



**NATIONAL
CONSERVATION
LANDS**

Eastern States
2021: Annual Manager's Report

Jupiter Inlet Lighthouse

Outstanding Natural Area



Map



Accomplishments

The Jupiter Inlet Lighthouse Outstanding Natural Area (ONA) had many accomplishments this year despite challenges presented by COVID-19. The BLM, in partnership with the Jupiter Inlet District, started and completed a 500 ft section of living shoreline designed to eliminate erosion, protect sensitive archaeological and historic resources, and enhance habitats. The project included a pedestrian pier providing site visitors incredible new views of the Lighthouse and the amazing waters of the Jupiter Inlet. Other accomplishments included developing new and adapting existing interpretive programs to address public health concerns and successfully providing these both virtually and in-person throughout the course of the year.



This year BLM was recognized by the Village of Tequesta with a Professional Partnership Award in recognition of the support the BLM provided local Emergency Medical Response Services throughout the course of the COVID-19 pandemic.

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 a number of resources including loss of habitat, damage to sensitive archaeological sites, loss of recreation opportunities and scenic impacts. A project to resolve these issues did make progress this year by receiving funding from the Great American Outdoors Act and entering into a contract for the design and engineering of a solution. The project is anticipated to receive construction funding in future years but remains a challenge due to the project's engineering complexity and a wide spectrum of public opinion on the issue.



Visitors

Throughout the year, the Jupiter Inlet Lighthouse ONA supported visits from over 94,000 individuals. Visitation increased approximately 11% over the previous year but has still not returned to pre-COVID 19 pandemic levels. The increase in visitation came as the number of program participants has slowly increased, assumed to be a result of vaccine availability, and increasing comfort in the local and regional population to attend group activities. Dispersed used visitation remained high after a significant increase from the previous year.

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 veteran's 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 USCG. This year, they gave interpretive tours, facilitated programs, and events, provided School Board approved curriculum and teacher resources concerning the Jupiter Inlet Lighthouse, much of which was transitioned to virtual programming due to the COVID-19 pandemic.

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 this 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 Great American Outdoor Act Shoreline Stabilization project to aid design of engineered features aimed at reducing erosion and enhancing habitats. 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 resulted in this year’s publication of scientific papers concerning the federally listed lichen species *Cladonia perforata* and the development of a new study into lichen genetic diversity which will occur next year. The paper was published in the *Evansia* journal as: “Transplant success of *Cladonia perforata* (Florida perforate *cladonia*) at the Jupiter Inlet Lighthouse Outstanding Natural Area.”

Climate Impacts

The Jupiter Inlet Lighthouse ONA increasingly shows impacts from climate related change, including increased sea-levels, stronger 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 Resiliency

Adaptation and resiliency to climate is a key component of the Jupiter Inlet Lighthouse ONA's management strategy. This year, the ONA completed its first section of living shoreline designed to eliminate erosion, support accretion of sediments and enhance habitats. The "living" component of the shoreline included planting over 1,700 mangroves, known for their ability to stabilize shorelines and withstand extreme weather and tidal events. Furthermore, 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 resiliency 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

Despite the challenges brought on by the COVID-19 pandemic, 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 7th 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

Jupiter Inlet Lighthouse Outstanding Natural Area

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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.