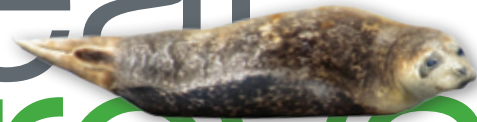


# Seal of approval



While his new home is being created...  
Photo: Melissa Alvarez

“For the past few months we’ve seen him on the site – he just keeps doing his thing,” Melissa Alvarez told **JoAnne Castagna**, as they discussed a very special observer of a USACE dredging project

Melissa Alvarez is a senior project biologist with the US Army Corps of Engineers’ New York district and she was talking about a harbour seal that’s been taking a keen interest in work to restore a degrading marsh island, Yellow Bar Hassock, in New York’s Jamaica Bay.

“He’s been lying on the dredge pipeline that’s delivering sand and sunning himself as we go about our work,” said Alvarez, adding: “I find it so amazing how quickly wildlife will use the area every time we construct one of these island projects.”

## Background

The Yellow Bar Hassock restoration should be complete as you read this. It’s part of a marsh island complex located within the 26-square mile (67km<sup>2</sup>) Jamaica Bay Park and Wildlife

Refuge, which was the country’s first national urban park and one of the Gateway National Recreation Areas.

The refuge is located in an urban area that includes portions of New York’s Brooklyn, Queens and Nassau counties and the area’s shorelines are boarded by very heavily developed land, including John F Kennedy International Airport, the Belt Parkway and several landfills.

Over the past century, Jamaica Bay’s marsh islands have been disappearing rapidly – nearly 80% have vanished since 1924 – and they’ve continued to disappear at a rate of around 44 acres (18ha) per year during the past decade. It’s believed that a great deal of this degradation is due to regional urbanisation.

If something’s not done to stop this loss,

it’s estimated that the marsh islands could vanish entirely by 2025, leaving wildlife homeless and threatening the bay’s shoreline. According to Alvarez, a certified professional wetlands scientist, maintaining the health of these marsh islands is critical, not only to the well being of wildlife but also the 20 million people who live and work in this urban region.

“The marsh islands are home for a variety of wildlife, including fish and shellfish, which are an important food source for birds and help to improve water quality by removing things like nitrogen and phosphates,” Alvarez said. “These islands also serve as flood protection and shoreline erosion control for the bay’s surrounding homes and businesses. They dissipate wave energy, minimise the effect of storm surge

Melissa Alvarez inspecting sand placement  
Lisa Baron



Finalising a hummock replanting



Plucking out a hummock to be saved for replanting

and provide flood-risk reduction benefits.”

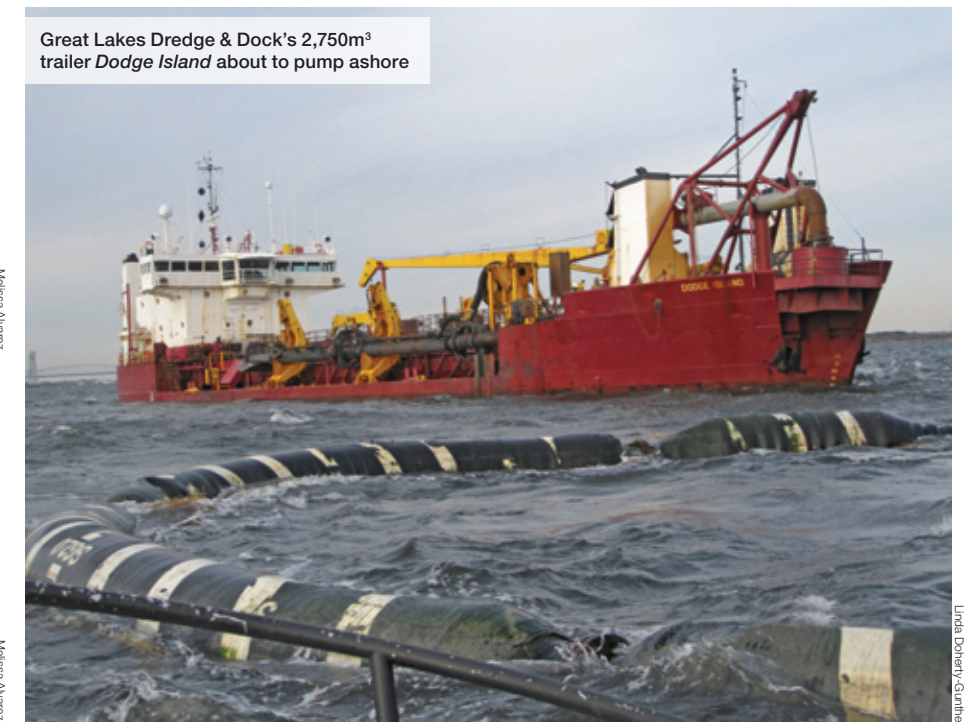
For the public, this means less erosion to personal and business properties, more species available for recreational fisheries, better water quality and preservation of the Gateway National Recreation Area that’s visited by millions of people each year.

## New land

For the past decade, the Army Corps, in partnership with other agencies, has restored 180 acres (73ha) of marsh in Jamaica Bay, including Elders East and Elders West marsh islands and Gerritsen Creek. The Corps is working with the New York & New Jersey Port Authority, the National Park Service (Gateway), New York City Department of Environmental Protection, New York State Department of Environmental Conservation, National Resources Conservation Service and the NY&NJ Harbor Estuary Program.

To restore Yellow Bar Hassock, 375,000 cubic yards (287,000m<sup>3</sup>) of dredged sand has been pumped onto the island and shaped to simulate the proper elevations of a marsh island. The project has added 42 acres (17ha) to the degraded island, restoring it to a 156-acre (63ha) habitat.

The sand placed on the island was dredged from the Ambrose Channel, which is part of the Corps’ NY&NJ harbour-deepening project. In the past, this sand would have



Great Lakes Dredge & Dock’s 2,750m<sup>3</sup> trailer Dodge Island about to pump ashore

been simply disposed of in the ocean, so this programme is a very much a win-win for both the environment and taxpayers.

## Landscaping

Following the dredging, the next task was to plant seed and grasses – collected from within Jamaica Bay – on nearly 30 acres (12ha) of the marsh:

- Low marsh areas were seeded with smooth cordgrass, an anchor for sediment that can tolerate salt and low tides
- High elevations were planted with over 100,000 two-inch (5cm) plugs of saltmarsh meadow grass and spikegrass. These plants are less tolerant of salt, but they are still able to endure salt water during high tides.

Before the sand was placed, the team had also removed 11,000 hummocks from the marsh island’s low lying areas. Hummocks are mounds of terrain and vegetation above ground often made from decaying plants. In this case, they’re made up of native smooth cordgrass. The team stored the hummocks in fenced off areas on the project site.

After the sand was placed on the island, the hummocks were transplanted onto new areas of higher elevation. Hummocks are a natural anchor for marsh sediment because they are part of the historic marsh, are already mature and will rapidly fill in to stabilise the island.

## Finally...

USACE New York district project manager Lisa Baron told DPC: “The other marsh islands we restored look incredibly vibrant and healthy. We can only hope that’s the way they’ll all end up, including Black Wall and Rulers Bar Hassock marsh islands that the Corps began to work on this summer.”

Yellow Bar Hassock is already beginning to look good. Alvarez says she’s spotted Horseshoe crabs laying eggs on the island, crabs that haven’t been seen in the area.

“Just a year ago this island wasn’t suitable for them because it was a barren mudflat,” Alvarez said. “The old adage of ‘build it and they will come’ really suits the Jamaica Bay islands, and specifically Yellow Bar Hassock, extremely well.” **DPC**

## About the author



Dr JoAnne Castagna is a public affairs specialist/writer for the US Army Corps of Engineers’ New York district. She can be reached at joanne.castagna@usace.army.mil. Follow her on Twitter at <http://twitter.com/writer4usacenyc>