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IHS Dredging and Port Construction

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Respect for life

The US Army Corps of Engineers takes the protection of endangered sea turtles and all marine life seriously, writes **JoAnne Castagna**, especially when carrying out beach replenishment projects

Several years ago, Howard Ruben and a team of other biologists with the US Army Corps of Engineers' (USACE) New York district were carrying out environmental work along a New Jersey beach that had been newly restored.

"An onlooker approached us and said he'd seen a baby sea turtle in the water," said Ruben. "Because this is an endangered species and you never see baby sea turtles on the shore in the northeast, we got very excited and began looking for it in the shallows where we'd been working.

"We didn't find anything and went back to our work but just before we left for the day, I saw something in the seaweed along the shore. When I parted the weeds and looked down I saw a plastic baby turtle – one of those that's very realistic. I laughed out loud."

But seriously ...

In northeastern waters there is a small risk that sea turtles can be injured or killed during such beach projects, including the most common endangered species in this region, Loggerhead and Kemp's Ridley sea turtles.

Every time USACE begins a beach replenishment project, it takes measures to protect sea turtles that comply with environmental policies established by the National Marine Fisheries Service (NMFS).

The recent Monmouth Beach replenishment project, in partnership with the New Jersey State Department of Environmental Protection and dredging contractor Weeks Marine, was no exception.

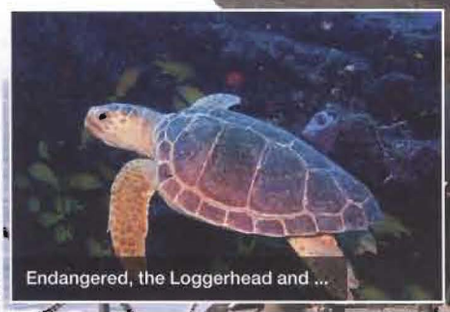
"This area of the New Jersey shoreline is in serious need of sand replenishment," said USACE New York district coastal and hydraulic engineer Dr Roy Messaros. "There hasn't been a beach here in several years and as a result waves break directly on the seawall. Eventually, you'll have a problem with the seawall.

"Building a beach provides protection to a shoreline that's vulnerable to storms and protects infrastructure and homes," Messaros noted. "A beach will also draw visitors to area stores and restaurants, which can stimulate the local economy. Building a beach is also good for the environment. Beaches are essential for sea turtles to reproduce and they're an integral part of our ecosystem."

Scope of work

To replenish Monmouth Beach, USACE is dredging 612,000m³ of sand from an ocean area two miles offshore. Weeks is using trailing suction hopper dredgers that pump the sand ashore through steel pipes, where it's graded to create the beach.

"These dredges are like underwater vacuum cleaners," said Ruben. "Unfortunately, they can also take marine life with the sand."



Endangered, the Loggerhead and ...

EPA

... Kemp's Ridley sea turtles

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Sea turtle observer operations

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ERDC

Sea turtle observers at work

That's why USACE New York follows the NMFS policies and it's been very successful in applying them. Regulations require that the corps carries out dredging during the winter, from December to April, when sea turtles are not expected to be in the northeast. If dredging has to occur during the warmer months – May to November – USACE must take measures to prevent harm to sea turtles.

This includes having a NMFS-certified sea turtle observer (STO) aboard the dredgers around the clock. STOs are trained, independent contractors who observe and document dredging procedures, including whether any marine life is harmed – not just sea turtles, but whales, dolphins and seals too.

The STOs do this by monitoring dredging operations from both inside and outside the dredger. If they spot a marine animal swimming near the vessel, they inform the crew so it can be avoided. If an STO sees a marine animal injured, he'll halt the dredging operation, document the incident and contact the proper authorities, including the USACE district concerned, NMFS and a wildlife rehabilitation facility.

STOs submit daily reports to the district and this information is eventually entered on USACE's national sea turtle database.

"The NMFS sets strict limits on how many sea turtles can be 'taken' during dredging procedures each year and if this limit is reached we must cease our dredging operations," said Ruben. "But for the past 20 years, the district's been very successful. We've documentation of only one possible sea turtle mortality."

Finally ...

That said, Ruben said the need for sea turtle protection remained vital. "USACE has worked tirelessly with the NMFS to develop dredging methods and equipment that minimise the harm to sea turtles. An increase in the awareness of the plight of endangered sea turtles has also led to the creation of commercial fishing gear that's more turtle-friendly. Because of these protective measures, sea turtle populations are showing signs of recovery and we may see more turtles in our waters."

Ruben added: "Even though the district's knowledge and past experience has shown us that impacts to turtles in the northeast are very unlikely, we still go out of our way to protect them by continually expanding our knowledge and improving our methods." DPC

» www.nan.usace.army.mil

» Beach replenishment receives backing

New Jersey senators Frank Lautenberg and Robert Menendez recently announced that the US Army Corps of Engineers will receive more than $24M from the 2012 Energy and Water Development Appropriations Bill for beach replenishment, flood mitigation, environmental restoration and waterway navigation projects in their state.

"Last year, Hurricane Irene and other storms wreaked havoc," said Lautenberg. "These funds will support our coastline by replenishing New Jersey's beaches, which protect our coastal economy from storms."

Menendez echoed his statement: "This investment is critical to our state's economy, our environment and the safety of our residents," he said.

Chris Gardner

On site at Monmouth Beach – USACE engineers Donald Cresitello and Paul Jalowski

» About the author

JoAnne Castagna

Dr JoAnne Castagna is a public affairs specialist with the US Army Corps of Engineers' New York district and writes about corps projects. She can be reached at joanne.castagna@usace.army.mil and followed on Twitter at http://twitter.com/writer4usacenyc