Nearshore Projects

Nearshore reefs play an integral role in the ecological and economic productivity of Alabama's artificial reef system. First designed by former Alabama Marine Resources Division Director R. Vernon Minton as a means to make fishing opportunities more accessible to children, they play an important role as a "habitat bridge" for numerous fish species. Nearshore reefs provide transitional habitat for fishes such as grey snapper and gag grouper as they outgrow their inshore juvenile habitats and migrate offshore to their adult reef habitats. Red drum, flounder, and sheepshead also utilize the nearshore waters of the Gulf of Mexico during their annual migratory patterns.

Following Director Minton's passing in 2010, AMRD began construction on two (2) specific areas designated as nearshore reef zones, the R.V. Minton East, and R.V. Minton West reefs, respectively. Each has added proven value to the state's overall reef system. However, despite the ecological importance of the nearshore area to a wide variety of economically important finfish, the nearshore zones comprise the most underdeveloped portion of Alabama's entire artificial reef system.

This plan proposes engineering a number of enhancements for the nearshore reef zones, such as:

- The deployment of an additional 250 juvenile fish shelters constructed from modular limestone gabions containing interior void spaces to provide refuge for juvenile reef associated fishes from predators within R.V. Minton East and R.V. Minton West.

- Enhancing the seabed at five (5) specific gas platforms with 6"-12" rip rap, deploying approximately 5,456 tons of stone at up to 24" elevation over 0.25 acres of seabed at each oil rig.

- Developing a snorkeling reef complex by deploying seventy-five (75) anchored reef structures, similar to eco-reefs, which would run parallel to the beach in the waters off the Baldwin County shoreline. This development will serve as a major tourism draw for the coastal communities, and diversify the use of the reef structures across a larger human population while providing transitional habitat for fish species.

- Creating three (3) additional nearshore reef areas approximately 2-3 nautical miles offshore in the Gulf of Mexico. This project consists of constructing

both juvenile and intermediate stage habitats and requires the deployment of one hundred and fifty (150) 6' concrete/limestone pyramids, as well as one hundred and fifty "juvenile fish shelters" within each newly formed reef zone.

- Creating three (3) additional reefs within the newly zoned waters up to nine nautical miles of the coast. These reefs are estimated to measure 90-100 square acres.

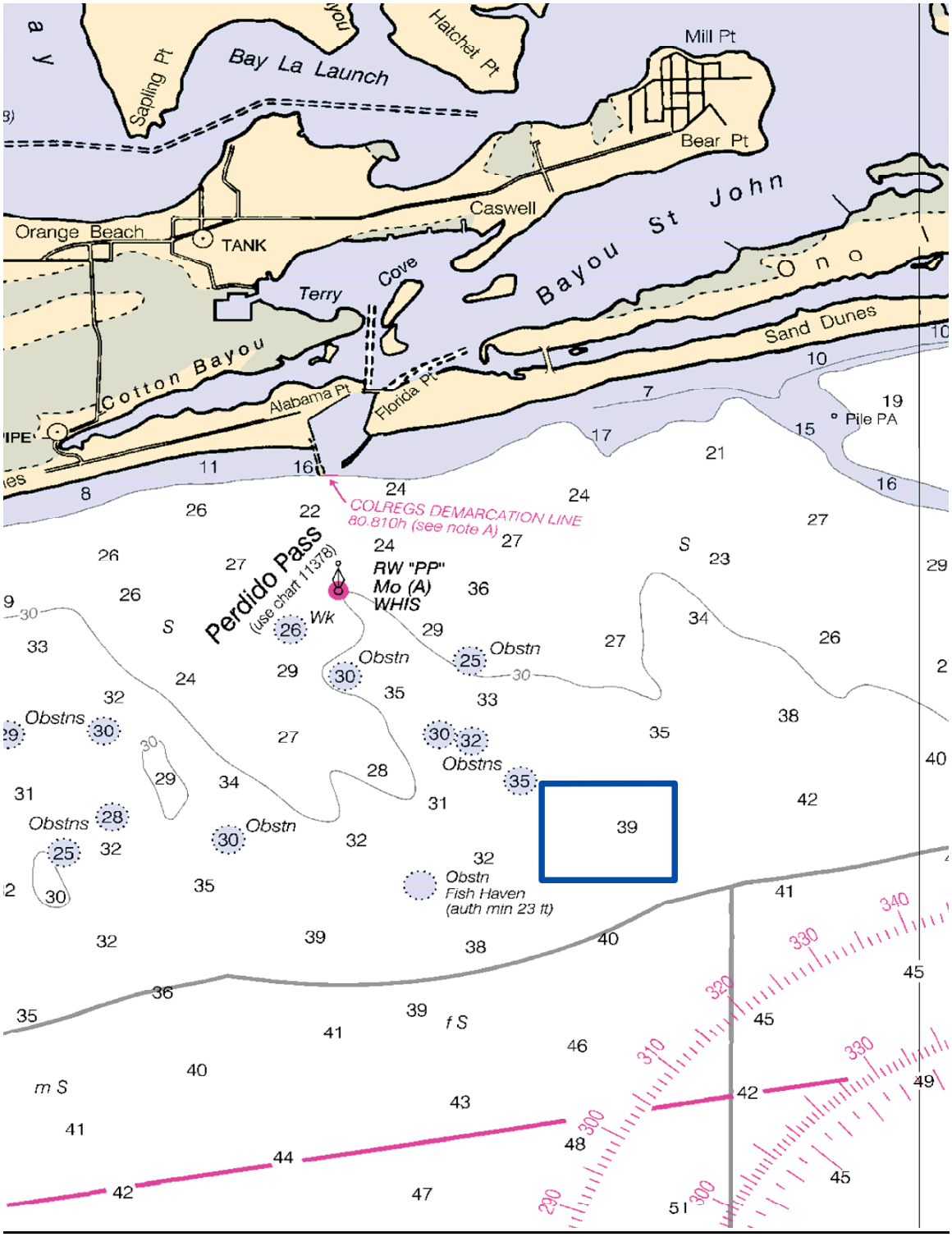
The total estimated cost for the proposed nearshore projects, including five years of scientific research and monitoring, is **$4,607,937**. A breakdown of the proposed projects with the correlating cost can be seen in Figure 2.A.

Figures and Maps

Figure 2.A. Proposed Nearshore Reef Zone projects and total estimated cost for construction and material based on 2014 figures.

Nearshore Reef Project	Cost
150 Fish Shelters in each of 3 New Nearshore Zones	**$900,000**
150 Pyramids in each of 3 New Nearshore Zones	**$582,750**
Juvenile Shelters in R.V. Minton Nearshore Zones	**$500,000**
Monitoring	**$625,000**
Reefing Base of five (5) Gas Platforms	**$600,187**
Research	**$1,250,000**
Snorkeling Reef	**$150,000**
Total	**$4,607,937**

Map 2.B Location of R.V. Minton East nearshore reef zone permitted by the United States Army Corps of Engineers permit #SAM-2010-0505-DEM.



Map 2.C. Location of R.V. Minton West nearshore reef zone permitted by the United States Army Corps of Engineers permit #SAM-2010-0505-DEM.