

NOAA Fisheries Service

Alaska Fisheries Science Center

Walleye pollock

Theragra chalcogramma

Length 105 cm (3.4 ft.)*

Weight 6.05 kg (13.3 lbs)*

Age 22 years*

*maximum



Range/Habitat

Widely distributed throughout the North Pacific Ocean in temperate and subarctic waters. Pollock is a semi-demersal schooling fish, which becomes increasingly demersal with age.

Diet/Role in Ecosystem

Young pollock feed on krill, zooplankton and other crustaceans. As they increase in size, their diet begins to include juvenile pollock and other teleosts (bony fish). The cannibalistic nature of pollock, particularly adults feeding on juveniles, is well documented by field studies in the Eastern Bering Sea.

Reproduction

Pollock spawning is pelagic and takes place in the early spring on the outer continental shelf. In the eastern Bering Sea (EBS), the largest concentrations occur in the southeast, north of Unimak Pass. In the Gulf of Alaska (GOA), the largest spawning concentrations occur in Shelikof Strait and the Shumagin Islands. Approximately 50 percent of female pollock reach maturity at age 4 years, at a length of approximately 40 cm (16 in).

Population

Fishery and Catch History

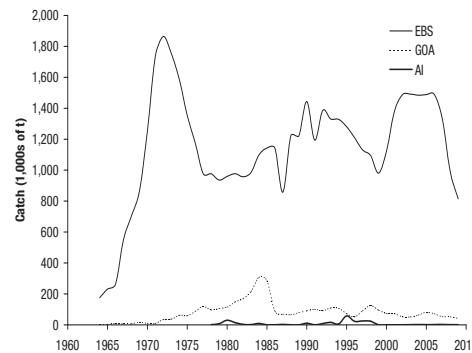
Bering Sea and Aleutian Island Stocks

From 1950s - early 1980s:

From 1954 to 1963, pollock were harvested at low levels, using trawl gear. By 1964 directed foreign fisheries began. Catches increased rapidly and reached a peak in 1970-75 when they ranged from 1.3 to 1.9 million metric tons (t) annually. Following a peak catch of 1.9 million t in 1972, catches were reduced through bilateral agreements with Japan and the former U.S.S.R.

1980-1987: During this period the fishing fleet was primarily foreign, although United States vessels began fishing for pollock in 1980, and by 1987, they were able to take 99% of the quota.

Since 1988: Since 1988, only U.S. vessels have operated in the EBS pollock fishery and the catch has averaged 1.30 million t of catch annually. From 2002-2006 the EBS region pollock catch has averaged 1.48 million t, but was projected to decline to below 1.0 million t through 2009. This fishery is currently the largest in the U.S. by volume and valued at > \$500 million annually. In 1989, the domestic fleet expanded operations into the Aleutian Islands (AI) and continued until 1999, when the North Pacific Fishery Management Council (NPFMC) recommended closing this region to directed pollock fishing to promote Steller sea lion recovery. In 2005 the AI fishery was reopened. A directed pollock fishery was conducted in February 2005, but the vessels participating in the fishery failed to find commercially harvestable quantities outside of Steller sea lion critical habitat closure areas and removed less than 200 t of pollock, resulting in a net loss of revenue.



Gulf of Alaska Stock

From 1950s - early 1980s:

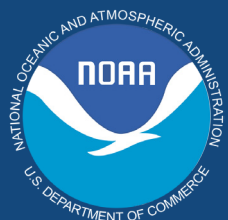
The commercial fishery for walleye pollock in the GOA started as a foreign fishery in the early 1970s. Catches increased rapidly during the late 1970s and early 1980s. A large spawning aggregation was discovered in Shelikof Strait in 1981, and a fishery developed where pollock roe was the main product.

1980-1989: The domestic fishery for pollock developed rapidly in the GOA with only a short period of joint venture operations in the mid-1980s. The fishery was fully domestic by 1988.

Since 1990: Today the pollock fishery in the GOA is entirely shore-based with approximately 90% of the catch taken with pelagic trawls.

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

RESEARCH

Walleye pollock (*Theragra chalcogramma*) is a key species in the Alaska groundfish complex and a target species for one of the world's largest fisheries. Pollock is a semipelagic schooling fish widely distributed in the North Pacific Ocean with largest concentrations found in the eastern Bering Sea.

Pollock are considered a relatively fast growing and short-lived species and currently represent a major biological component of the Bering Sea ecosystem. In the U.S. portion of the Bering Sea including the Aleutian Islands region, three stocks of pollock are identified for management purposes.

Pollock in the Gulf of Alaska are managed as a single stock independently of pollock in the Bering Sea and Aleutian Islands. The separation of pollock in Alaskan waters into eastern Bering Sea and Gulf of Alaska stocks is supported by analysis of larval drift patterns from spawning locations, genetic studies of allozyme frequencies, mtDNA variability, and microsatellite allele variability.

Resource Status

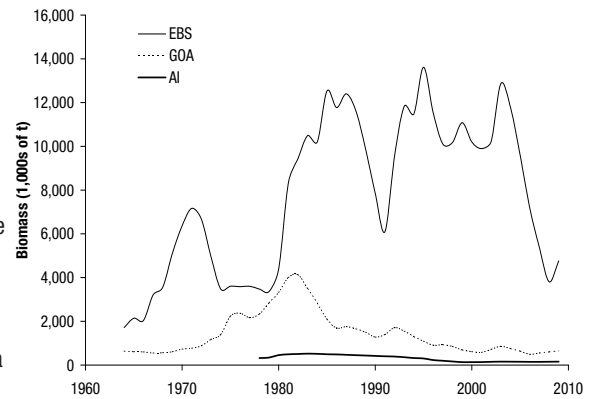
None of the pollock stocks in U.S. waters are overfished or approaching an overfished condition.

Bering Sea and Aleutian Island Stocks

Stock biomass has ranged from a low of 4-5 million tons to highs of 10-12 million t.

Gulf of Alaska Stock

Pollock in the GOA was at relatively low abundance until the late 1970s, increased to a peak in the early 1980s, then declined nearly as rapidly. Since 1995, the rate of pollock decline is much reduced and the population appears to have stabilized at this lower level. The last two decades have been a period of relatively low productivity.



Stock Assessment

The EBS, AI, and GOA pollock stocks are assessed independently using statistical age-structured assessment models. Catch-at-age models synthesize data on biomass and age composition from the fishery, bottom trawl, and echo-integrated trawl surveys conducted by the Alaska Fisheries Science Center (AFSC) to estimate the numbers of pollock at age. Each year several assessment models are developed and evaluated by scientists using alternative life history and fishery and survey selectivity assumptions. Additionally, for the EBS and GOA models exploring stock status in relation to changing environmental conditions have also been developed and evaluated. Although only one model is selected for setting the Overfishing Level (OFL) and Allowable Biological Catch (ABC) for each stock, each model uses information on the status of the stock and potential effects of current management practices.

Management

Bering Sea/Aleutian Islands

The EBS pollock fishery is the largest by volume fishery in the United States. Annual total allowable catches (TACs) are set for the EBS, AI, and for the Bogoslof District. The American Fisheries Act of 1998 legislated specific management provisions for the pollock fishery, including vessel eligibility, allocations, and allowance for fishery cooperatives. First, 10% of the TAC is allocated to the community development quota program (which benefits 65 fishery-dependent communities in western Alaska); the remainder is then allocated to catcher vessels delivering inshore (50%), to the offshore (catcher/processor) sector (40%), and to motherships (10%). In the Aleutian Islands, as of 2004, the pollock TAC is primarily allocated to the Aleut Corporation, to assist in developing the community of Adak. Directed fishing for pollock is not allowed in the Bogoslof District. Steller sea lion protection measures have influenced pollock management by dividing quota into seasonal allowances, and creating spatial restrictions on the pollock fleet.

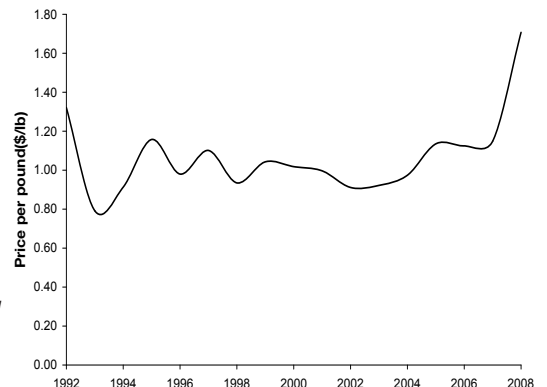
Gulf of Alaska

Steller sea lion protection measures are intended to achieve spatial and temporal distribution of the pollock fishery. The exact apportionment scheme has evolved since 1992, but TAC is currently allocated to three management districts in the central and western GOA based on the distribution of biomass, and is divided among two time periods, from mid-January through May and from late August through October. The fishery is 100% allocated to the inshore sector, which consists of catcher vessels delivering shoreside.

Economics

Walleye pollock price/lb have been stable since about 1998, hovering close to \$1.00/lb. In 2008, the price of pollock/lb was \$1.71. The average product price from 1992 to 2008 is \$1.07/lb. The primary products in order of volume are surimi, fish meal, fillets (skinless and boneless), deep skin fillets, and roe.

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:

<http://www.afsc.noaa.gov/species/pollock.php>

Management:

<http://www.alaskafisheries.gov/npfmc>

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Questions or Comments?

email: afsc.outreach@noaa.gov

