THE HADDOCK PREDICTION FOR 1952

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For the past 25 years the stock of haddock most important to United States fishermen has been that on Georges Bank. During this time Georges Bank has produced annually as much as 223 million pounds (in 1929), and as little as 50 million pounds (in 1934). Since 1934 production has fluctuated between 78 and 122 million pounds. These fluctuations in catch have always been a cause of concern to the fisherman and have contributed to crises in the fishing industry. Since 1945 the abundance of Georges Bank haddock has declined. Also, the proportion of "large" to "scrod" haddock dropped to an all-time low in 1950.

The question in everyone's mind at that time was whether this downward trend would continue or whether the stocks would again increase. For many years it has been considered highly desirable to be able to predict the future ups and downs in the haddock population.

Early in 1951, after several years of intensive study of the Georges Bank haddock population, a method of prediction was developed.

The first annual prediction was made for the year 1951. This was made in April 1951, but was based entirely on data collected during 1950. This prediction was for the haddock year, that is, for the 12-month period beginning February 1, 1951 and ending January 31, 1952. When the returns were in for the 1951 landings, it was found that the prediction had been remarkably accurate. As reported in the March 1952 issue of the Atlantic Fisherman, the Georges Bank haddock catch was predicted to be 92.8 million pounds. Actually about 91.3 million pounds were landed. Thus the prediction was 98.4 percent correct. The landings represented a considerable increase over the 80.5 million pounds landed in 1950.

The detailed analysis of last year's data is now completed and the second prediction can be made--for the haddock year 1952. It is presented here as a service to the fishing industry of New England.

Before we make this second prediction, however, it is appropriate to mention certain trends in the Georges Bank haddock fishery which largely determine next year's fishing. For the past two years the fishery has been maintained very largely by one single brood of fish--those hatched in 1948. As 2-year-olds in 1950, this brood contributed over 38.4 million pounds of the total of 80.5 million pounds (or almost 48 percent) of all 9 ages landed. As 3-year-olds in 1951 this same brood contributed over 49.0 million pounds of the total of 91.3 million pounds (or almost 54 percent) of all ages landed. The tremendous importance of this one brood to the fishery is thus apparent. In fact, it may be said that there would have been extremely poor fishing on Georges Bank during the past two years if it were not for the brood of 1948. Now this big brood is not completely decimated. They will contribute in 1952; but their peak of contribution was passed as 3-year-olds in 1951.

Of the other broods now in the fishery, those which were 4-, 5-, 6-, 7-, 8-, and 9-year-olds in 1951 will also be less abundant in 1952 than they were in 1951; but those which were 1- and 2-year-olds will be more available than they were in 1951. Neither of these two young broods (those spawned in 1949 and 1950) are of particularly large proportions however. The measures of their strength that we have to date indicate that they are only of average magnitude, or slightly below average. Thus they cannot be counted upon to contribute to the extent that their predecessor (brood of 1948) did when it was 2 or 3 years of age.

Furthermore, there will be one brood affecting the 1952 fishing which had no effect in 1951, that is, those which were 0-year-olds in 1951 and which will be 1-year-olds in 1952. We do not have a precise measure of the magnitude of this brood, but 1-year-olds as such are never very important to the fishery. They contribute an average of only 0.6 million pounds per year and have never contributed more than 2.6 million pounds, thus they cannot affect the outcome in 1952 very much.

The net effect, after considering the poundages and relative numbers of the different ages involved, is that increases in the fishable stocks of the younger ages will not compensate for decreases in the stocks of all older ages, thus a smaller fishable stock will be available on Georges in 1952 than in 1951. Under present conditions of fishing, a decline in the landings per boat day is inevitable.

The degree to which total landings will decline depends, of course, on how much fishing is actually done. If the amount of fishing is the same in 1952 as in 1951, we predict that landings for 1952 will be about 89.0 million pounds.

It appears, however, that less fishing may be done on Georges Bank than last year, as fish are abundant on the Nova Scotia banks and considerable fishing time may be spent there instead of on Georges. We are able to make predictions to cover this situation also. For instance, if the amount of fishing on Georges declines 10 percent, we estimate the catch will be about 84.0 million pounds; if it declines 20 percent, the catch will be about 79.0 million pounds; and if it declines 30 percent, the catch will be about 74.0 million pounds.

Although an increased amount of fishing on Georges does not appear likely in 1952, we estimate that for a 10 percent increase in fishing effort about 94.0 million pounds will be landed, for a 20 percent increase in effort about 99.1 million pounds will be landed.

Due to the inherent variability of fishery data, it is too much to expect that these predictions will prove 100 percent accurate. However, if no major changes occur in the fishing habits of the fleet or the schooling habits of the fish, the chances are better than 2 out of 3 that actual landings will not deviate from the predicted by more than about ~~7 million pounds.~~ eight per cent.

Although the landings of haddock from Georges Bank in 1952 are expected to decrease if fishing effort remains the same, the size of fish landed will be greater than during the past two years. In 1950, haddock averaged smaller than in any previous year (1.86 pounds per fish). In 1951 there was a partial recovery (to 2.13 pounds per fish) and in 1952 the average weight will be even greater. Furthermore, a larger proportion than usual will be in the 2-1/2 to 3-1/2 pound range.

We also predict that, for the first time in 3 years, the ratio of "large" to "scrod" will return to the more normal condition, that is, landings of large will again exceed landings of scrod.

Not only will the proportion of large haddock to scrod increase in 1952, but the actual landings of large haddock will be greater than in 1951 and the actual landings of scrod will be less than in 1951, provided the fishing effort is about the same as last year.

This, then, is the situation to be expected on Georges Bank in 1952 if fishing methods remain the same as they have been over the past 20 years, our prediction of the future having been based upon experiences and events of this span of years. If, however, the method of fishing changes appreciably, as it will, for instance, if the proposed minimum mesh regulation becomes effective during the year, then obviously these predictions would not apply.