

SHORELINES – June 2011

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Mission Accomplished – Beach Quality Sand Delivered to Ft. Macon and Atlantic Beach

In November 2010, Marinex Construction arrived with their new pipeline dredge (the *Savannah*) to maintain the Outer Harbor of the Morehead City Harbor Navigation Project, and rather than traditionally dumping the dredged sand offshore, the material was pumped to the beaches of Ft. Macon and Atlantic Beach. The project was completed roughly 5 months later (April 2011) and included the excavation/placement of ~1,350,000 cubic yards, representing the first time ever Outer Harbor sand was delivered to the beaches of Bogue Banks at 100% federal cost (Fig. 1). You may remember Ft. Macon and Atlantic Beach have historically been nourished by the federal government utilizing material pumped and temporarily stored in the upland disposal facility of Brandt Island. This might conjure somewhat painful memories of black mud and clay balls littering the beach.

The poor sediment quality associated with the last Brandt Island pump-out in 2005 coupled with a legal complaint filed by Carteret County resulted in the development of a three year *Interim Operation Plan* in order to adequately maintain (dredge) the Morehead City Harbor. This recent nourishment effort at Ft. Macon/Atlantic Beach constituted the first of the three year *Interim Operation Plan*. If you're interested in some of the details or wish to view pictures from the project, please visit <http://www.protectthebeach.com/smp/bbrp/Pumpout/iop/iop%20update.html>.

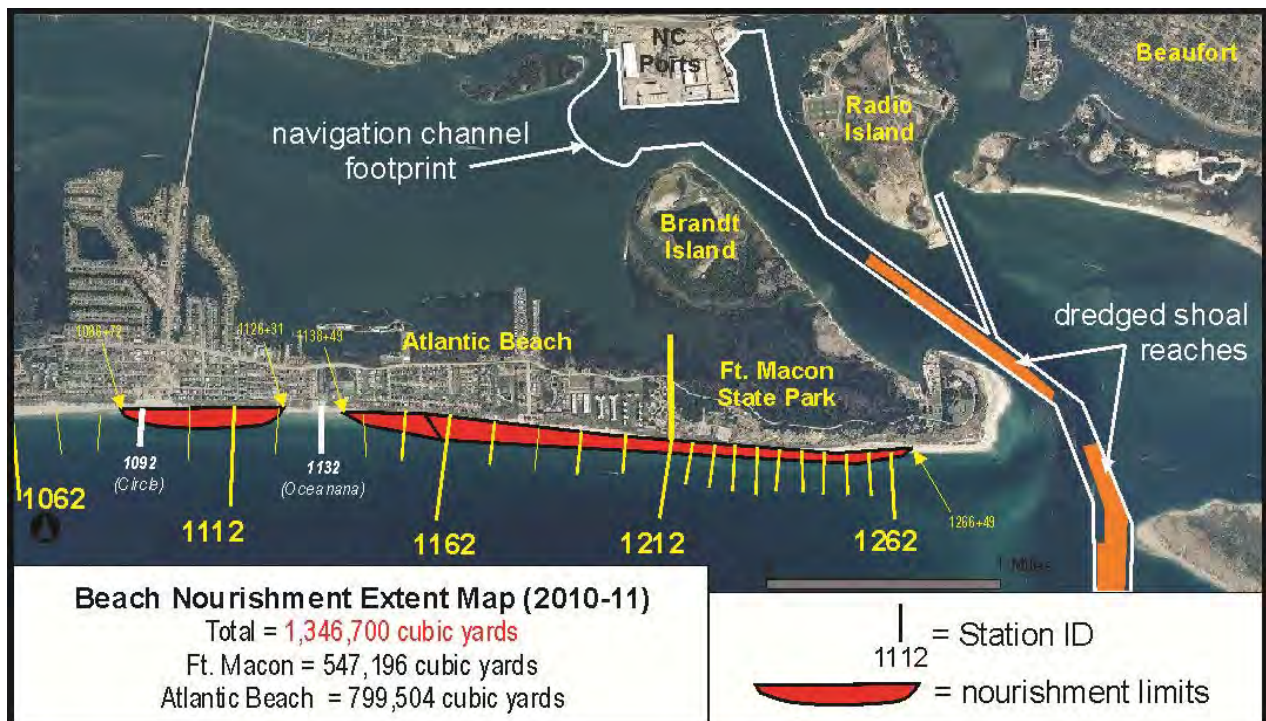


Figure 1 – Site map illustrating the scope of work completed for the Morehead City Harbor Federal Navigation Project in winter 2010-11 (Year 1 of the *Interim Operation Plan*). Sandy shoaling portions of the outer harbor reach were dredged and placed along the beaches of Ft. Macon and Atlantic Beach.

Taking a broader perspective, we can segregate the Harbor into either those areas that shoal with beach quality sand, or those areas that predominantly shoal with non-beach quality sediments (silt and clay). The areas of the navigation channel closest to Beaufort Inlet proper tend to shoal with beach quality material, while the areas closer to the N.C. Port facility and the most seaward reaches of the channel tend to shoal with non-compatible material (Fig. 2).

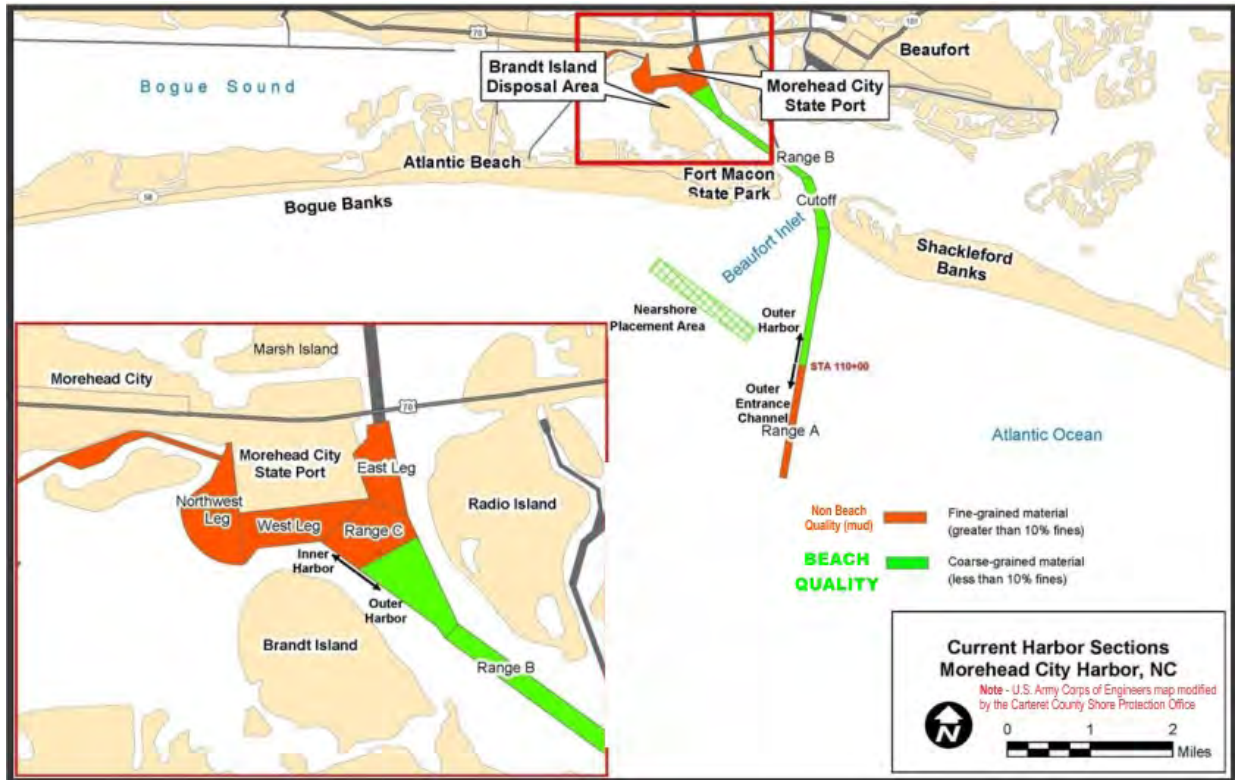


Figure 2 – Morehead City Harbor Federal Navigation Project site map illustrating the reaches that have historically shoaled with beach quality or non-beach quality material (mud).

Year 1 is the only phase of the *Interim Operation Plan* that places sand dredged from the Harbor along the beaches of Bogue Banks. **Year 2** (2011-12) includes “touch-up” dredging of the Outer Harbor with nearshore disposal (~250,000 cubic yards), and **Year 3** (2012-13) includes a more robust maintenance event for the Outer Harbor, with an estimated 750,000 cubic yards of sand to be disposed in the nearshore disposal area. Areas of the harbor containing non-beach compatible shoal material will be dredged in Years 2 and 3, and will be disposed in either Brandt Island (identified in the accompanying figures), or dumped in the southwest corner of the Offshore Dredged Material Disposal Site, located roughly 3 miles offshore.

Importantly, the Corps is also concomitantly developing a *Dredged Material Management Plan* addressing longer term dredging and disposal issues at the Harbor that encapsulates a twenty year time horizon. This later report will be completed in 2012, and is part of a legal settlement the Corps and Carteret County agreed to in December 2008. Thus, the *Interim Operation Plan* will be employed between 2010 - 2013, and the *Dredged Material Management Plan* will be instituted for the following two decades (2013 - 2034). We’re hoping the *Dredged Material Management Plan* in particular appropriately considers and addresses the degradation to the beach that occurs if the majority of beach quality sand dredged from the harbor is dumped offshore. This year’s effort associated with the *Interim Operation Plan* is a good start towards that goal.