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■ ABOUT THE CONTRIBUTORS



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Frank Izaguirre is a doctoral student in English literature at West Virginia University. He loves reading any bird book he can find, from the exploration narratives of early naturalists to Big Year adventure stories. Frank lives in Pittsburgh, Pennsylvania, with his wife, Adrienne. He serves as Book & Media Reviews Editor at *Birding*.



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JoAnne Castagna is a writer with the U. S. Army Corps of Engineers, with an emphasis on civil and military engineering, environmental preservation, and wildlife. Some of her recent publications have covered the protection of threatened and endangered species, including the Piping Plover and Common and Least terns.



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A Second Chance After Hurricane Sandy

*Intensive human intervention
aids recovery of state-threatened
oystercatchers on popular beaches*

In the spring of 2018, wildlife biologist Harry Strano was walking on the shore in Deal, New Jersey, when he was pleasantly surprised. He saw a pair of clownish-looking birds building a nest. Others probably noticed them as well. They were distinctive with their long legs, fierce yellow eyes, and striking red-orange bills. These birds were American Oystercatchers, and they are a species of special concern in New Jersey, meaning their population is in decline and at risk of becoming listed as threatened in the state.

Jen LaStella, another wildlife biologist, believes the birds are returning to the shore because of a beach nourishment project that was completed by the New York District of the U. S. Army Corps of Engineers.


“The beaches created by the replenishment provide ample space and opportunities for shorebirds to rest, forage, and even nest,” says LaStella, who with Strano performed environmental construction monitoring for the project, working for Amy S. Greene Environmental Consultants, Inc.

The *Atlantic Coast of New Jersey, Sandy Hook to Barnegat Inlet, Beach Erosion Control Project* is both a mouthful and the largest beach nourishment effort ever undertaken by the U. S. Army Corps of Engineers. The project’s overarching goal is to improve resiliency and reduce coastal storm risk to the shoreline in the aftermath of Hurricane Sandy. As an added benefit, it provides habitat for various rare, threatened, and endangered wildlife species—including the American Oystercatcher—that make the shore their home.

The project began a quarter century ago in 1994 and was undertaken by numerous corps contractors, including Manson Construction Com-

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This image is from Rockaway Beach and Boardwalk, Queens, New York, the largest urban beach in the ABA Area. Beachgoers—human and avian alike—flock to the site year-round.
Photo by © Sandra Paci.

pany. Manson's subcontractor, Amy S. Greene Environmental Consultants, Inc., provided construction monitoring services for oystercatchers and other species considered "rare," "threatened," or "endangered." The project encompasses 21 miles of the Monmouth County, New Jersey, shoreline extending from the borough of Sea Bright down to the Manasquan River Inlet.

The corps worked on this project in cooperation with its non-federal sponsor, the New Jersey Department of Environmental Protec-

tion (NJDEP), and maintained close coordination with the U. S. Fish and Wildlife Service. The work included pumping offshore sand onto the shore to reinforce natural protection to the upland afforded by the beach, and to reduce risk due to wave damage and inundation. The completed project widened the shoreline 400 feet and built up the beach 10 feet above sea level.

"This project is the world's biggest beach-fill project in terms of sand volume," explains Anthony Ciorra, Chief, Hurricane Sandy Branch, New York District, U. S. Army Corps of Engineers.

The project also involved notching—or removing rock, known as armor stone—from several existing groins. A groin structure extends out from the shore into the water and interrupts water flow, limiting the movement of sand, preventing beach erosion, and improving resiliency. In addition, 10 existing storm water outfall pipe extensions were lengthened. These pipes carry storm water from the land to the ocean.

By 2012, 18 miles of the 21-mile project had been completed. It was in late October and early November of that year that Hurricane Sandy devastated the region, remov-

ing five million cubic yards of sand from the shore—enough sand to fill northern New Jersey's MetLife Stadium.

In early 2013, the U. S. Congress passed the Disaster Relief Appropriations Act of 2013, or PL 113-2, better known as the "Sandy Relief Bill." It authorized the corps not only to repair engineered beach projects by replacing the sand lost during Sandy, but also to restore them to their original design profiles. Since that time, the corps has repaired the 18 miles of shoreline that were damaged and returned 7.7 million cubic yards of sand to the shore.

Work then began on completing the remaining three miles of the project, between Deal and Elleron. On this project, as with all corps beach nourishment projects, the agency has been implementing measures to protect and minimize impacts to rare, threatened, and endangered species. In addition to the American Oystercatcher, species of concern in New Jersey include the Piping Plover and a plant called seabeach amaranth (*Amaranthus pumilus*)—both of which are classified as threatened by the U. S. Fish and Wildlife Service and endangered by the state of New Jersey—as well as the Least Tern, classified as endangered by New Jersey. These measures

Across pretty much their entire range, **American Oystercatchers** coexist with beachgoers. The six images on this spread, depicting various episodes from the breeding season, are all from Nickerson Beach Park on the extremely popular south shore of Long Island near New York City. Disturbance is a constant threat to these striking shorebirds, but human agency can also be a force for good. This article describes a major undertaking by the U. S. Corps of Army Engineers to improve and restore habitat for oystercatchers and other species in the densely populated New York–northern New Jersey region. *Photos by © Donna Schulman.*







The bird at the right might not look like much—just a “gangly teenager” on a beach in northern New Jersey—but it is the hoped-for result of an ambitious effort by the U. S. Corps of Army Engineers. The corps’ ocean shore recovery efforts in the region afford protection to the entire life cycle of the **American Oystercatcher**, spanning much of the spring and summer in the mid-Atlantic.

Photo by © Elizabeth Dancer.

address the life and habitat requirements of listed species.

Peter Weppeler, Chief of the Environmental Analysis Branch, New York District, U. S. Army Corps of Engineers, clarifies that these measures include working on the project only during times of the year that are not a threat to the species. For example, sand was not placed on the shore between Mar. 15 and Aug. 15 because Piping Plovers nest on the shore during that time. Compromise and tradeoffs are inevitable: Sand placement benefits oystercatchers, but the needs of plovers must be factored in, too.

Public education is critical.

“We also place string fencing on the proj-

ect property to delineate areas used by Piping Plovers,” notes Weppeler, “and we set up protective buffers around these areas.”

Another important measure is hiring environmental construction monitors, people like LaStella and Strano. They perform diverse tasks, such as: creating a monitoring plan in cooperation with the project team; conducting regular field surveys to identify rare, threatened, and endangered plants and animals; recording behaviors, locations, and potential threats to these species; and documenting all other wildlife observations within and adjacent to the project area. They also recommend ways to avoid and minimize potential impacts to natural communities elsewhere in the region and to educate the public while on the project site. Strano especially emphasizes public education. She hopes the experiences will make beach visitors more aware and understanding—and therefore more tolerant of any inconveniences that result from restricted access.

While monitoring this project, LaStella spotted several protected species, and she was especially gratified to see the American Oystercatcher nesting along the shoreline. She believes the newly replenished beach was what

attracted the bird.

“Prior to beach nourishment activities,” LaStella reports, “beaches were virtually absent from portions of the project area due to years of erosion and storm events, as well as changes in natural sand deposition processes. The beaches created by the replenishment provide ample space and opportunities for shorebirds to rest, forage, and even nest.”

LaStella began monitoring the project in 2016. During her first season, she observed American Oystercatchers foraging and displaying courtship behaviors. However, they did not establish any nests that year. But over the course of the year, natural coastal processes—ocean currents and the weather—helped reshape the newly constructed beach to form tidal flats and gentler slopes. The beach now provides much better foraging habitat, particularly during low tide.

During the 2017 nesting season, the wildlife biologists observed three pairs of oystercatchers trying to nest within the project area. They also noted several other groups of these striking black, white, and orange birds frequenting the area to forage and rest. Out of the three nests, the biologists document-

ed one nest that successfully hatched three eggs—which ultimately produced one fledgling. The success of this nest was likely due to protective measures and buffers that were implemented during construction, as well as the presence of jetties immediately north and south of the nest, which provided protection from nest predators like crows and gulls. LaS-tella believes the construction itself probably deterred some of the normal beach activities around the nest, which contributed to the nesting success.

Cooperation among the construction workers helped, too.

“It was very exciting to discover the Ameri-

can Oystercatcher nest inside the work area,” Strano recalls, “[but] we were a bit apprehensive. We knew it would be a tremendous challenge for this pair to rear chicks at this location because there are multiple threats at this and other beachfront locations, including foxes, dogs, storms, occasional vehicles, and overly enthusiastic beach visitors.”

She adds: “We were encouraged by the immediate cooperation and interest in the birds expressed by the onsite construction crews. The crews’ willingness to follow our guidance immediately appeased some of the concern we had. The adequate planning, cooperation and open communication of all stakeholders

An important component of the work of the U. S. Corps of Army Engineer is education. **American Oystercatchers** and other beach nesters often go about their business in plain view of the great throngs of humans who flock to places like New York’s Nickerson Beach Park, depicted in these images. Informing the public about these captivating birds can help beachgoers understand why nesting areas may be closed or seasonally restricted. *Photos by © Sandra Paci.*



resulted in effective protections for these birds without major delays to the project.”

One construction worker brought binoculars and a bird book, LaStella relates, and others “excitedly reported their bird observations to me from the day prior.”

According to Strano, “Protecting shorebird nesting habitats often equates to protecting dune and beach systems and all of the species that inhabit these systems.”

The New York District—U. S. Army Corps of Engineers’ Atlantic Coast of New Jersey, Sandy Hook to Barnegat Inlet, Beach Erosion Control Project has benefited many birds other than the American Oystercatchers highlighted in this article. The **Common Tern** breeds widely on beaches in New Jersey and New York (and elsewhere), and depends on active management by humans for successful nesting. This family group was at the popular Nickerson Beach Park just outside New York City. Photo by © Sandra Paci.

Protecting listed species, including the American Oystercatcher, is beneficial to our human culture, as well as the environment itself.

Strano takes the long view. When you study American beachgrass dune communities, central to the needs of beach-nesting bird species, you notice a stunning variety of organisms that rely on these systems. Migrating songbirds and raptors, numerous butterflies and other pollinators, and herps like eastern box turtles and Fowler’s toads are all found in these communities. And Strano draws the essential link to human welfare: Conservation of the beach and dune systems, particularly the American beachgrass communities, extends protection to adjacent landward properties from coastal flooding, especially during storm surge events. More broadly, recent storms have demonstrated the natural binding properties and erosion resistance of beachgrass root systems.

LaStella and Strano aren’t the only ones who are happy about the environmental

benefits of this coastal storm risk management project. Environmental agencies are pleased, as well.

“The New Jersey Department of Environmental Protection’s Endangered and Non-Game Species Program and New Jersey Audubon expressed their excitement to us about the nesting success of these American Oystercatchers, a bird that is part of the department’s shorebird protection plan,” LaStella enthuses.

The sand replenishment of all 21 miles of the project is now done.

“The project will not completely protect from another Sandy-like storm, but it will greatly reduce the negative impacts,” Ciorra predicts.

LaStella gets the last word in: “Development and construction projects will continue as long as we inhabit the Earth, so finding a balance between progress and protecting the natural world is essential and rewarding in so many ways.” 🌊

