cultural/historic resources, visitor services, and educational programming. The LRHS has a dedicated staff to manage the maintenance and operations of the lighthouse and associated historic structures on the site, as authorized through their lease with the federal government initiated with the U.S. Coast Guard. This year, they gave interpretive tours, facilitated programs and events, and provided School-Board-approved curriculum and teacher resources concerning the Jupiter Inlet Lighthouse. In addition, the LRHS celebrate their 50th anniversary, with a series of on-site and virtual programming recognizing the community support, key staff, and their role in protecting and preserving the Jupiter Lighthouse and the ONA.

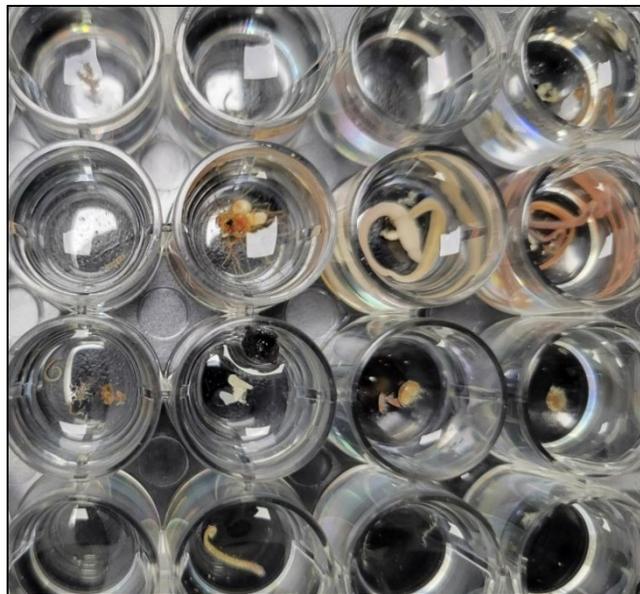
PBC's Department of Environmental Resources Management provided management assistance for the natural area portions of the site. Their work primarily focused on fuels reduction, firebreak maintenance, and biological resource monitoring, to include routine surveys of special status species.

Management of the ONA was, and will continue to be, supported by two new partnerships established last year with the Nature Conservancy and the Loxahatchee River Environmental Control District. These partnerships will enhance the BLM's ability to provide environmental science-based interpretative and educational opportunities, allow BLM access to a range of land management resources, including the Nature Conservancy's fire management program, and aid with general site management, including facility maintenance and protection of historic buildings.

Science

The BLM continued its partnerships with Palm Beach State College and Florida Atlantic University to conduct scientific studies in support of the management of the ONA. This year, Palm Beach State College's scientific research established a baseline survey of shoreline biodiversity for the Jupiter Inlet District and BLM's project to install a living shoreline along the Loxahatchee River.

Throughout the year, Florida Atlantic University continued to monitor the ONA's shoreline as part of the project "UAS based 3D Shoreline Change Detection of Jupiter Inlet Lighthouse Outstanding Natural Area." Data from this study was presented to a wide range of audiences and is being used in the ONA's Shoreline Stabilization and Restoration projects. Florida Atlantic University is also host to the Florida Public Archaeology Network (FPAN) that works onsite to enhance the ONA's cultural and historic resources. Conducting active archaeological research, FPAN adds to the wealth of knowledge about the site's history and provides educational and interpretive programs using innovative technologies supporting the field of study.



Other scientific research conducted onsite included a study of reef recruitment along the ONA's shoreline. The study involved placing and retrieving three Autonomous Reef Monitoring Systems, then completing biodiversity and DNA analysis of the recruited populations. The scientific research was completed in partnership with Palm Beach State College and the Smithsonian Institution and provided hands on opportunities for students and researchers, along with BLM staff. The study was successful in beginning to establish baseline populations and an inventory of biodiversity to be used as the BLM implements its shoreline stabilization projects and monitors its success into the future.

Climate Impacts

The Jupiter Inlet Lighthouse ONA increasingly shows impacts from climate-related change, including increased sea levels, stronger and more frequent storm events, and higher than average tides. These factors, coupled with changing rainfall patterns, changes in temperature, and seasonal effects, create stressors within the ONA that have adverse impacts on some of the values for which the site was designated.



The most significant concern is that of sea-level rise. Significant archaeological, historic, and biological resources are found at sea level, and are already considerably impacted by erosion and tidal influence. Any increase in sea levels will have potentially devastating impacts to portions of the ONA.

Climate Resilience

Adaptation and resilience to climate change is a key component of the Jupiter Inlet Lighthouse ONA's management strategy. Last year, the ONA completed its first section of living shoreline designed to eliminate erosion, support accretion of sediments, and enhance habitats. This year, the BLM continued to enhance this protected shoreline through ongoing volunteer events planting mangroves and other salt tolerant species, known for their ability to stabilize shorelines and withstand extreme weather and tidal events. In total, the BLM has now planted over 2,000 mangroves and established a new partnership with the MANG Foundation to grow out and plant an additional 10,000 mangroves (or about 5 acres) over the next five years. This mangrove habitat is regarded as critically important for the long-term sequestration of atmospheric carbon into subtidal soils. As such, the additional habitat created by this project has climate resilience benefits beyond the public lands.



Social and Environmental Justice

The Jupiter Inlet Lighthouse ONA continues to strive to make events and activities relevant and accessible to all members of the community. This was accomplished by BLM's commitment to providing equipment necessary to accommodate virtual tours of the lighthouse for those unable to climb; to creating social media posts highlighting the achievements of previously under-recognized local historical figures; to making the path to the new pier ADA accessible for veterans' fishing events; and to leading guided experiences targeted to underserved communities.



Events

The BLM and its partners hosted a range of events at the Jupiter Inlet Lighthouse ONA including general and coastal cleanups, mangrove planting volunteer days, citizen science bird counts, Family Adventure Days, and National Public Lands Day. Other events included Scouts of America merit badge camping weekends, volunteer appreciation events, and many events associated with Special Recreation Permits from fundraising activities to guided experiences. Some events were transitioned to virtual events, including the 8th Annual Wild and Scenic Film Festival and the BLM’s annual community meeting. These events attracted new audiences and increased overall participation, which is anticipated to continue into future years as events are developed to include virtual and in-person offerings.





NATIONAL CONSERVATION LANDS

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BLM Director, Tracy Stone-Manning, and Eastern States staff on the steps of the Tindall House after touring the Jupiter Inlet Lighthouse Outstanding Natural Area in Jupiter, Florida, February 2022.