

Marine Resource Advisory

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1940-1990
VIMS

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Short-Run Situation Outlook: Mid-Atlantic Sea Scallops

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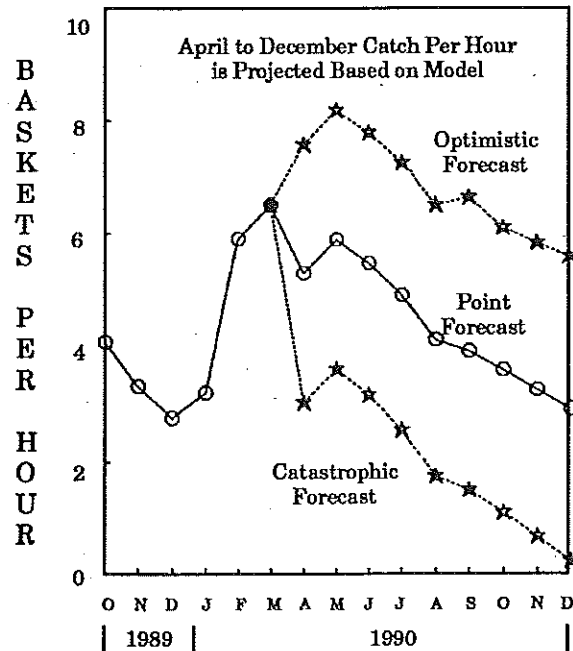
Since April 1987, sea scallop vessels in the mid-Atlantic have provided shellstock samples from the last tow of their trip to scientists at the Virginia Institute of Marine Science, College of William and Mary. These samples have provided the basis: (1) to determine that scallops in the mid-Atlantic spawn twice per year, (2) to determine the relationships between shell size and meat weight according to season and location and (3) to allow us to make short-term predictions based upon current information provided by scallop samples.

In the last three months of 1989, a combination of factors created problems for commercial harvesters of sea scallops. Scallop prices declined, fuel prices increased and there was a decrease in the abundance of harvestable scallops (Figure 1). More importantly, however, was an unprecedented decline in meat yields for all sizes of scallops (Figure 2). This major decline followed a continual deterioration of meat yields noted since late summer 1989.

During the first three months of 1990, there were dramatic changes in resource conditions. These changes, though, were favorable to industry. Following normal seasonal patterns, there was an abnormally large increase in meat yields between

Figure 1

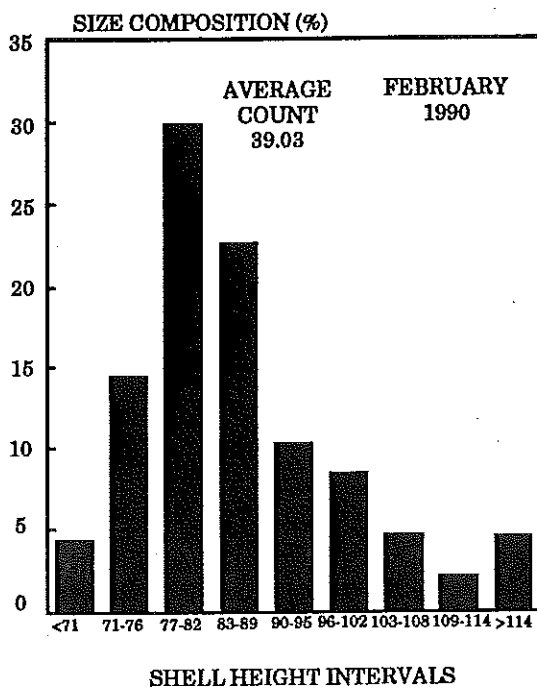
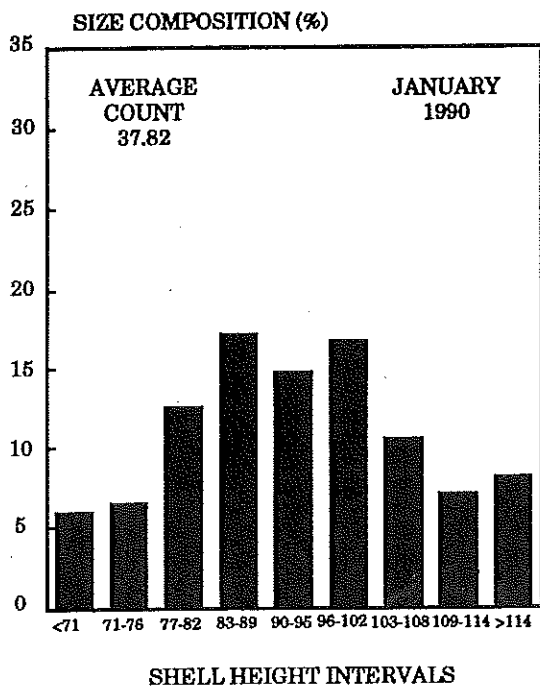
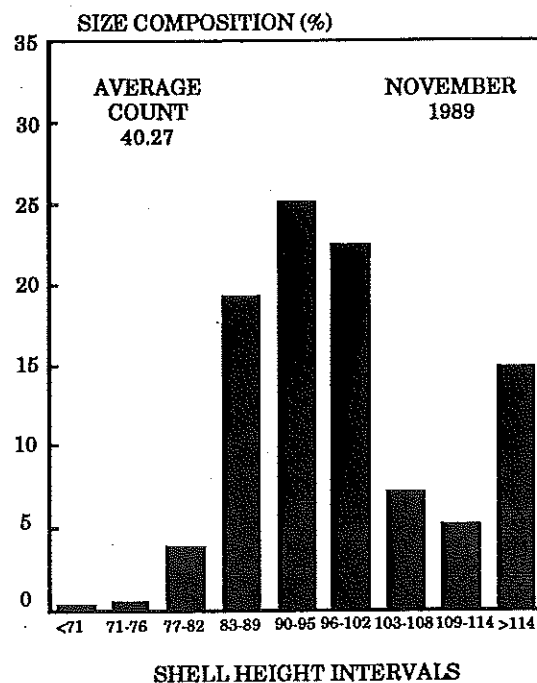
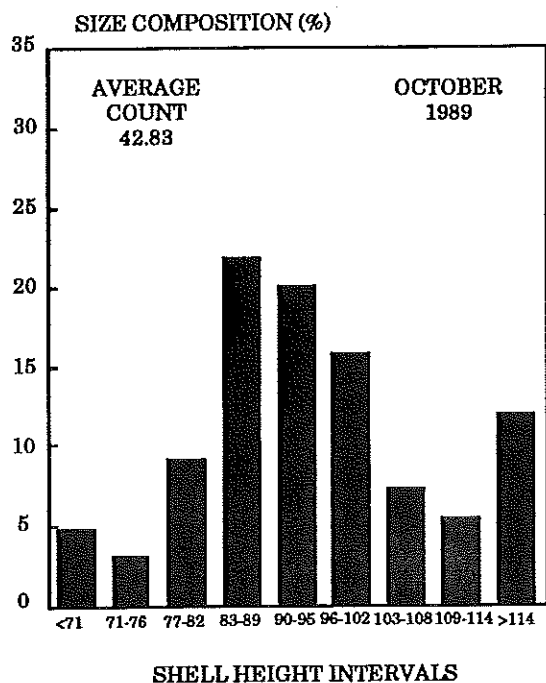
Actual and Forecasted Baskets of Scallops Caught Per Hour, 10/89-12/90

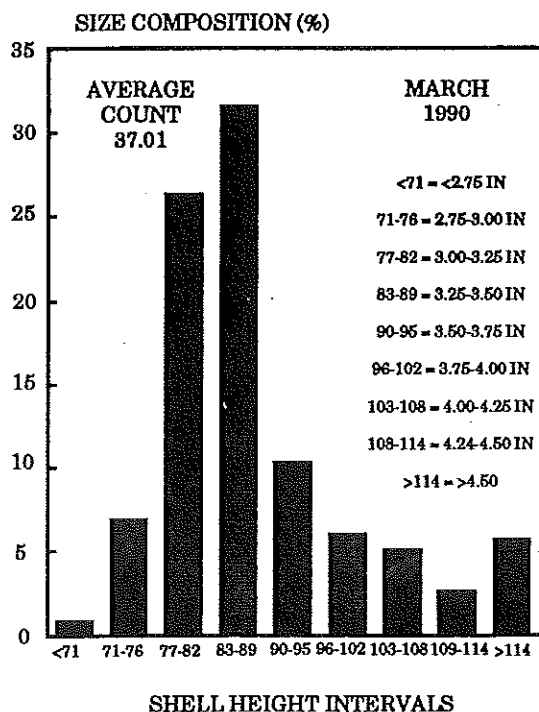
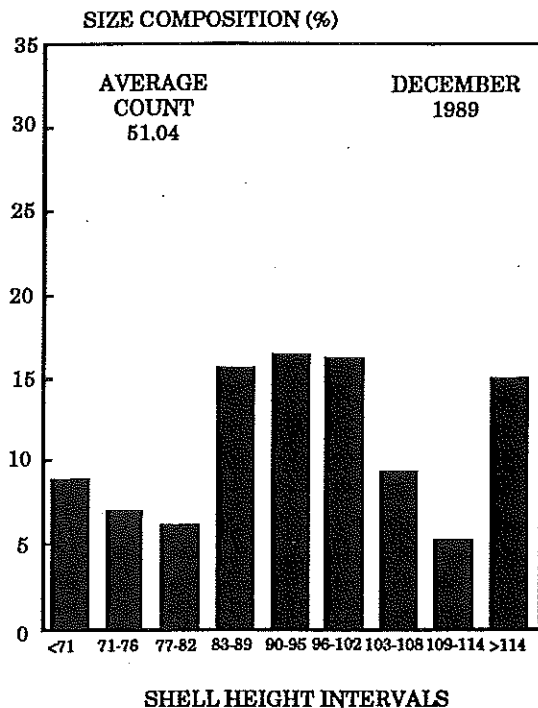


January and March. For example, scallops between 3.25 and 3.50 inches in December 1989 yielded 55 meats per pound (MPP). The same size scallops yielded 36 and 37 MPP in February and March 1990. Similarly, scallops between 3.75 and 4.00 inches yielded 37

Figure 2

Size Distribution of Sea Scallops From Survey Data

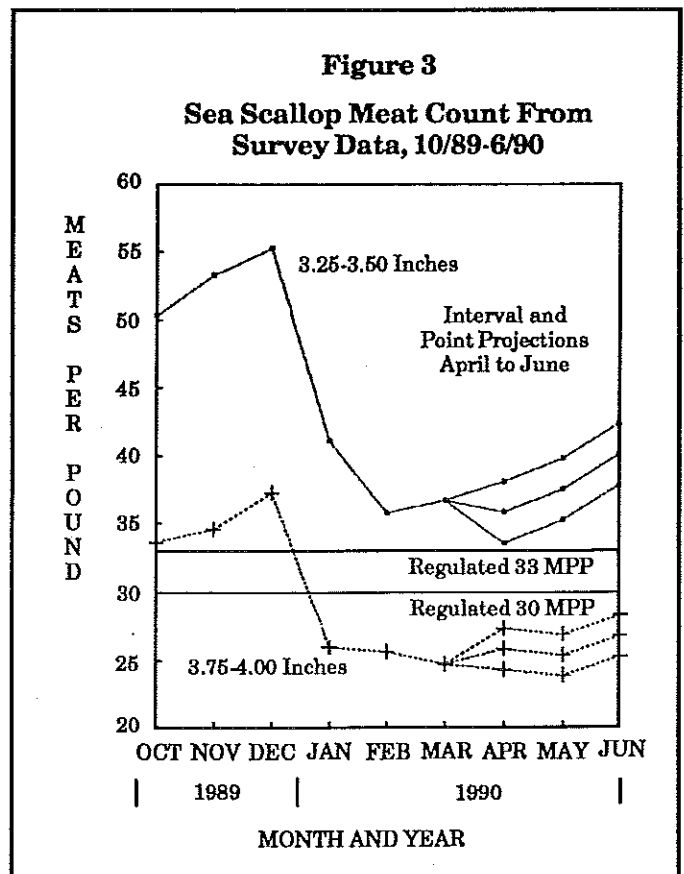




MPP in December; the average count for the same size scallops was 25 MPP in March 1990.

During the October-March period, there was also considerable change in the size composition of scallops. Relative abundance of all size scallops appeared evenly distributed in the last quarter of 1989 (Figure 3). By March 1990, however, there was a disproportionately large distribution of scallops between 3 and 3.5 inches. More importantly, these small scallops had extremely high yields or low meat counts relative to counts of previous years. Additional available information suggests substantial recruitment (addition of scallops to harvestable stock) between January and March in the mid-Atlantic region. During the same period, it is also evident that the relative availability of large sized scallops had declined considerably. This indicates that the commercial scallop fleet is benefiting greatly from scallops between 3 and 3.5 inches in size.

It is quite evident that the circumstances over the past six months have been unusual. These observations coupled with data collected over the past three years allow us to make some predictions that may be important for industry to consider.



Spring spawning should be completed by May and scallop meat yields will decline shortly after. This is characteristic of scallops in the mid-Atlantic area. The potential range of this decline is predicted for the months of April, May and June 1990 (Figure 3). At about the same time (1 May 1990), there will be a change in the regulated meat count from 33 MPP to 30 MPP. These two events, occurring simultaneously, will undoubtedly make compliance more difficult.

This situation is compounded by the observation that the high abundance of 3.25 - 3.5 inch scallops, which were useable for January through April, may be less abundant and lower in meat yield in the coming months. The abundance of 3 to 3.5 inch scallops appears to be large, however, it also appears that the majority of fishing effort is focused on that group of scallops.

Based on past data, a model was developed to estimate or forecast catch trends for 1990 (Figure 1). The model forecasts: (1) what has the best chance of happening (point forecast), (2) what could be the best catch possible (optimistic forecast) and (3) what the catch would be in the worst of times (catastrophic forecast). Based on this model,

the important or critical time will be during July and August. What happens then will give us a better idea as to what the last part of 1990 will bring.

For further information or if there are questions about the data and conclusions, please feel free to call either:


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