REPORT ON 1971 CHESAPEAKE BAY HERRING FISHERY

Northeast Fisheries Center

National Marine Fisheries Service

Woods Hole, Massachusetts 02543

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Report on 1971 Chesapeake Bay Herring Fishery

Because of increased high sea fishing pressure on herring stocks in recent years, Chesapeake Bay landings have taken on added importance. The increase in fishing pressure is dramatically demonstrated by the following figures on catches in ICNAF Subarea 6. Foreign landings of sea herring in 1970 increased 900 percent over 1967 landings (1967: 4,000 metric tons, 1970: 38,000 metric tons). Landings of alewife by the U.S.S.R. increased 600 percent between 1967 and 1970 (from 1,000 metric tons, to 6,000 metric tons).

The International Commission for Northwest Atlantic Fisheries (ICNAF) recently decided it was time to limit catches of sea herring in order to avoid serious depletion of these valuable stocks. Careful analysis of scientific data on the stocks preceded negotiation over quota levels.

The same kind of information needed by ICNAF to establish management regulations is also needed to negotiate bilateral agreements for the Mid-Atlantic waters. The National Marine Fisheries Service must furnish this information for U.S. negotiators in the form of scientific data on the status of the stocks.

Historically, species composition of landings from the Chesapeake area have been predominantly sea herring early in the season, changing to "river herring" (alewife and blueback herring) as the season progresses. Accurate estimates of species composition have been lacking in previous records, however.

We can estimate species composition of the total catch when we know the species composition of a randomly-selected portion of the total because the laws of statistical probability tell us the percentages will be about the same. Thus, for 1971 we randomly sampled the herring segment of the landings to determine species composition for blueback herring and alewives.

In order to apply known characteristics of a sample to the total, however, it is necessary to use the most descriptive sampling methods. During the 1971 season, then, we collected certain auxiliary data that, when analyzed, would enable us to refine sampling procedures for the 1972 season.

Our sampling period in 1971 covered the last three weeks of April and May. Records indicate that 1971 river herring landings totaled 10.3 million pounds which

estimates indicate was 72 percent of the total landings. The other 28 percent (3.9 million pounds) was made up of other species, predominantly menhaden.

Blueback herring, comprised about 92 percent (9.5 million pounds) of the river herring landings during our sampling period, while alewife landings made up 8 percent (0.8 million pounds).

In our data collecting, we gained much needed insight to trip and location variations as well as fishing characteristics. These findings will enable us to build a more precise sampling model for future years.

Of course, this work could not have been accomplished without the direct aid of fishermen and processors of the area. This help was essential in 1971 as well as being more urgently needed in 1972, since more definitive data collecting will be required over the entire fishing season.