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Restored bulkhead on Plum Island



A Mystery No More

As a child, JoAnne Castagna used to imagine Frankenstein-like creatures roaming New York's Plum Island – as an adult, she's discovered the hard work of USACE that goes into preserving the island to continue its work

Growing up on Long Island, I, along with other children, was curious: just what was occurring on the mysterious Plum Island?

Located just off our northeastern shore and inaccessible to the public, there was talk in the media, movies and books that the federal government was conducting animal experiments. So my vivid imagination envisioned operations being performed on animals who

then roamed the island's barren beaches on too many arms and legs.

Ironically, it was only when I read the book *Plum Island* by Nelson DeMille that I learnt about the work that the US Army Corps of Engineers (USACE), New York District has been performing on the island for the past decade.

REALITY

Plum Island is the location of the *Plum Island Animal Disease Center (PIADC)*, in existence since the mid-20th century, and tasked with the important role of performing diagnosis, research and education to protect America's livestock and food supply from animal diseases.

USACE's task is to support this important work as well as preserve the island's rich history and environment – and improve the area's beaches.

In 2001, USACE was asked by the US Department of Agriculture, which owned the island at the time, to restore the eroding bluff around its non-operational, but historic, lighthouse. It was built in 1869 and covers three acres (1.2ha) of the island's west end.

"We constructed an 800ft (243m) rock revetment erosion control structure to stop erosion of the bluff," USACE project engineer Stanley Michalowski told me. "To build the revetment, 17,000 short tons (15,422 tonnes) of stone were used. Afterwards there was enough

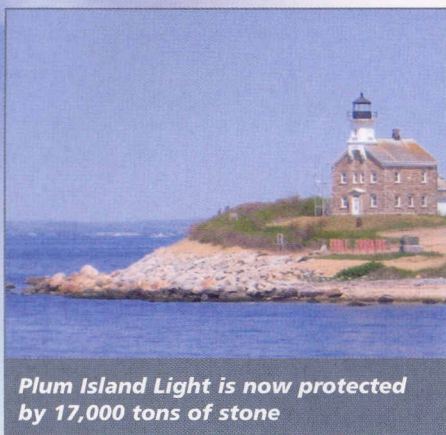
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Photos: Stanley Michalowski,
USACE New York District



Plum Island Light is now protected by 17,000 tons of stone



One of two jetties rehabbed at Plum Island basin entrance

stone remaining to rehabilitate two jetties located at the entrance to Plum Island basin."

The revetment and jetty rehabilitation work was carried out by contractor **James H Rambo** and the stone was beneficially reused material from USACE's Sag Harbor breakwater rehabilitation project.

In 2007, the island's current owners, the Department of Homeland Security (DHS), asked USACE to replace a bulkhead – work done by **Terry Material and Construction** – and perform some essential sand dredging in Plum Island Harbor and in Orient Harbor. It was vital work, as ferries taking personnel to the island were hitting the harbour bottom and it needed deepening to enable tankers to bring essential fuel to the island.

ENVIRONMENTAL WORK

In 2008, USACE dredged approximately 17,430yd³ (15,937m³) of sand from Plum Island Harbor and this year dredged an additional 9,075m³ to restore and reinforce a dune on the island and build a sand stockpile for emergency use if the dune were to erode.

Restoring this dune protects a freshwater wetland that's the recharge area for the island's main well and supplies it with all its fresh water. The dune also acts as a barrier, preventing the ocean's salt water from mixing with the wetland's freshwater ecosystem.

During 2008, 14,020m² of the dune was graded and vegetation encouraged with hand-planted beach grass. This year an additional

4,038m² of the dune was graded and more vegetation was planted, with fencing added to help prevent sand erosion.

FINALLY...

Using contractor **Village Dock**, USACE also dredged 13,565m³ of sand from Orient Harbor to restore two Long Island beaches – Orient State Park and Orient Point County Park. At the moment, the Corps is on the verge of dredging an additional 9,144m³.

Both beaches need replenishment following serious erosion from storms that affected the stability of utility poles – weakened and blown inward – and to protect roadways that experienced erosion. In addition, the sand will build-up beaches, providing additional recreational areas for the public during the summer beach season.

More info at www.usace.army.mil

About The Author



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Cleanup Could Cost \$4Bn

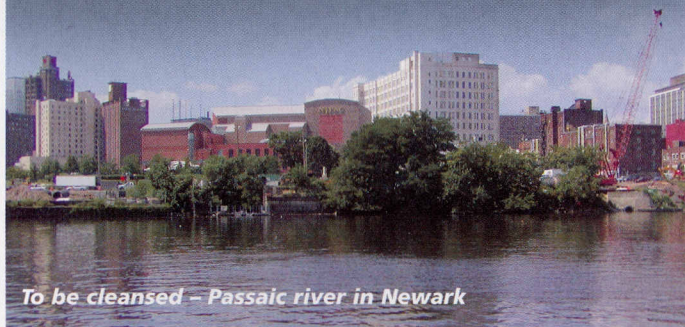
That's the latest estimate to clear contaminated sediment from the Passaic river's most heavily polluted section, according to the US Environmental Protection Agency

Fortunately for **Tierra Solutions**, which agreed to a cleanup under a 2008 agreement with the EPA, its part of the bill for the first two phases is 'only' about \$45M. It involves a site immediately adjacent to the former Diamond Alkali pesticide and herbicide manufacturing plant in Newark, New Jersey. It operated from 1951 to 1969, polluting the river with an extremely toxic form of dioxin left over from the production of the Vietnam war-era Agent Orange, DDT and other chemicals

EPA expects dredging to begin in 2Q/2012 and phase one will see removal of 40,000yd³ (36,576m³) of highly toxic sediment while phase two, which is still under review, will remove a further 146,304m³. The sediments will be piped to a yet-to-be constructed processing facility about 400m downstream, where they will be dewatered, loaded into sealed containers and taken by train for disposal.

There were initial fears that recent flooding of the Passaic would affect the start of dredging but Tierra Solutions' contractors and the EPA both surveyed the site following the flood and concluded that no significant damage had been done.

More info at www.epa.gov/region02/passaicriver/



To be cleansed – Passaic river in Newark

Photo: US EPA

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