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The Magnuson Act and its Effect on the Fisheries of New York

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Fisheries Management Jurisdictions

Shaded states are members of the Mid-Atlantic Fishery Management Council

Managing U.S. Fisheries

In 1976 the United States Congress passed a law that was described as one of the most important pieces of legislation enacted by the 94th Congress. That was Public Law 94-265, the Fishery Conservation and Management Act (FCMA), which prohibited foreign fishing within 197 miles of the existing three-mile limit off U.S. coasts. However, the act allowed some fishing by foreigners, with U.S. permission, for certain underutilized species of fishes.

The act was popular with U.S. fishermen, who believed that fishing

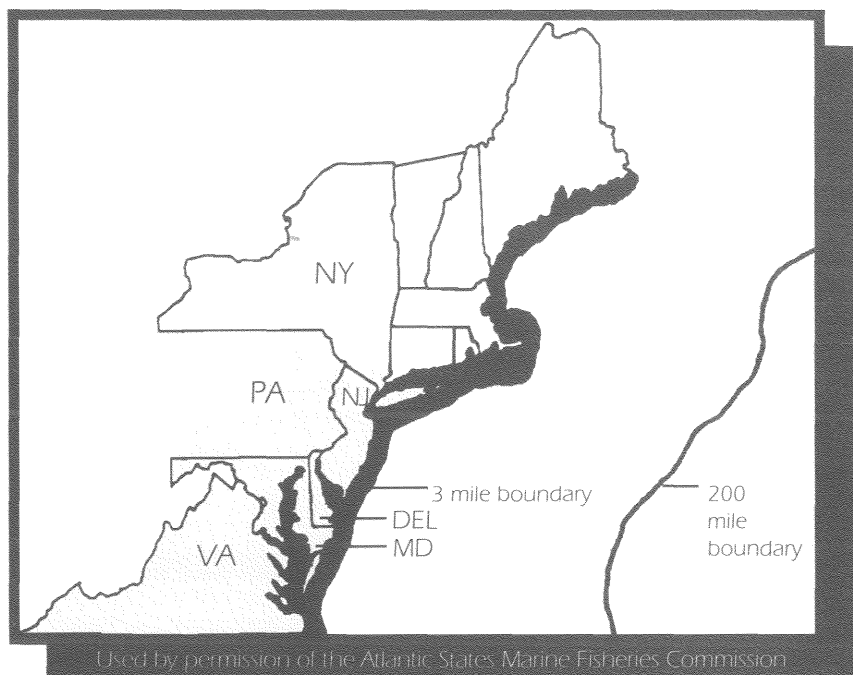
by foreigners off our coasts, in addition to our own catch, was seriously over-harvesting many species. They quickly occupied the open niche left when the foreign fleets were excluded, by increasing their own catches.

Regional Management Councils

The FCMA created eight Regional Fishery Management Councils. The particular Council that has authority over New York fisheries is the Mid-Atlantic Fishery Management Council (MAFMC), which includes the states of New York, New Jersey, Delaware, Pennsylvania, Maryland, and Virginia.

The principal function of the Mid-Atlantic Council is to prepare fishery management plans for the Secretary of Commerce, and to conduct public hearings on development of these plans. The Council also prepares comments on any application for foreign fishing.

The 23-member council includes state fishery management officials, six obligatory and six at-large members recommended by the governors of each state, and the regional director of the National Marine Fisheries Service for the area. Non-voting members include the regional director of the U.S. Fish and Wildlife Service, members nominated by the U.S. Coast Guard and State Department, and the director of the Atlantic States Marine Fisheries Commission.



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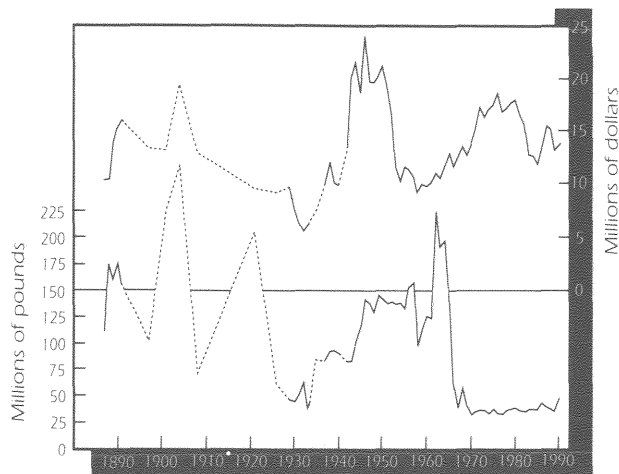


Fig. 1: Total New York landings of fish and shellfish by weight and by value.

Birth of the Magnuson Act

In 1981 the FCMA was renamed the Magnuson Act, in honor of its chief proponent, now retired Senator Warren G. Magnuson of the State of Washington. The individual states retain fishery management authority out to three miles off their coasts (territorial sea), and foreign fishing is not permitted within the extended 197-mile Fishery Conservation Zone, except under a valid permit issued by the United States.

Coordinating State and Federal Management

Management of fishery resources that are primarily or exclusively within the three-mile territorial sea is the responsibility of the individual states. States may act collectively through interstate fishery management plans, however, for species that migrate across state boundaries.

According to the Magnuson Act, for any fishery that takes place primarily in the Fishery Conservation Zone, state or inter-state fishery management plans must not contradict or interfere with federal fishery management plans for these same species found within the territorial sea. States whose fishery management activities do interfere with a federal fishery management plan for a particular species risk preemption of their authority to manage that species in the territorial sea.

Many important fishery resources migrate along the coasts, and therefore, would fall under jurisdiction by more than one state.

For some time, three existing Marine Fishery Commissions (the Atlantic States Marine Fisheries Commission and commissions representing the Gulf of Mexico states, and the Pacific Coast states) have tried to coordinate state laws on fisheries with varied success.

An Historic Look at New York Fisheries

Total landings of all marine fisheries first were reported and published for 1880, but a number of species were not recorded in that survey. So the figures begin, for the most part, in 1887. Up to 1942, surveys were not conducted every year, and where data are missing, the points on the graphs included in this Bulletin are joined with dotted lines.

Total Landings from 1887 to 1990

Total landings in New York (Figure 1) reached a peak in 1904 at about 270 million pounds. But it is clear that during these early years total landings were quite irregular, reaching large peaks (1904 and 1921), followed by large declines (1908 and 1926). It is also clear that with so many years of data missing, there may have been greater or lesser landings in unrecorded years.

After the large 1925 decline, those peaks did not recur. By 1933, when the Great Depression was just about ending, only about 40 million pounds were landed. After that, landings rose quite irregularly until 1962 when the second largest peak recorded in these years was reached—about 225 million pounds.

After 1962, landings again fell rather sharply to a low of about 34 million pounds in 1977, and there they have remained, with at most, a small increase by 1990. As far as total landings are concerned, there has not been much change since 1970. But the total may very well hide changes in individual species, as landings of some species have gone up, while others have fallen.

To examine landings of each species individually, even just the major ones, would take more space than is available in this Bulletin. Therefore, New York State fishery landings have been divided into groups based on occurrence of peak landing dates. For each figure, dollar value of landings, adjusted by the consumer price index (CPI), is also shown.

The first group (Figure 2) is industrial fishes—those made into fish meal and oil or used as bait. This group is comprised mostly of menhaden (*Brevoortia tyrannus*) but also unclassified industrial fishes, and occasionally herring (*Clupea harengus harengus*)

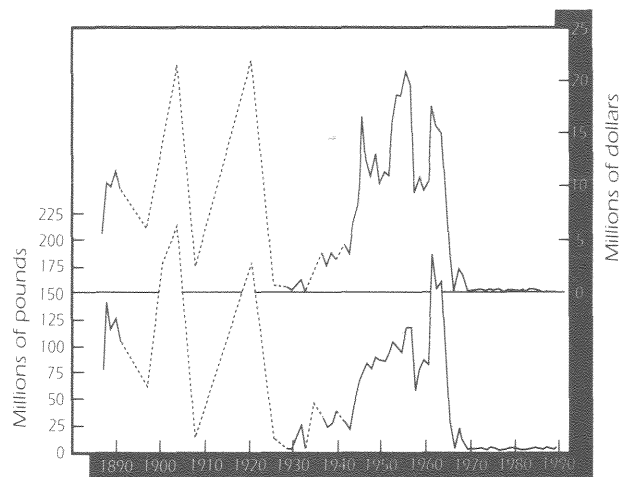


Fig. 2: Total New York landings of menhaden; herring and alewives (when substituted for scarce menhaden); and unclassified industrial fishes by weight and by value.

and alewives (*Alosa pseudoharengus*) when they were taken as substitutes for scarce menhaden, as in 1966.

Landings (given by weight) in this group parallel almost exactly that of the total of all fishes shown in Figure 1, with peaks and low points occurring at the same times. Note, for example, the decline for total and industrial fishes during the period 1925 to 1933.

Until 1970, industrial landings made up the bulk of total New York State commercial landings—often over 50% and sometimes over 80% of the annual total. But they have made up only a small percent of the total since 1970. Industrial fishes have been seriously overfished, and the fish meal and oil industries in New York have disappeared. These fishes are typically low in value, but their history, whether examined by weight or by dollar value, is quite similar to total landings.

Figure 3 shows the combined landings of oysters (*Crassostrea virginica*), bluefish (*Pomatomus saltatrix*), weakfish (*Cynoscion regalis*), mussels (*Mytilus edulis*), American shad (*Alosa sapidissima*), and soft clams (*Mya arenaria*). Weights of oysters and soft clams, as well as all other shellfish discussed in this

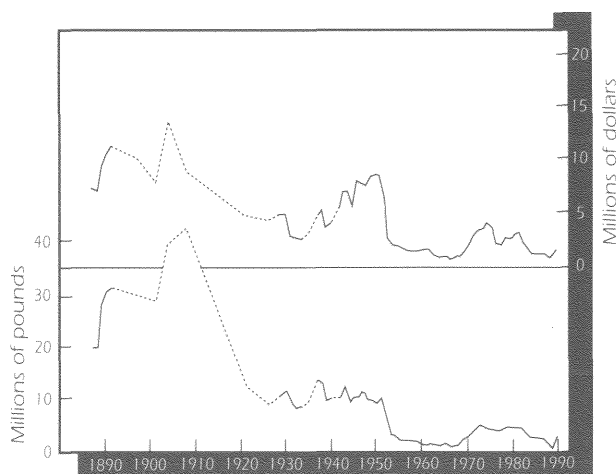


Fig. 3: Total New York landings of oysters, bluefish, weakfish, mussels, American shad, and soft clams, by weight and by value.

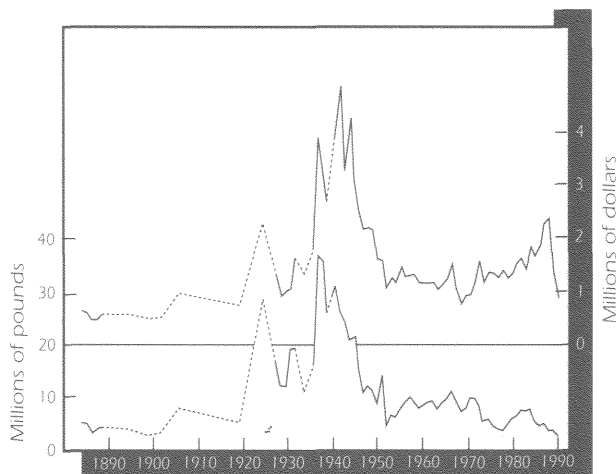


Fig. 4: Total New York landings of haddock, Atlantic cod, butterfish, and all flatfishes by weight and by value.

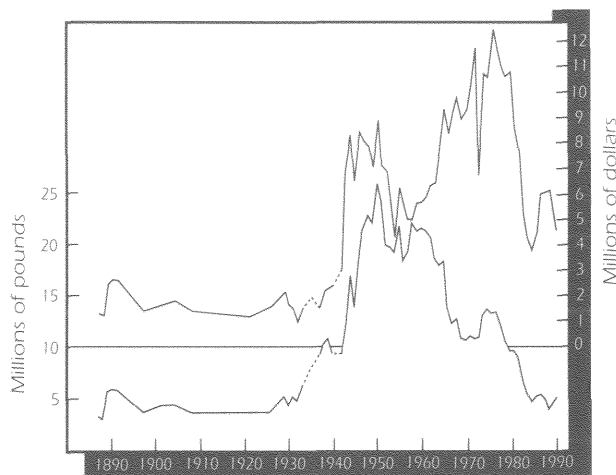


Fig. 5: Total New York landings of scup, hard clam, sea scallop, Atlantic mackerel, black sea bass, northern puffer, and bay scallop by weight and by value.

Bulletin, are the weights of meats only (minus the shells), whereas fishes and squids are total weight.

Peaks in landings of these six species combined probably occurred between 1892 and 1908. Peak recorded landings occurred in 1908, reaching over 42 million pounds (the peak by value occurred in 1904). A large, rapid decline followed this peak dropping to about 8.5 million by 1926.

After 1926, landings rebounded to about 14 million pounds (1937), but by 1990, landings had fallen to less than 2 million pounds. Peaks of landings by value were somewhat different, but the conclusions to be drawn are the same: *these six species have not been helped by the Magnuson Act.*

Figure 4 shows the combined landings of haddock (*Melanogrammus aeglefinus*), Atlantic cod (*Gadus morhua*), butterfish (*Peprilus triacanthus*), and all species of flatfishes, principally yellowtail flounder (*Limanda ferruginea*), winter flounder (*Pseudopleuronectes americanus*), and summer flounder (*Paralichthys dentatus*).

Landings of these species by weight show the first peak in 1926 at over 28 million pounds. This was followed by declines between 1926 and 1937, but another major rise in landings peaked in 1938 at about 36 million pounds. By dollar value, the peak came in 1943 at almost \$4.9 million.

Landings of these species had fallen to less than 5 million pounds by 1977, and by 1990 to less than 4 million pounds. *Thus, there is no evidence that these species have been helped by the Magnuson Act.*

By value however, there has been a distinct improvement since 1977, from about \$1.3 million to about \$2.4 million. The rise in price, however, has been in response to the scarcity of these species.

Figure 5 shows the combined landings of scup (*Stenotomus chrysops*), hard clam (*Mercenaria mercenaria*), sea scallop (*Placopecten magellanicus*), Atlantic mackerel (*Scomber scombrus*), black sea bass (*Centropristis striatus*), northern

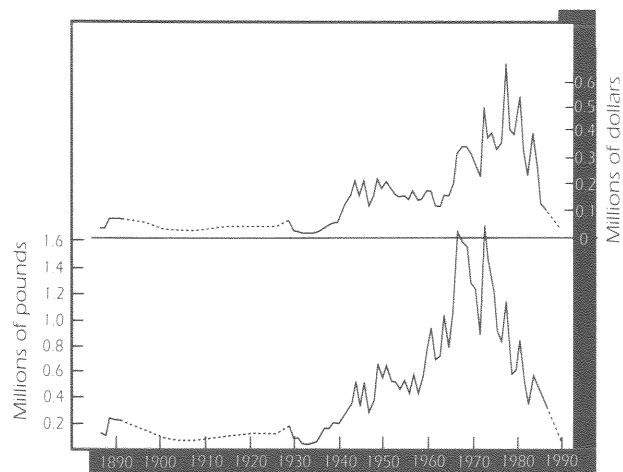


Fig. 6: Total New York landings of striped bass by weight and by value.

puffer (*Sphoeroides maculatus*), and bay scallop (*Argopecten irradians*). Landings of these species as a group showed the greatest increases from 1945 to 1951, with a peak in 1950 at over 25 million pounds. The group did not peak in value until 1976 at about \$12.3 million.

Following the 1950 peak by weight, landings fell irregularly to about 13.5 million pounds by 1977, and continued to drop to about

5 million pounds in 1990. The harvest also dropped in value to about \$6 million in 1990. *No recovery of these combined species has taken place after 1977.*

Figure 6 is unique in that only striped bass (*Morone saxatilis*) is illustrated. This is because the peak in landed weight, which occurred in 1973, does not coincide with the peaks of any other species discussed in this Bulletin. The peak in value occurred in 1978. After that the drop in landings was abrupt, to a very low level in weight (below 50,000 pounds) and value in 1990.

Striped bass is mostly taken within the three-mile territorial sea, with a small amount taken in the Fishery Conservation Zone. It is clear that striped bass have not been helped by the Magnuson Act, but neither have state regulations prevented overharvesting in the territorial sea and inland waters.

The sharp reductions in striped bass landings beginning in the 1970s triggered the Atlantic States Marine

Fisheries Commission to prepare a coastwide management plan combining minimum size limits and spawning area closures. These measures were backed legislatively by the Atlantic Striped Bass Conservation Act passed by Congress in the mid-1980s. Since striped bass landings have historically been subject to frequent oscillations of highs

and lows, it is difficult to know if these aggressive management plans have come soon enough to help this species recover.

Figure 7 shows combined landings for surf clam (*Spisula solidissima*), American lobster (*Homarus americanus*), tilefish (*Lopholatilus chamaeleonticeps*), squids (mainly the long-finned squid, *Loligo opalescens*), and whiting or silver hake (*Merluccius bilinearis*). Combined landings have shown an overall increase since late 1977, from over 10 million pounds (about \$2.5 million) to 34 million pounds (about \$5.9 million) in 1990.

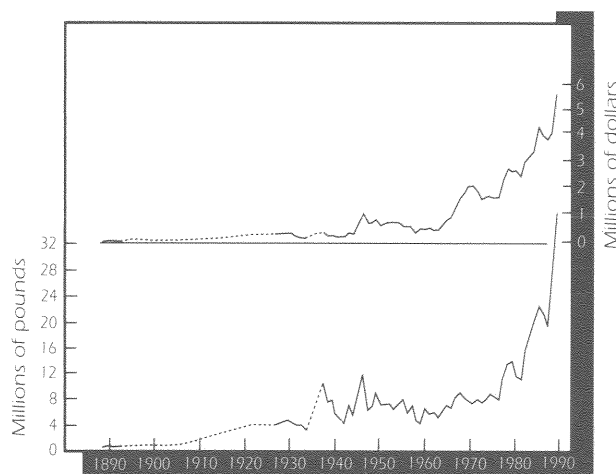


Fig. 7: Total New York landings of surf clam, American lobster, tilefish, squids, and whiting by weight and by value.

Was this rise a result of actions taken under the Magnuson Act? As far as surf clam is concerned, the answer is probably yes. The Mid-Atlantic Council placed severe restrictions on this fishery, which allowed the stocks of surf clam to build up. While fishing effort of the surf clam fleet is greatly over expanded, some of this effort has been directed toward ocean quahogs (*Arctica islandica*), which although not quite as desirable as surf clams, are used for the same purposes. But the ocean quahog resource will have to be watched closely to avoid over fishing.

American lobster landings in New York have also increased, roughly five times since 1977. It is not clear whether this has been a result of the Magnuson Act, or simply that lobster has been unusually productive in the last 12 years. But the increase is encouraging.

Tilefish, which peaked in the late 1980s, are down in numbers, a probable result of overfishing. They are now caught solely by domestic fishermen using long lines.

Recognizing that U.S. harvesting capacity falls short of total allowable catch for some species, such as squid, the Magnuson Act allows foreign fishing for these species at a level not to exceed the difference between total

allowable catch and the domestic harvesting capacity. Moreover, species for which U.S. demand or processing capacity is small compared to worldwide demand may be caught under joint venture agreements, in which domestic fishermen catch the fish and unload them at sea to foreign-owned processing vessels. This is so with New York's squid fishery. Under a joint agreement with other countries, much of the catch is

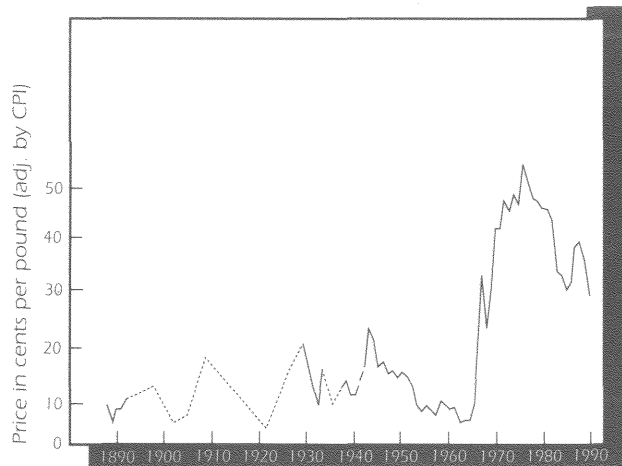


Fig. 8: Price per pound of total New York fish and shellfish landings from 1887 to 1990.

made by domestic fishermen, then transferred to foreign ships for processing.

At the time of passage of the Magnuson Act, whiting were already severely depleted. In 1977 total landings for this species in New York were only about 2 million pounds. The maximum peak for whiting occurred in 1987, rising to over 6 million pounds. Similarly, in 1977 their value was less than two tenths of a million dollars, but at the peak in 1987, it was nearly seven tenths of a million dollars. *Recent data show that the whiting fishery has definitely improved since foreign fishing for this species was stopped.* Thus, there is evidence that at least four of these five species have benefitted from passage of the Magnuson Act.

Supply and Demand

It is interesting to look at the prices per pound of total fish and shellfish landings over the years to see how they reflect abundance and consumer demand (Figure 8). This is particularly evident in the decade roughly between the early 1950s to the early 1960s, when prices dropped to lows comparable to 1921. But this was caused, at least partly, by a shift to lower priced species as the more desirable species became less abundant over time.

About the mid-1960s, prices began to rise very sharply as a scarcity of fish

and shellfish, along with a growing human population, forced prices of all fishery products up. This upward trend reached a peak in 1976, after which prices began to fall again as even less expensive, less desirable species had to be landed to meet demand. From 1976 to 1985, the average price paid to fishermen fell from about 55 cents per pound to 30 cents per pound.

History of Catch per Unit of Effort

A measure of fishing effort can be obtained by dividing the catch by the numbers of boats licensed each year. At present, data for this measure are not yet complete beyond 1981, but these early figures tell an interesting story.

From 1977 to 1981 the number of commercial fishing vessels licensed in New York rose from about 8,000 to nearly 13,500, and the number of full-time fishermen rose from about 540 to about 1,050. Thus, in the first five years of the Magnuson Act, fishing effort increased almost 100 percent.

Advances in equipment and technology have greatly aided fishermen in finding, catching, and storing fish on extended trips. Before about 1920 fishermen had to limit the duration of their trips since they had only primitive means of refrigeration. Today, many fishing vessels are equipped with modern refrigeration, allowing extended trips. Finding fish now is easier also with the use of sonar, and gear and rigging of vessels is much improved for larger and more efficient catches.

Before these new advances, fishermen would ply the waters not knowing, other than by past experience, where the fish were. Now, as stocks become reduced, fishermen rely on more advanced technology to locate and catch scarce fishes and shellfishes.

Thus, fishing limitations once imposed by earlier, cruder methods are now much reduced.

Has the Magnuson Act Protected the Fish?

Fish Under

State Jurisdiction

At least seven of the major species—menhaden, oyster, American shad, soft clam, hard clam, bay scallop, and striped bass—were largely or entirely subject to state or interstate regulation. That is, they were entirely or almost entirely taken within the three-mile limit, thus were not subject to the Magnuson Act.

Together these species once formed the major part of total NY State commercial landings. By 1967, however, 10 years before the Magnuson Act went into effect, they had been reduced to very low levels. Except for rebounds in a couple of years, they continued to drop slowly after that. In 1888 and 1921 these species formed over 90% of all landings, but by the 1970s they made up only about 33%. *By 1990 they were less than 10% of total landings.*

The decline of these native species under state jurisdiction, was largely a result of inadequate management, which led to habitat destruction and overfishing.

Fish in the Fishery Conservation Zone

As we have seen with many species, the Magnuson Act has had no apparent affect on alleviating the problem it intended to cure—overfishing in the Fishery Conservation Zone. An article in The New York Times, "Plenty of Fish in Sea? Not Anymore", (March 25, 1992) looks at the subject of depleted stocks and proposals to tighten restrictions on landings even further. Cited in the article are various proposals that the National Marine Fisheries Service may be compelled to enact regarding ground fishes off the northeast U.S. coast. These include partial restrictions, such as limiting the number of days at sea for fishing a particular species; increasing net mesh size, so that fishermen can only catch



Photo by Ian Stupakoff

Commercial fishing fleet, Shinnecock Inlet,
Shinnecock Bay, Long Island.

above a certain size limit; setting quotas on catches; and banning newcomers to the fishery.

Other measures that may be needed in the future if stocks continue to fall would entail setting strict size limits, requiring larger vessels to carry electronic equipment so that National Marine Fisheries Service can track them and monitor their catches; and restricting access to vulnerable fishing grounds.

Summary

What is the reason for the drop in landings of species that might have been protected by passage of the Magnuson Act? There are probably many, including the economic boost

given the domestic fishing industry by the National Marine Fisheries Service's vessel construction subsidy. Although conservationists called for caution about domestic expansion when foreign fishing became largely prohibited in the Fishery Conservation Zone, no rational plan was implemented for domestic fishermen to take over that fishery. Those already in the industry built bigger boats and new fishermen entered the fisheries to take ever more landings.

While U.S. fishermen promoted passage of the Magnuson Act because they believed the foreign fleets were depleting stocks, which they were, they did not hesitate to expand their own fleets and exploit their exclusive

rights. The increase in domestic fishing effort during the Magnuson Act's first five years occurred at a time when the fisheries were already largely overfished, precipitating further declines. *Thus, the Magnuson Act resulted in domestic overfishing replacing foreign overfishing of severely depleted stocks.*

While the Magnuson Act, now starting to incorporate conservation measures, has helped some species, it may be too soon to know if others can be helped. It is clear, however, that fishery management action is needed to guard against overfishing. And that action--in some cases much more drastic action--must be taken well in advance if serious depletion of other stocks is to be avoided.