NOAA Fisheries Service
Alaska Fisheries Science Center

Protecting
Conserving
Managing
Marine Resources
in
Alaska

The **Alaska Fisheries Science Center** is a scientific research organization responsible for the development and implementation of NOAA's scientific research on marine resources in Alaska waters. Our research focuses on more than 250 fish and 42 marine mammal stocks off the coasts of the Bering Sea, Gulf of Alaska and Aleutian Islands.

National Marine Fisheries Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Atka mackerel

Pleurogrammus monopterygius

Length 44 cm (17.3 in)*
Weight 1.4 kg (3 lbs)*
Age 15 years old*
*maximum

Range/Habitat

North Pacific Ocean, from Japan to the Gulf of Alaska, and Bering Sea. In Alaska, they are most abundant in the Aleutian Islands, particularly from Buldir Island to Seguam Pass. Atka mackerel schools are found along the outer continental shelf and upper slope region from 100 m – 300 m. They prefer rocky bottom habitats with a strong current.

Diet/Role in Ecosystem

Adult Atka mackerel in the Aleutians consume a variety of prey, but mostly zooplankton and small shrimp. Atka mackerel play a key role in the Aleutian Islands ecosystem as forage for other groundfish, seabirds, and marine mammals, including the endangered western stock of the Steller sea lion (*Eumetopias jubatus*).

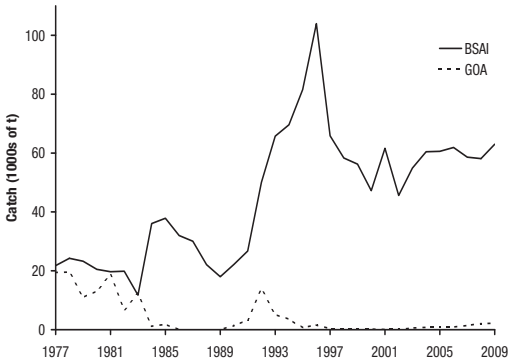
Reproduction

Females become reproductively mature at about 4 years old. In early June, males (with bright yellow spawning colors) begin to cluster in rocky areas called nesting sites. The males set up the territories where female Atka mackerel spawn multiple batches of adhesive eggs onto the rocks, beginning in July and lasting through October. Males guard their territories (or nests) until December when the eggs hatch.

Population

Fishery and Catch History

From 1970 - early 1980s: Atka mackerel were caught in Alaska waters exclusively by the distant water fleets of the former U.S.S.R., Japan, and the Republic of Korea. In the Bering Sea and Aleutian Islands (BSAI) regions, annual catches of Atka mackerel increased during the 1970s reaching an initial peak in 1978. Catches peaked in the Gulf of Alaska (GOA) in 1978, but by the mid-1980s, this fishery, and presumably the population, had mostly disappeared.



1980 - 1989: U.S. joint venture fisheries began in 1980 and dominated the landings of Atka mackerel from 1982 through 1988. The last joint venture allocation of Atka mackerel off Alaska was in 1989. During this time catch in the BSAI peaked in 1984 then decreased during the transition to domestic fisheries.

Since 1990: Beginning in 1992, catch quotas increased steadily in response to evidence of a large Atka mackerel biomass, particularly in the central and western Aleutian Islands. After the estimated peak biomass in 1992, biomass declined for several years until 1999, and then biomass began a steep increase which continued until 2006.

RESEARCH

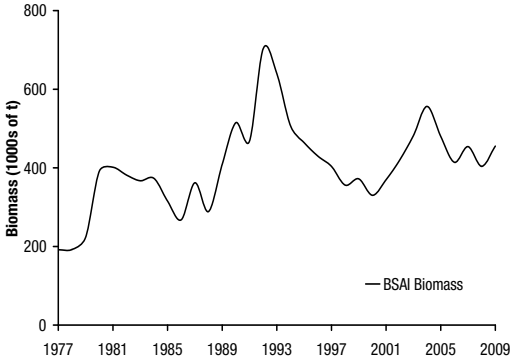
Recently, a great deal of research has been conducted on the reproductive ecology and genetics of Atka mackerel. In addition, scientists have tagged Atka mackerel since 2000 to determine movement rates and small-scale changes in abundance and distribution. Future research goals include studies to determine the impacts of environmental changes, research to improve our understanding of habitat preferences, and impacts to habitat due to fishing.

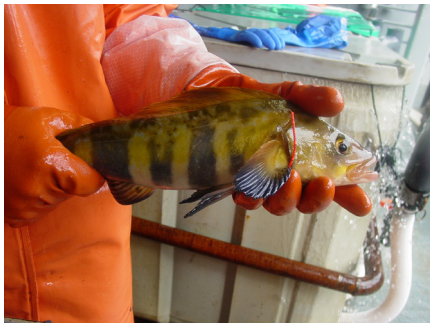
Resource Status

The population of BSAI Atka mackerel is not overfished and is not approaching an overfished condition. The 2007 estimate of total biomass for BSAI Atka mackerel from the current assessment is approximately 500,000 t. There is no reliable estimate of current biomass for GOA Atka mackerel, which are not subject to a target fishery.

Stock Assessment

Information used in the BSAI Atka mackerel stock assessment includes fishery catch, trawl survey biomass estimates, and age and length compositions of the fishery and survey catch. These data are used in a statistical catch-at-age model for the BSAI area. The lack of a reliable estimate of GOA Atka mackerel biomass and insufficient age and length information from the fishery and survey preclude the use of a statistical model for the GOA





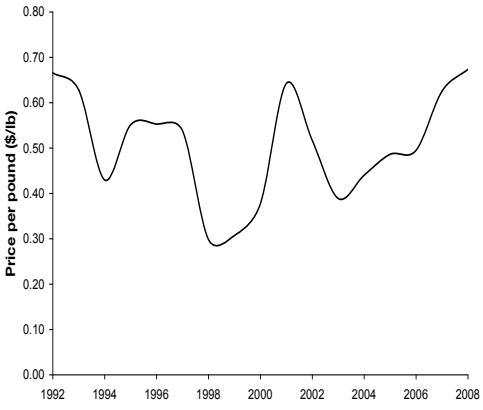
Management

Atka mackerel in the BSAI and the GOA are assessed and managed separately, and management is influenced by protection measures for the endangered Steller sea lion, which prey on Atka mackerel. In the BSAI, this results in a temporal and spatial dispersion of the fishery, to reduce the possibility of localized depletion. A total allowable catch (TAC) is allocated to each of three districts in the Aleutian Islands, based on average distribution of biomass, and is further divided between two seasons, winter and fall. The majority of the Atka mackerel TAC is directly allocated to a subsector of the trawl fleet, within which many vessels have formed cooperatives. In the GOA, a Gulf-wide TAC is set annually, but no directed fishery has been allowed since 1996. Atka mackerel are caught and retained in the directed rockfish fisheries, primarily in the Shumagin and Chirikof areas (the western area of the GOA).

Economics

In 1992 and 2008 the price/lb for Atka mackerel was $0.67. The average product price from 1992 to 2005 was $0.51/lb. Primary products in order of volume for Atka mackerel are headed and gutted (eastern cut), whole fish, headed and gutted (western cut), surimi, and fish meal.

The inflation-adjusted prices shown in the graph are 1st wholesale (2008 U.S. currency). Numbers are from NMFS and ADF&G price data.



For more information

Most recent stock assessment:
http://www.afsc.noaa.gov/REFM/Stocks/assessments.htm

Research at AFSC:
http://www.afsc.noaa.gov/REFM/Stocks/fit/FIT.htm

Management:
http://www.alaskafisheries.gov/npfmc

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Questions or Comments?
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