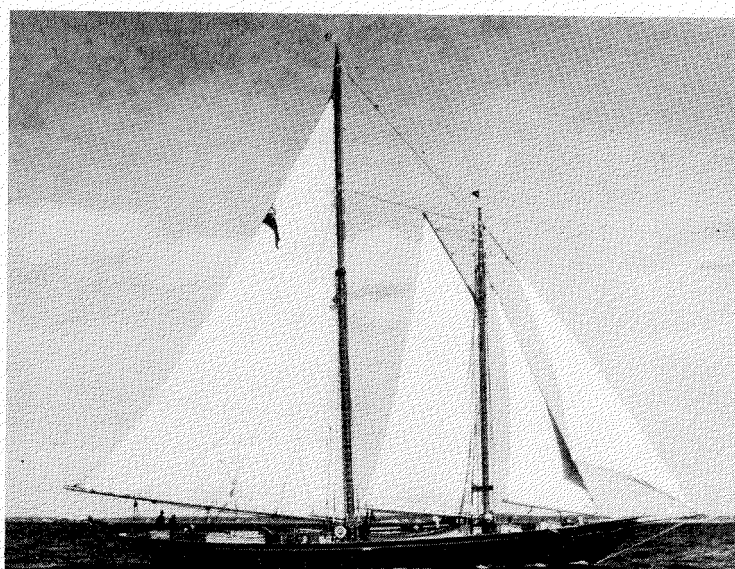
Blue Dolphin berthed at East Gloucester, Mass. Removal of the cabin house aft of the main mast will provide deck space for hydrographic and trawl winches.

(Photos from D. C. Nutt)

Blue Dolphin under sail. For northern operation the large sail area will be reduced about 20% by shortening the long bowsprit and main boom.



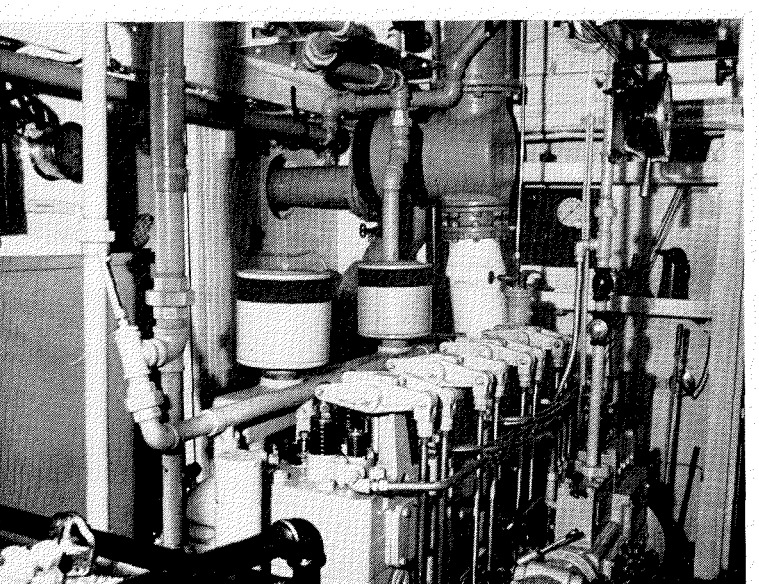
BLUE DOLPHIN EXPEDITION TO LABRADOR

Commander David C. Nutt, U.S.N.R., of Dartmouth College, Hanover, New Hampshire, is to lead a scientific expedition to Labrador in June 1949. The following is a description of his vessel, which will sail under the auspices of the Arctic Institute of North America.

The *Blue Dolphin*, designed by W. J. Roue and built by the Shelburne Shipbuilders, Ltd., Nova Scotia in 1926, has lines similar to the famous *Bluenose*. Heavily timbered with 9-inch double frames and heavy planks, she has an overall length of 100 feet, a beam of 22 feet, and a draught of 12 feet. Her registered net tonnage is 68, and her gross tonnage 91. It is planned to sheathe the hull with greenheart, a South American hardwood which polishes instead of splintering under ice abrasion. The stem will be strengthened and a heavy iron shoe added.

For power, a new 140 hp. Wolverine 4-cylinder, 4-cycle, 8½-inch by 10½-inch heavy duty diesel engine was installed in 1947. This engine provides a nice compromise between fuel economy and speed, and gives a cruising speed of 7 knots with a maximum of 8 knots. Additional fuel tanks have been added to give the *Blue Dolphin* a cruising range of over 4000 miles. The present two-masted schooner rig with Marconi main has a sail area of over 4000 feet, but will be reduced about 20% by cutting the bowsprit down to a 4-foot stub and shortening the main boom approximately 7 feet. This will leave an adequate sail area, as well as balance with which to operate and maneuvre the vessel under sail alone in the event of damage to the screw, but will eliminate the long projecting bowsprit and main boom, which are undesirable in northern operation. (The bobstay fastened to the stem at the water line is of greater concern than the bowsprit, for if it was broken in ice navigation or otherwise, the vessel would be dismasted.) Sails are considered a desirable auxiliary which can provide for fuel economy by helping the vessel along in a fair wind and which may save the vessel in the event of damage to rudder or screw, a real possibility in northern navigation.

The *Blue Dolphin* will carry an 18-foot power launch and two or three fisherman dories for boats. It is also planned to add hydrographic and trawl winches, and deep-sea sounding gear, samplers, and other scientific equipment for hydrographic and oceanographic investigations. Space will be provided for small laboratories. When re-fitted, there will be accommodations for about 18 to 20 hands including a crew of six with the remaining space for scientific workers and student assistants. It is planned to take three to five research workers to carry out field studies. The student assistants will assist in both underway operation of the ship and in carrying out the field work. Preliminary plans for operation in 1949 are to make hydrographic and other studies in the Strait of Belle Isle and along the Labrador coast.



Main engine of *Blue Dolphin*. The 140 hp. Wolverine diesel giving a cruising speed of 7 knots provides a nice balance between speed and fuel economy.