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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

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Tests undertaken for the U. S. Navy by the Fish and Wildlife Service four years before Pearl Harbor are now contributing to the speed and efficiency of seaplanes and combat vessels, according to reports to Secretary of the Interior Harold L. Ickes.

In an outdoor laboratory developed for the purpose at its Beaufort, North Carolina Station, the Service began tests in 1937 to find a paint for the aluminum hulls and pontoons of seaplanes which would meet two vitally necessary requirements: to withstand the corroding effects of seawater on aluminum surfaces, and to prevent the attachment of barnacles and other marine animals that may cut the speed of boats in half and make it almost impossible for a seaplane to rise from the water.

Fouling of underwater surfaces usually takes place while the craft are in coastal waters and is caused by the attachment of young, swimming stages of barnacles and a variety of other marine animals and plants. As the organisms grow, the weight of material encrusting the hulls of vessels or seaplanes increases enormously. Ships often carry 100 tons of fouling material, sometimes as much as 300 tons.

Without some means of preventing the attachment of marine growths, torpedo boats, seaplanes, and vessels engaged in combat operations would have to be taken out of service about every six months for scraping and repainting in drydock.

In addition to the serious loss of speed, heavily fouled boats consume much greater quantities of fuel because of the added resistance to the water.

To find a paint that could be used on aluminum surfaces to combat fouling, tests were undertaken at the request of the Navy by Dr. H. F. Prytherch, a marine biologist of the Fish and Wildlife Service in charge of the Beaufort Station.

Using aluminum and paints supplied by the Navy, Dr. Prytherch submerged test panels in the narrow passage that separates Pivers Island - site of the Beaufort Laboratory - from the North Carolina mainland. Because of the strong tidal flow through the pasage and the variety and abundance of marine organisms in the water, this was found to be the most favorable spot along the Atlantic coast for conducting the necessary tests.

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Some 35 different paints were tested in the series of experiments, which were continued through several seasons. At the conclusion of the experiments Dr. Prytherch was able to recommend to the Navy two paints which could be used to prevent the attachment of marine organisms for long periods of time. The paints also met the exacting requirements for use on aluminum to be submerged in seawater, and can be used on other metals as well.

Both of the paints chosen - one developed by the Navy, the other a commercial product - are now being used successfully on Naval air and surface craft of all types. They are also available for use on merchant and passenger vessels.

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