

Job Report

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Rebuilding, or Supplementing of, the Artificial Fishing Reefs in the Gulf of Mexico

Abstract: A departmental constructed artificial fishing reef in the Gulf of Mexico, located 6 miles southeast of Port Aransas (Figure 1), was partially destroyed by strong currents and, in September 1961, by Hurricane Carla. This reef had provided an improved fishing habitat which yielded ling, king mackerel, and red snappers before the car bodies, which made up the reef, were scattered. Concrete rubble, clay pipe, and concrete pressure pipe were placed on the reef location in an effort to supplement the reef and restore the favorable fishing habitat which existed before the reef was damaged.

Objectives: To rebuild, or supplement, an artificial fishing reef in the Gulf of Mexico.

Procedures: Concrete rubble, clay pipe, and concrete pressure pipe were placed on the Port Aransas Reef at latitude $27^{\circ}46'25''$ and longitude $95^{\circ}58'15''$ in 10 fathoms of water approximately 6 miles southeast of Port Aransas.

All material was purchased by the Port Aransas Boatman's Association, and the hauling was done by a private firm under contract. Loading and unloading was done, in part, by Parks and Wildlife Department employees and, in part, by a private firm.

Findings and

Discussion: Sports and commercial fish are known to congregate over natural reefs. Artificially formed reefs also attract fish. This fact became apparent after fishing was found to be productive in the vicinity of wrecked and sunken ships. Sunken artificial fishing reefs up and down the Texas coast have yielded ling, king mackerel, and red snapper. One reef, near Port Aransas, made up originally of 600 car bodies (Figure 2), was constructed by the Texas Game and Fish Commission to improve offshore fishing. It was found that the first inhabitants of the old car bodies were barnacles, larval crabs and shrimp, protozoans, and copepods. Small food fish fed on these small marine animals. When big game fish moved in to feed on the small fish, they became available to the sportsman by being concentrated on the reef.

The reef near Port Aransas was very productive at first but gradually diminished in size as the car bodies broke loose and were washed away by strong currents.

Plans for rebuilding the reef got underway on June 7, 1963, when approximately 400 sections of 18- and 24-inch diameter clay pipe, each pipe 5 or 6 feet

long weighing 350 to 500 pounds, plus 26 large sections of concrete pipe 5 feet in diameter and 5 feet long and weighing 6,000 pounds each, were unloaded at Aransas Pass, Texas. This material was purchased by the Port Aransas Boatman's Association, Port Aransas, Texas. The first load of material was placed on the reef on June 14, 1963. A contract was awarded to a marine construction company for barge rental and towing the materials to the Gulf location. The cost was \$171.00. The material was loaded and unloaded by Parks and Wildlife Department employees.

The next load of material was placed on the reef on August 19, 1963. Cost of hauling this material was \$1,600.00.

Fathometer tracings of the reef taken September 5, 1963, showed good results. Biologists of the Parks and Wildlife Department dived on the reef at this time but extreme water turbidity on the bottom limited visibility.

Bids to transport two barge loads of mixed concrete and clay pipe, weighing about 800,000 pounds, were obtained and the material was loaded by Parks and Wildlife Department employees on October 15, 1963. On November 7, 1963, the last two loads of material were hauled and unloaded (Figure 3) by a contractor at a cost of \$1,725.00.

During the period when the reef was being reconstructed, the buoy marking the reef broke loose and was replaced on August 15, 1963, by a contract at a cost of \$600.00.

Catches of small to medium size snapper were reported almost immediately after the construction was completed.

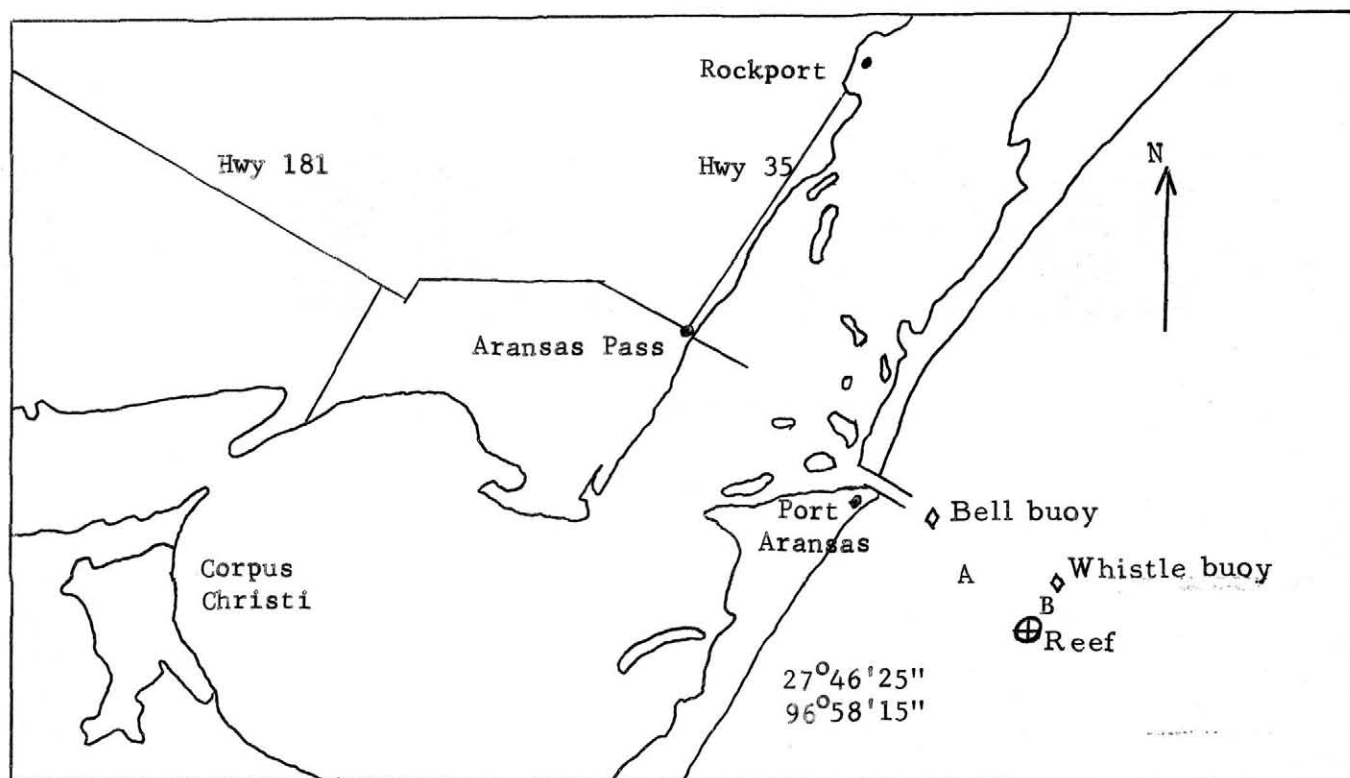
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Figure 1
Location of Artificial Reef



A = bearing 140° true
 131° magnetic
 distance 4 nautical miles from bell buoy

B = bearing 215° true
 206° magnetic
 distance 1.4 nautical miles from whistle buoy

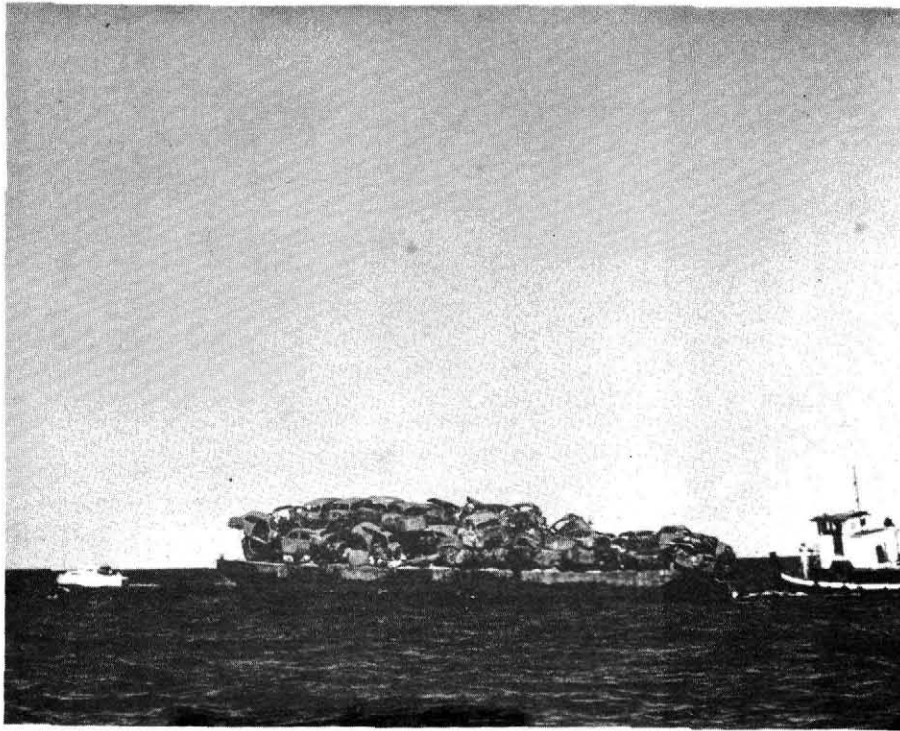


Figure 2
Barge load of auto bodies to construct original reef.

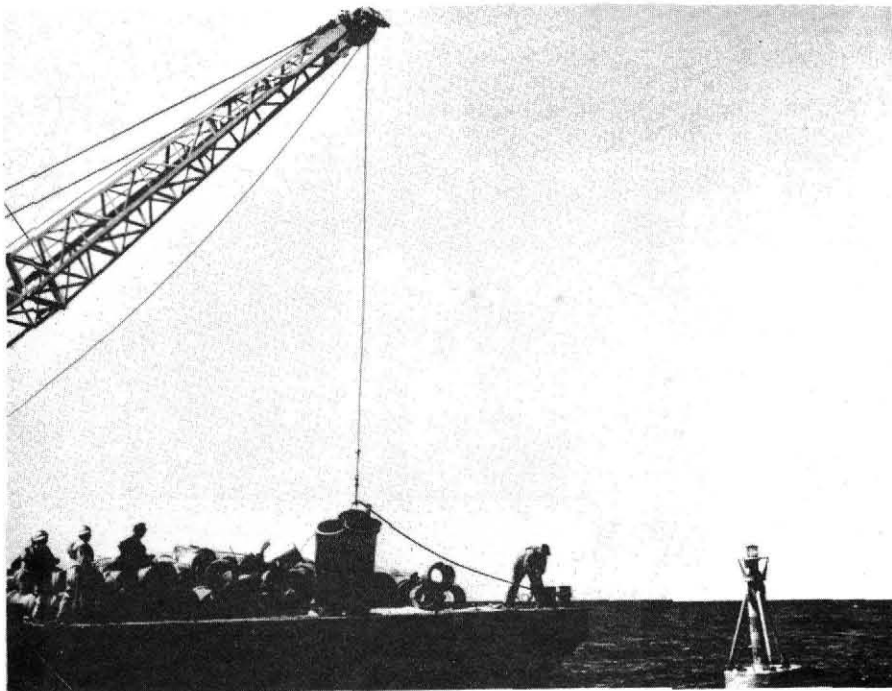


Figure 3
Clay and concrete pipe replace auto bodies at reef site.