

# NEW CAREER FOR OLD BARGES

BY BENJAMIN G. PATTEN AND RAE R. MITSUOKA

Two old wooden barges, retired from carrying sand and gravel on Puget Sound, have started second lives at the bottom. They have become fish sanctuaries about 300 feet offshore—one, off Seahurst County and Saltwater State Parks south of Seattle, and the other off Kopachuk State Park west of Tacoma.

Washington State park planners have been wanting to establish underwater habitats, and hope to develop a series of facilities—man-made reefs in variety, from old tires to sunken observation towers—both for divers and for nondiving viewers. The sinking of these barges, which Foss Tug and Barge Company donated to the park department, reward the first efforts.

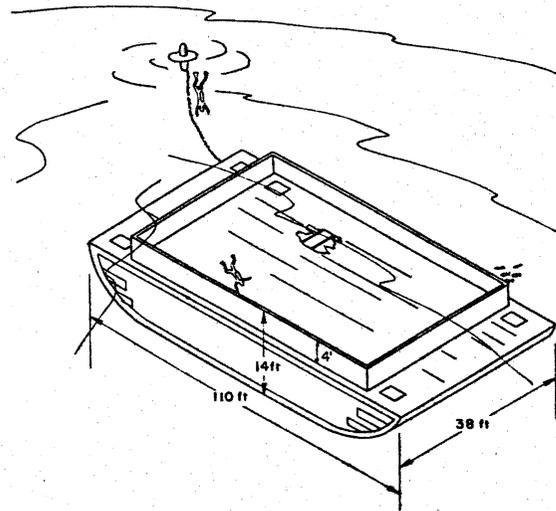
Fish don't congregate in sandy areas unless there's some submerged object to orient to, and Puget Sound has lots of sandy slopes. Chuck Miller, state park planner at Olympia, tells of diving off Saltwater Park to look for a site. An 8 foot log, 3½ feet thick had attracted fish, which hovered around the top and ends, and sheltered an octopus underneath.

The two barges were sunk by the Foss Company at their sites in 40 feet of water in October, 1971. The sea bottoms where they now rest are characteristic of the state's littoral zone—sand and cobble.

On November 28, Chuck Miller, his 16-year-old son, Grant, and I (B.P.) dived on the sites to see what marine life had been attracted during the first two months. We saw teeming life around the old wooden hulks. At Seahurst, three cabezon (large sculpin), about 9 to 15 pounds, were at lookout positions on the ledges. There were 40 copper rockfish from 8 to 12 inches long. Well named, the species emits a burnished glow underwater. About 40 striped seaperch hovered over the bin and mixed with a dozen or so pile perch. The underwater park at Saltwater revealed a slightly different assortment—400 coon stripe shrimp, 30 starfish, 2 octopuses (30 to 50 pounds), 150 striped seaperch, 100 pile perch, 60 copper rockfish, 1 painted greenling, and 1 sculpin. Shells of crab and clams outside the octopus apartments evidenced quite a few octopus meals.

Recognizing a need for an underwater parks system to accommodate the fast growing sport of SCUBA diving, the Washington State Parks and Recreation Commission arranged to establish eight underwater park areas in cooperation with the Department of Natural Resources, which has jurisdiction over all bedlands. An Underwater Advisory Committee, experts in all aspects of underwater environment, was formed to advise park planners.

A concept being considered is "Upland Facilities"—superstructures built over underwater observation towers, where visitors would stay dry and watch marine life close up. One or two elevators would move people up and down. Miller wants to make the parks accessible to all people, including the handicapped, and to have ramps for people in wheel chairs. A high school or college marine biology group could camp overnight and study marine life during different tides. He would like to see a habitat in the San Juan Islands where the water is known for clarity.



Closer to reality are "Access Areas" for divers. They will have parking for 10 to 20 cars, change court (where divers can suit up), and a trail to the beach. The main purpose is an area where a diving party can get together and maneuver away from dangerous traffic.

Miller wants 8 to 10 of these along Hood Canal, with picnic facilities for nondivers so that the divers in a party could bring up fresh fish or scallops to cook on the spot.

Another fish habitat—the rubber tire reef can be "grown" from an endless supply of material, which the Washington State Park Department gets free. Three tires, forming a triangle, are tied to a fourth, forming a tetrahedron (or 4-faced shape). The top three tires are weighted with 30 pound concrete cylinders, which are discarded by the State Highway Department. About 10 of these tetrahedrons are sunk to form one side of an underwater diamond. The entire configuration is placed so as not to obstruct current flow.

Cars, streetcars, quarry rock and concrete shelters were sunk into Santa Monica Bay, California, after extensive study of the area by fishery biologists and oceanographers. An underwater observation tower was built at Shirahama, Japan (near Osaka) in about 30 feet of water. Six more are in the offing in Japan, and inquiries are coming from Okinawa. An observation tower is itself a type of artificial reef, because marine life tends to congregate around it. In Northwest waters, uses of artificial reefs will probably differ from those elsewhere. There are 50 parks adjacent to salt water in Washington. More underwater parks will no doubt be established, with more opportunity to experiment and to study different artificial reef structures.

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