



The three-man submarine used by fisheries research scientists in the Bay of Fundy and the Gulf of St. Lawrence.

### SUBMARINE LABORATORY

For the second successive year, the Fisheries Research Board of Canada, in co-operation with the Department of Energy, Mines and Resources, is using a submarine in its research program.

In 1968, the feasibility of a submersible craft for underwater research was established and, though its field of operation was limited, its potential was recognized. This year, with a more sophisticated vessel, it is expected that unsolved questions concerning herring, scallops, and queen crabs will be answered.

The *Shelf Diver*, a 23-foot submarine with accommodation for three observers or one observer and two divers, was chartered from the Perry Submarine Builders of Florida. It operates to a depth of 800 feet and incorporates a built-in decompression chamber that will allow divers to emerge to depths of 800 feet. It is this feature, as well as better visibility from inside the craft, that makes it superior to the *Cubmarine* used last year.

FRB scientists will use it in the Bay of Fundy and the Gulf of St. Lawrence. In the Bay, more intense studies will be made of the scallop stocks and their placement on the ocean-floor. How scallops are "spread" has long been uncertain. Scientists want to know whether they congregate in a cluster or if they stretch out in long lines. With the help of the *Shelf Diver*, Dr. John Caddy and his staff will be able to observe the scallop community at close quarters.

Decline herring stocks in the Maritimes have caused considerable concern recently and it is hoped the submarine will provide at least some of the

answers to this problem. Unlike West Coast herrings, those of the East Coast spawn at depths of from 40 to 60 feet. Since shore-spawning is usual on the Pacific coast, it is relatively easy to check the spawn and make reasonable estimates on future harvests. However, in the Bay of Fundy, scientists must go below the surface to do accurate surveys.



A diver operates from the submerged vessel.