



STATUS AND TRENDS

of the U.S. Sea Scallop Fishery

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Background

The U.S. Sea Scallop fishery is a sustainable fishing success story. While more than forty commercial species of scallop are harvested worldwide, only 18 species account for the greater part of global production from capture fisheries and aquaculture. Since the 1970s, cultivation of scallops has increased rapidly and now accounts for nearly 70 percent of total world production.

The Atlantic sea scallop is the most important molluscan shellfish species commercially harvested in the United States. The U.S. sea scallop fishery is the world's largest wild-capture scallop fishery and fifth most valuable fishery in the United States, with 2014 landings worth over \$424 million. The species is sought for its large, circular adductor muscle that holds the two valves of the animal together. In North America,

this “meat” is generally the only part of the scallop that is landed and eaten, although it only accounts for about a third of the animal's visceral weight. The US sea scallop stock has been rebuilt from its overfished status in 1997 and no overfishing is presently occurring. The limited-access scallop fishery consists of 347 vessels, with 250 full-time dredge vessels, 52 full-time small dredge vessels and 11 full-time net boats.

In the fishing years 2005-2012, the landings from the northeastern U.S. sea scallop fishery exceeded 50 million pounds annually. Total fleet revenues more than quadrupled in the 2011 fishing year (\$585 million) from its 1995 level (\$137 million, in inflation adjusted 2011 dollars). Massachusetts and New Jersey account for 84 percent of the landed total in 2014. Average vessel price in 2014 was \$12.55 per pound versus \$11.41 in 2013. Scallop meats are marketed by how many make a pound; U-10 means there are ten or less meats to the pound. Larger meats (U-10's) receive a \$3-4 premium over smaller meats (10-20's).

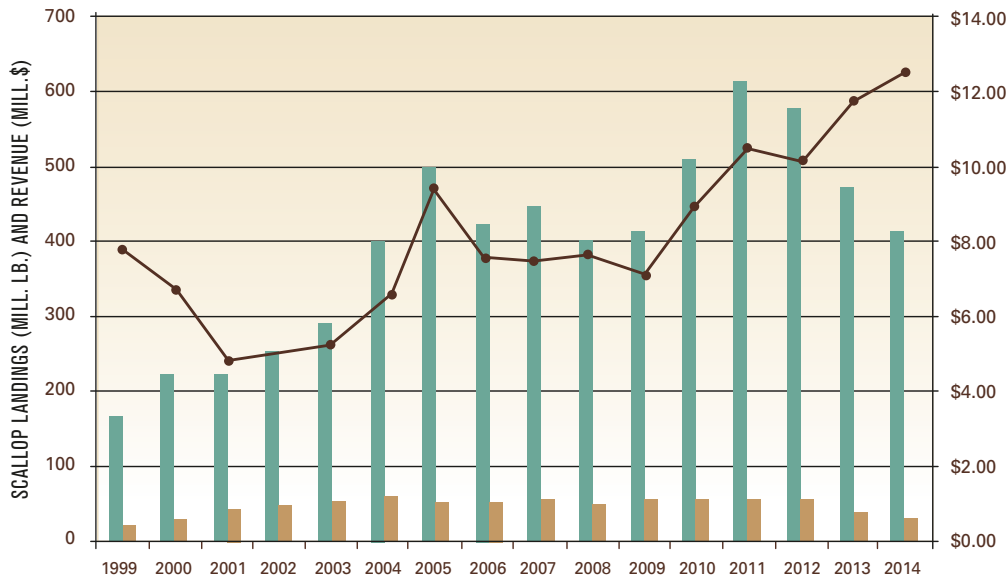
Fishery Conditions

Rotational area management is the cornerstone of U.S. sea scallop fisheries management; areas that contain beds of small scallops are closed before the scallops experience fishing mortality, then the areas re-open when scallops are larger, producing more yield-per-recruit. When scallop vessels are fishing in these areas they are limited in terms of total removal. The scallops are harvested for their mussel (“meats”) by being hand shucked at sea; the vast majority being landed iced.

There have been many issues associated with commercial fishing gear in recent years as we move towards more sustainable fisheries. Important objectives to scallop gear operations include increasing the size of scallops retained in the gear, preventing damage to scallops not ready for harvest, avoiding mortality to unwanted fish species, mitigating any adverse impact to habitat, and reducing risk to threatened and endangered species. Scallops are primarily harvested by dredges that sweep across the surface of the sea floor. Besides catching scallops,

FIGURE 1

SCALLOP LANDINGS AND REVENUE



- SCALLOP LANDINGS
- SCALLOP REVENUE
- EX-VESSEL PRICE



the gear also captures as a bycatch flatfish such as yellowtail flounder and winter flounder. Many of these flatfish stocks are in an overfished condition due to past heavy pressure from targeting fisheries and environmental change, including rising ocean temperatures. Reduction of bycatch in the scallop fishery has been accomplished by gear modifications, time/area closures (e.g., seasonal restrictions), and the higher scallop catch per unit effort (CPUE) achieved by rotational management.

Another issue relates to the concerns that some stakeholders have about adverse impacts of scallop dredging on the habitat. While many studies indicate that fishing has relatively little long-term impact on the types of high energy habitats scallops inhabit, management takes the precautionary approach of minimizing the swept area of the fishery. The 2016 projection for swept area is 3,600 square nautical miles. This is down from the 16,000 square nautical miles fished in the 1990's, which produced substantially less yields — another major benefit of the rotational fishing strategy.

The scallop fishery also had an issue with the bycatch of loggerhead sea turtles in the mid-Atlantic; estimates suggested that the fishery killed or injured over 700 loggerheads in 2003 alone. The industry and its scientific partners have since developed gear solutions and now

virtually no turtle mortality has been observed.

By solving issues related to scallop stock management, bycatch, habitat, and protected species, the U.S. scallop producers applied for and received the “Certified Sustainable Seafood” credential from the Marine Stewardship Council, aiding in the worldwide marketing of the U.S. sea scallop.

Future Projections

The future of the U.S. sea scallop fishery depends on how well prices hold up for large scallops in the world market. The U.S. does not produce all the scallops it can consume; large-sized scallops, mostly from Japan, are imported to meet demand. If Japanese production is constrained then scallop prices remain high. There is also a growing middle class in Asia that is consuming increased quantities of large scallops, helping to maintain price. There seems to be a reduction in demand from Europe, France being the big market, and value-added scallop products are replacing the expensive large scallop. However, the biggest factor influencing price in the immediate future may be the large projected yields from the U.S. sea scallop fishery.

There have been several years of record settlement of new scallops, referred to as recruitment, in the mid-Atlantic and

the southern flank of Georges Bank. The total biomass in 2015 was estimated at about 400 million pounds; the projection for 2016 is over 600 million pounds (300,000 mt) growing to over 800 million pounds (400,000 mt) by 2018. Projected landings for 2016 are just below 50 million pounds, which, at the current average price would exceed \$600 million in ex-vessel value. By 2018-2020, the landings are projected to exceed 100 million pounds. Managers, scientists, and the industry are concerned about the size of these unprecedented projections and the unknown sources of natural mortality that might occur at these large biomasses due to factors such as density dependence and increased predation. For this reason, plans are to restrain harvests in 2016 to levels closer to that of 2014-15. This may help in maintaining price, as well as preserving the sustainability of the fishery.

The scallop fishery sets aside a portion of its allowed catch, over one million pounds, to fund research. This program funds resource surveys, gear design efforts to address bycatch and habitat issues, and advanced concepts for the future. Work is underway to develop strategies for resource enhancement to secure solid prospects for this fishery. The weak link in U.S. sea scallop production is dependence on natural “seed” sets and the failure to control predation. Hopefully, the sea scallop research program will find answers that can be applied by managers and industry bringing this fishery from one of only wild-capture to one that applies tools of husbandry. The scallop fisherman of today will be the ocean rancher of tomorrow. ♦