WILD ALASKA POLLOCK

101

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- Fillets
- Roe
- Other

THE FISH

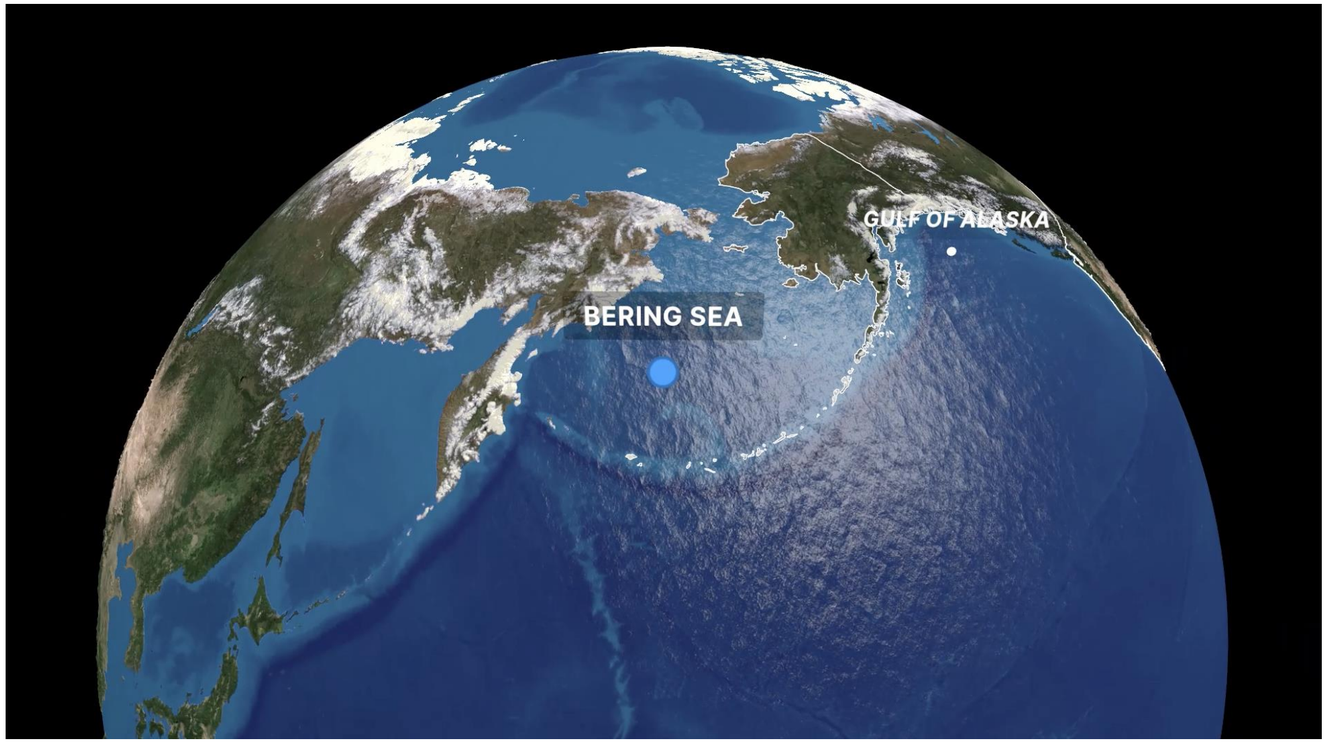
TAXONOMY

- Wild Alaska Pollock is in the Order – Gadiformes, Family – Gadidae and Genus - Gadus. The scientific name is Gadus chalcogrammus.
- This makes it a member of the Cod family, and is more closely related to Atlantic cod than Pacific cod is.
- Prior to 2016, the scientific name was Theragra chalcogramma, but taxonomists, using new DNA technology, declared it was more appropriately classified in the Gadus genus.
- It is the only member of the Gadus genus that is not allowed to be called a “cod.”
- While you will still see references to Theragra chalcogramma, the Gadus chalcogrammus name is almost universally accepted today.

DISTRIBUTION

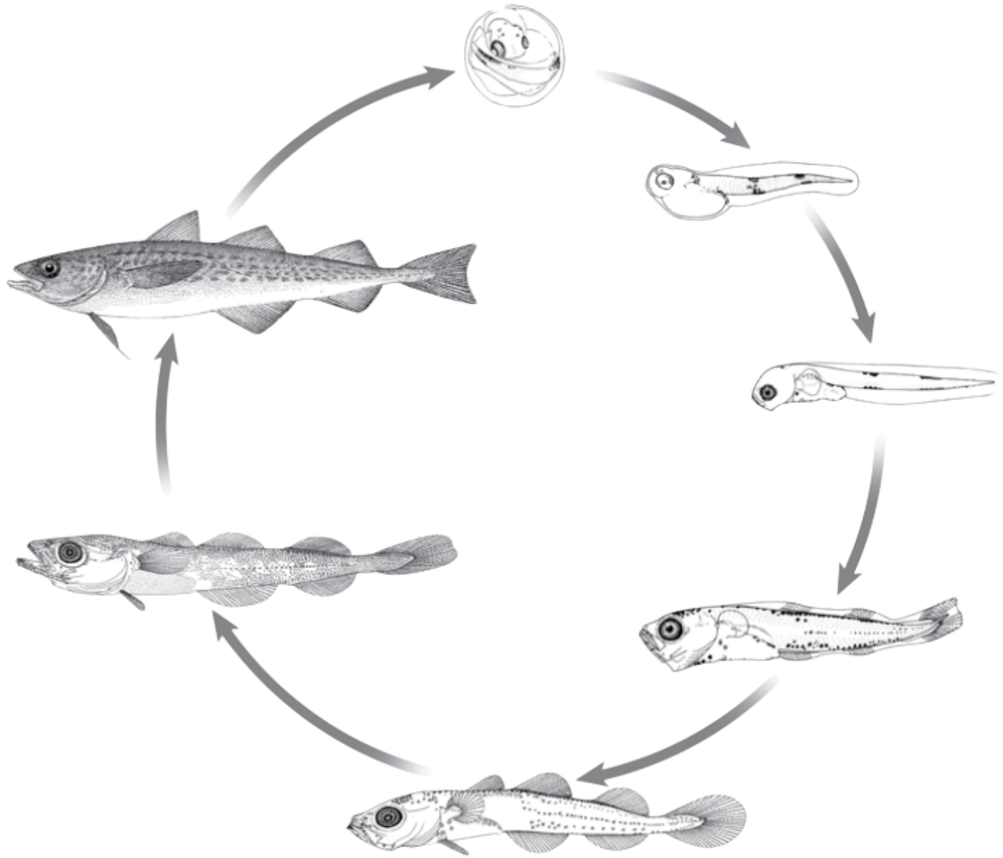
- Wild Alaska Pollock are found from the Sea of Japan (Japan and Korea), up through the Sea of Okhotsk and Western Bering Sea (Russia), and then throughout the Bering Sea, Gulf of Alaska (US) and the Northeast Pacific Ocean (US and Canada west coasts). There are small populations in the Arctic Ocean both north of the Bering Straits and north of Norway and Russia.

- The highest populations are in the Sea of Okhotsk, the Bering Sea, and the Gulf of Alaska. This is where the major fisheries are located.



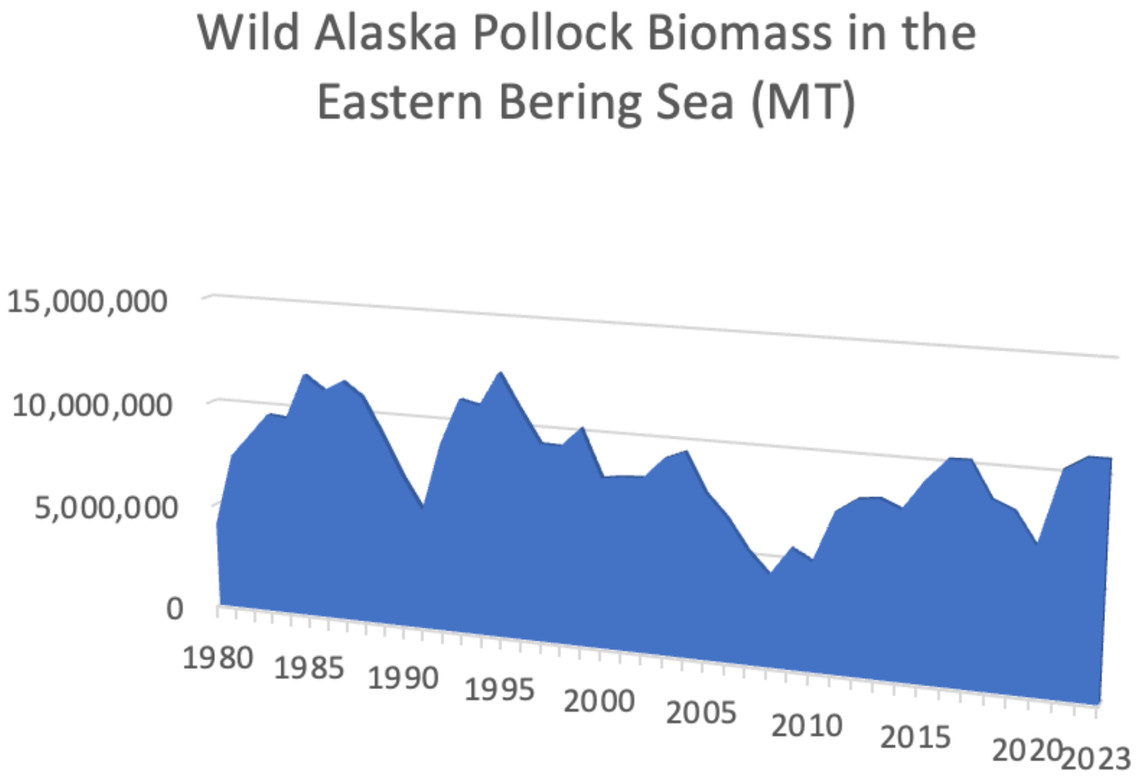
LIFE CYCLE

- Wild Alaska Pollock can live up to around 12 years of age.
- Wild Alaska Pollock are fast-growing fish up to about five years (4 to 5 lbs and about 25 inches in length), then the growth slows markedly.
- Wild Alaska Pollock are highly fecund (i.e. they have a high rate or reproductivity). A large, mature female can lay up to 15 million eggs each year! This allows them to recover from low stock levels very quickly if environmental conditions are right.
- Typically, the biomass (total weight) is made up mostly of one or two year classes.
- One of the primary sources of food for adult Wild Alaska Pollock are juvenile Wild Alaska Pollock. Thus, by removing adult fish, the fishery increases the survival of immature fish and allows for the next big year class to enter the fishery.
- Wild Alaska Pollock become sexually mature between 3 to 5 years of age. That is also when they start to be targeted by the fishery.



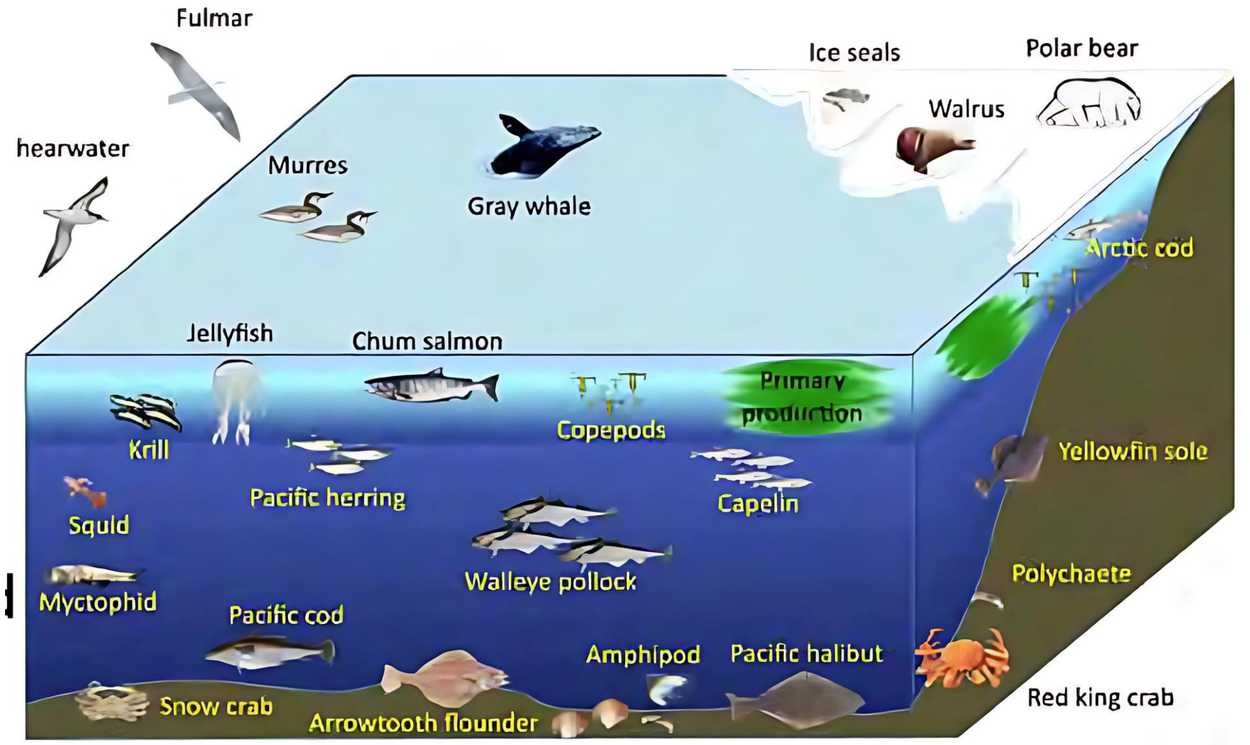
POPULATION/BIOMASS

- The size of the Wild Alaska Pollock biomass is somewhat cyclical, with it increasing as a big year class enters the fishery, then is eventually replaced by the next big year class.
- The Eastern Bering Sea (EBS) typically represents about 90% of the total biomass (and hence total harvest) of Alaska Pollock in US waters. The other 10% is in the Gulf of Alaska (GOA).
- Biomasses in the EBS range from lows of 5 million mt to almost 12 million mt.
- The current biomass estimates are 10.2 million mt in the EBS and 1.15 million mt in the GOA.



ROLE IN THE ECOSYSTEM

- Juvenile Wild Alaska Pollock primarily feed on zooplankton krill and copepods. They rely on “upwelling” (cold water coming up from the bottom and spreading across the continental shelf) to produce large amounts of food.
- As noted, adult Wild Alaska Pollock feed on small forage fish, especially juvenile Wild Alaska Pollock.
- Adult pollock are prey for seabirds, other fish such as cod, and marine mammals (i.e. northern fur seals and Steller sea lions).
- However, they are not the preferred prey for marine mammals as they prefer, and thrive, on more oily fish such as herring.



FISHERY MANAGEMENT

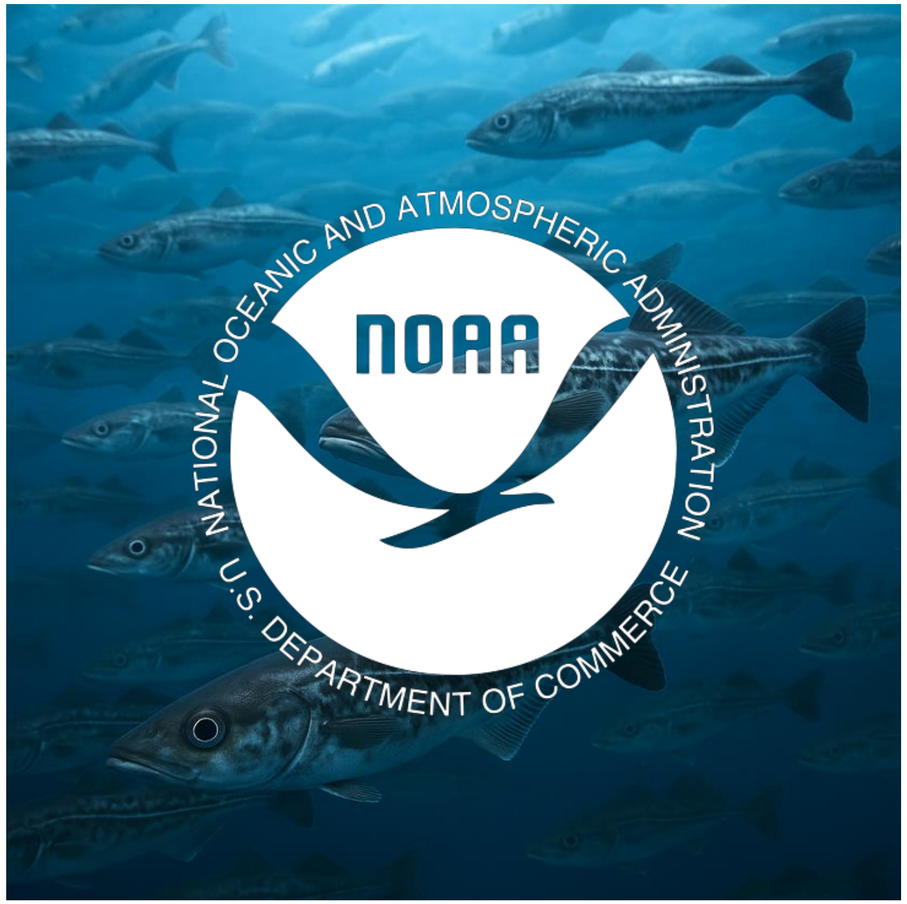
FISHERIES MANAGEMENT AUTHORITY – THE NPFMC

- Fisheries that occur in US territorial waters (3-200 miles from shore) are managed under the Magnuson Stevens Fisheries Conservation and Management Act (MSA), which was first enacted in 1976.
- The MSA created eight regional fishery management councils. The jurisdiction of the North Pacific Fishery Management Council (NPFMC) is all the federal waters off Alaska.
- The Council is made up of 11 voting and 4 non-voting members. WA, OR and AK have three voting seats filled by the heads of each of their fish and game departments.
- One member is the regional director of the National Marine Fisheries Service's AK Regional office.
- Seven are appointed by the governors of each state (five for Alaska and two for Washington State).
- Appointed members are from industry or other stakeholders.

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

FISHERIES MANAGEMENT AUTHORITY – NOAA & NMFS

- The MSFCMA placed the authority to manage US fisheries with the Secretary of Commerce. The management within the Department of Commerce (DOC) is done by the National Oceanographic and Atmospheric Administration's Fisheries (NOAA Fisheries) also called the National Marine Fisheries Service (NMFS).
- Interaction with the NPFMC is largely through the NOAA Fisheries Alaska Regional Office.
- The Council makes management and quota recommendations to the Secretary of Commerce. These recommendations are almost always approved.



FISHERIES MANAGEMENT PROCESS

- The Council recommends management measures including setting of Acceptable Biological Catch (ABC), Total Allowable Catch (TAC), and the level of fishing that would constitute “overfishing.”
- The Council also establishes other management measures, such as incidental catch limits, gear restrictions, and time and area restrictions that set where and when fishing is allowed to occur.
- The terms of fisheries management for Wild Alaska Pollock are set out in the Bering Sea/Aleutian Islands and Gulf of Alaska Groundfish Fisheries Management Plans.

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL x NOAA

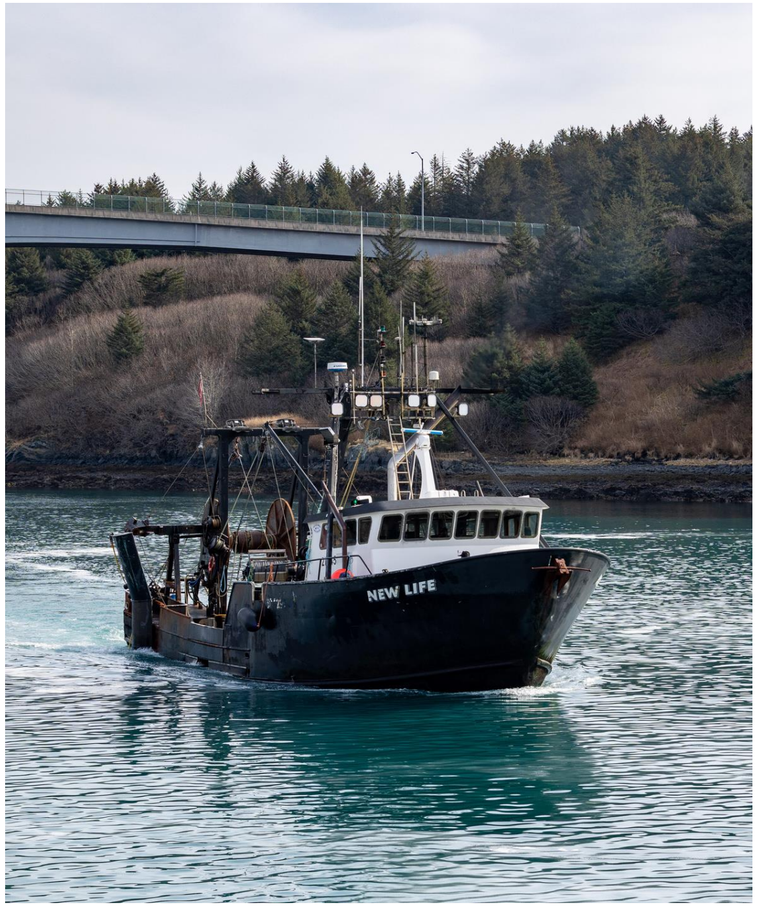
QUOTA (TAC) SETTING PROCESS – Gulf of Alaska and Eastern Bering Sea

- During the summer, fisheries scientists from NOAA Fisheries survey the Alaska pollock biomasses using hydroacoustic and trawl surveys in the summer to estimate the size of the biomass.
- In the fall, Plan Teams made up of scientists from NOAA use sophisticated models to recommend the ABCs in November.
- The Council and its Scientific and Statistical Committee establish the ABC and TAC for each species and send those recommendations to the Secretary of Commerce for approval in December.

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL x NOAA

AMERICAN FISHERIES AFA

- In 1998, Congress passed the American Fisheries Act (AFA).
- Prior to this, individual companies and vessels competed against one another for the quota (open access). The objective was to catch as much as you can, as fast as you can, before others could.
- This led to low yields, fishing in dangerous conditions, lower quality product and higher incidental catch rates and waste.
- The AFA provided anti-trust protection, allowing each sector to form “cooperatives” that allowed sector members to divide the sector quota between themselves.
- Once assured of a percentage of the catch, companies were able to slow their harvesting and focus on quality, worker safety, increased yields and reduced incidental catch. The objective of each company became maximizing the value from each ton of fish harvested.



THE FISHERIES

US WILD ALASKA POLLOCK FISHERIES SECTORS

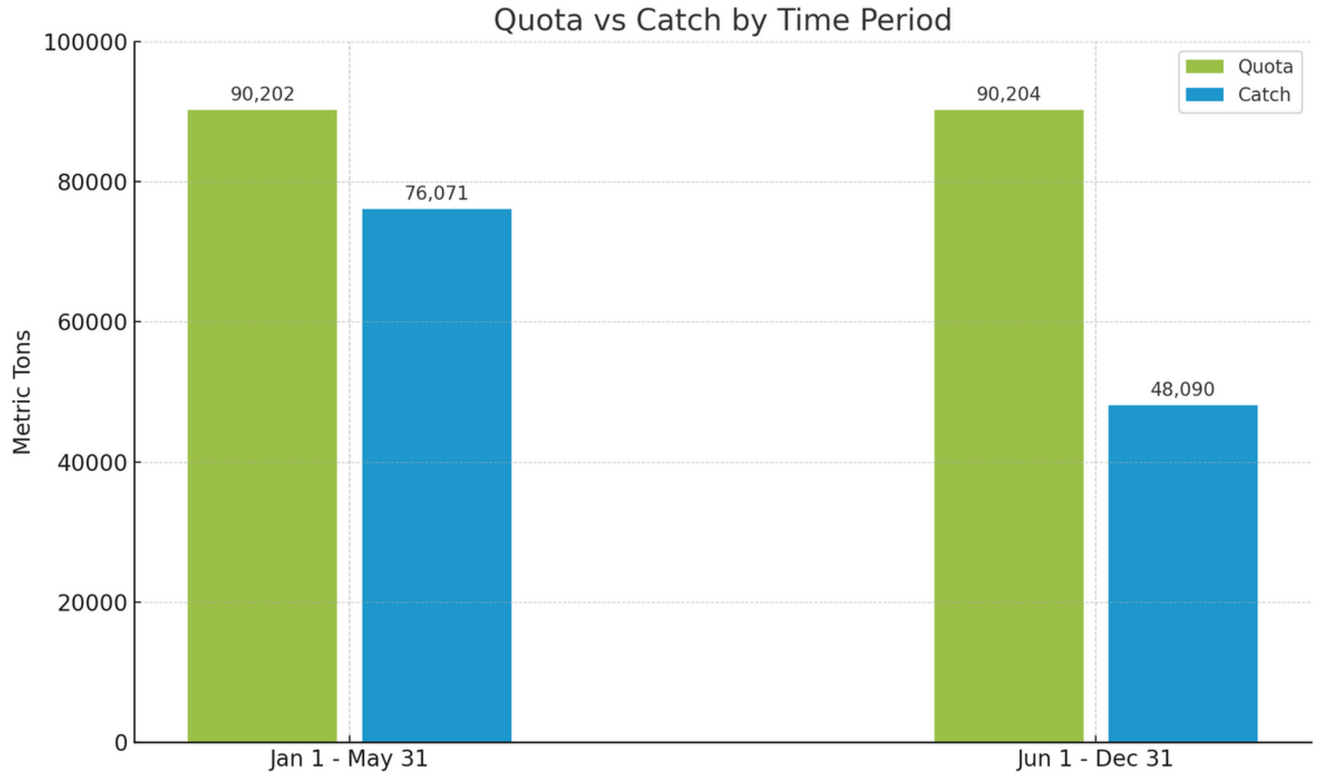
- **Once the Eastern Bering Sea TAC is set, NOAA apportions the TAC as follows:**
  - Community Development Quota (CDQ) – 10% of the quota is apportioned to six groups representing 65 rural Western Alaska communities.
  - A small amount is apportioned to other fisheries that take Wild Alaska Pollock as bycatch.
  - After the above, the remainder is apportioned as follows:
    - Inshore (50%) – Vessels that deliver to Shorebased processing plants in Dutch Harbor and Akutan
    - Catcher Processors (40%) – Vessels that catch and process at sea
    - Mothership Processing (10%) – Vessels that deliver to processing ships at sea

US WILD ALASKA POLLOCK EASTERN BERING SEA SECTOR PARTICIPANTS

- **Shorebased Processors –** Trident Seafoods, Unisea, Westward Seafoods, Northern Victor (owned by Westward), Alyeska Seafoods (also owned by Westward)
- **Catcher Processors** - American Seafoods, Trident Seafoods, Glacier Fish, Arctic Storm/Arctic Fjord, Coastal Villages Region Fund (Northern Hawk)
- **Mothership Processors** – Phoenix Processor Limited Partnership (PPLP), Golden Alaska Seafoods
- **Catcher Vessels** – Vessels that deliver to shorebased and mothership processors

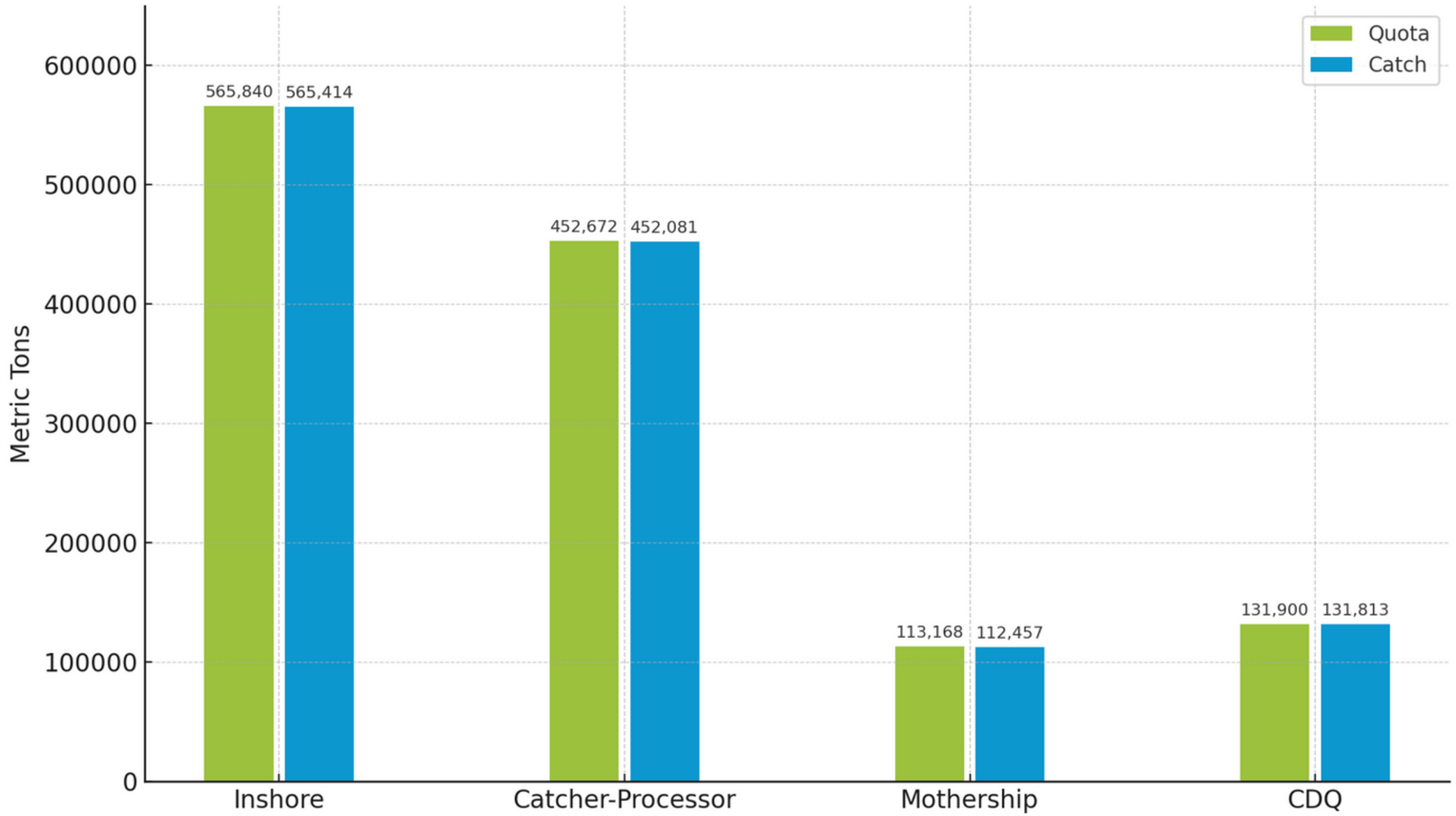
2024 GOA ALASKA POLLOCK
FINAL CATCH VS QUOTA

The Gulf of Alaska fishery ended the year with and overall shortfall of 56,245 mt.



ALASKA POLLOCK ANNUAL CATCH

FINAL VS FULL YEAR QUOTA - BERING SEA



US WILD ALASKA POLLOCK TRADE ASSOCIATIONS

- As a highly regulated industry, the sectors are represented by trade associations. GAPP works closely with each.
  - **At-Sea Processors Association (APA) –** Represents the catcher processor sector
  - **Pacific Seafood Processors Association (PSPA)** – Represents the shorebased and mothership processors
  - **United Catcher Boats (UCB)** – Represents the catcher vessels that deliver to shorebased and mothership processors
  - **Midwater Trawlers Cooperative -** Represents vessels delivering to shorebased processors in the Gulf of Alaska and Bering Sea
  - **Alaska Groundfish Databank** – Represents shorebased processors in the Gulf of Alaska and vessels delivering to those shorebased processors.
- **Alaska Seafood Marketing Institute (ASMI) –** A public/private partnership between the State of Alaska and industry that promotes all Alaska seafood.

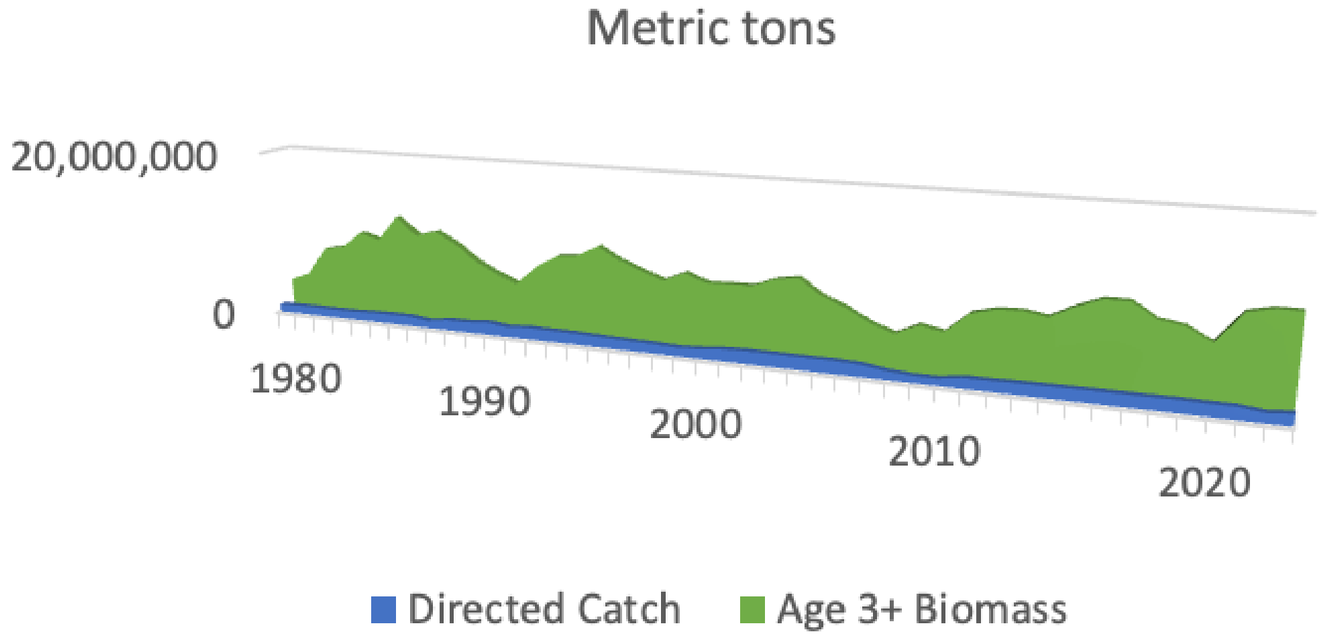

ALASKA
GENUINE
POLLOCK
SUSTAINABILITY/ISSUES

SUSTAINABILITY OF WILD ALASKA POLLOCK

- The US Wild Alaska Pollock fishery is almost universally acknowledged as one of the most sustainably managed fisheries in the world.
- Transparent/Participatory – The fisheries management of Wild Alaska Pollock is extremely transparent. All meeting are open to the public and any proposed management measure is subject to multiple opportunities for public comment and input. Observers on vessels monitor target and incidental catches.
- Knowledge of the Resource – Few, if any, fisheries in the world have the level of scientific knowledge abut the resource.
- Conservative Management – Exploitation rates are among the lowest of any fishery.
- All catches are monitored by third party, independent observers or onboard cameras.

EXPLOITATION RATES

- TACs are NEVER set above the ABCs.
- Catches are always weighed using flow scales that are tested every day for accuracy.
- Independent observers ensure the flow scales are accurate.
- Bering Sea Catches have averaged only 14.6% of the catchable biomass since U.S. began managing the fishery in 1979.



BYCATCH

- The Wild Alaska Pollock fishery is one of the cleanest fisheries in the world. Over 99% of the harvest is Wild Alaska Pollock.
- For decades, every aspect of the Alaska pollock fishery has been intensively studied and managed. By any measure, it is recognized as one of the most transparent and accountable fisheries in the world.
- While bycatch is an unfortunate reality of any commercial fishery, the Alaska pollock fishery has been recognized as “one of the cleanest in terms of incidental catch of other species” by the National Marine Fisheries Service.
- NOAA recognizes that wild-caught Alaska pollock is responsibly harvested under U.S. regulations. Our fishing operations follow strict protocols to minimize incidental catch. This includes having independent federally trained observers on vessels, on-board cameras to ensure accurate reporting, and a public database that records the precise catch for each vessel.

primary cause of these declines.

HABITAT/ECOSYSTEM

- It is well established that all types of fishing gear – including trawl gear, long lines, and pots – can result in some level of seafloor contact.

- Pollock nets are designed to be fished in a semi-demersal manner, meaning they operate both in the water column and at or near the seafloor.
  - While the trawl gear used in the pollock fishery does come into contact with the seafloor, the contact is variable.
  - The pollock fishery's gear design is approved and regulated by NOAA Fisheries. While different vessels may use different gear, each net must meet strict design criteria which is closely monitored and enforced.
  - Marine experts have concluded that any contact we may have with the seafloor has only minimal and temporary effects on the marine ecosystem.
- The Bering Sea shelf, where the Alaska pollock fishery operates, is a highly dynamic environment. Natural forces like currents and storms disturb the sand and mud often as much as, or even more than, fishing activities.
- We **invest heavily in science-based approaches** to continually improve how we fish. We're working with Alaska Pacific University on a multi-year research project to better estimate seafloor contact.

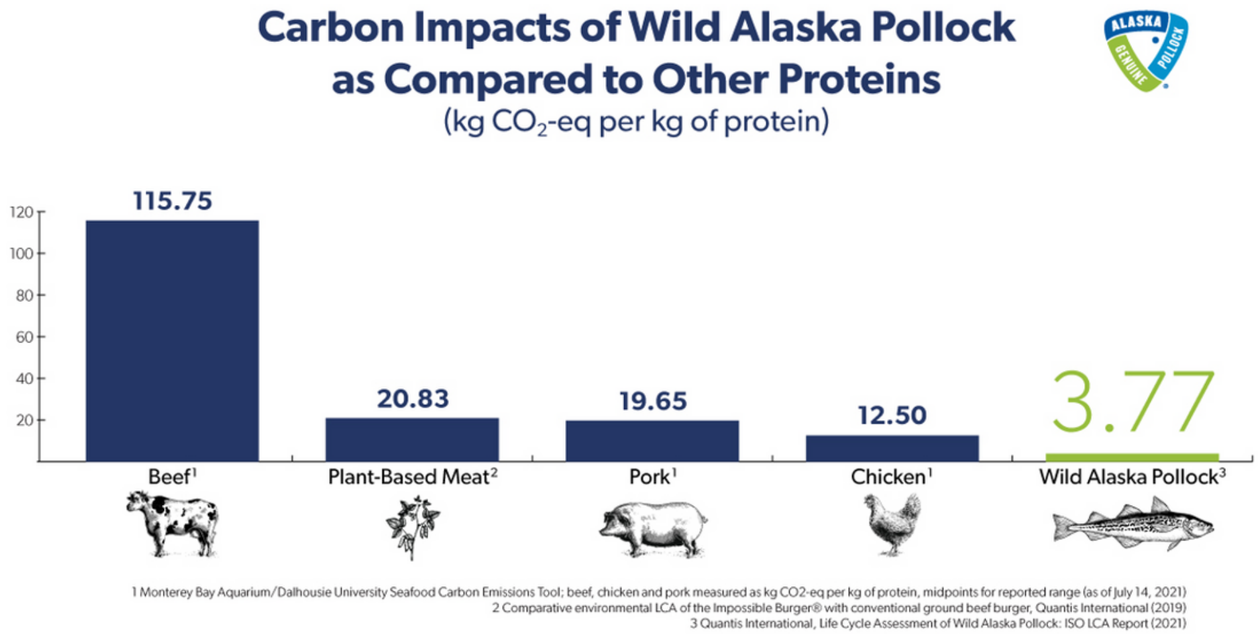
Sustainability Issues

RUSSIA

- Russia has major Alaska Pollock fishery in the Sea of Okhotsk and the Western Bering Sea, harvesting close to 2 million mt annually.
- Despite being certified as sustainable by the Marine Stewardship Council, Russian fisheries have no observers, have a history of ignoring scientific advice when setting quotas, do not weigh their catches and have had a history of forced labor.
- Russian fishing companies have received substantial government subsidies to construct new vessels that are now entering the fishery.
- Products from these fisheries compete directly with US product in international products.
- Russia has banned imports of US seafood products since 2014.
- The US has banned direct imports from Russian-origin seafood since March, 2022.
- The US banned all Russian-origin seafood (including pollock fillet products harvested in Russia and re-processed in China) on December 22, 2023.
- Effective in 2016, only US-harvested fish can be called “Alaska Pollock” but it is still called Alaska Pollock in the EU.

LCA – CARBON FOOTPRINT

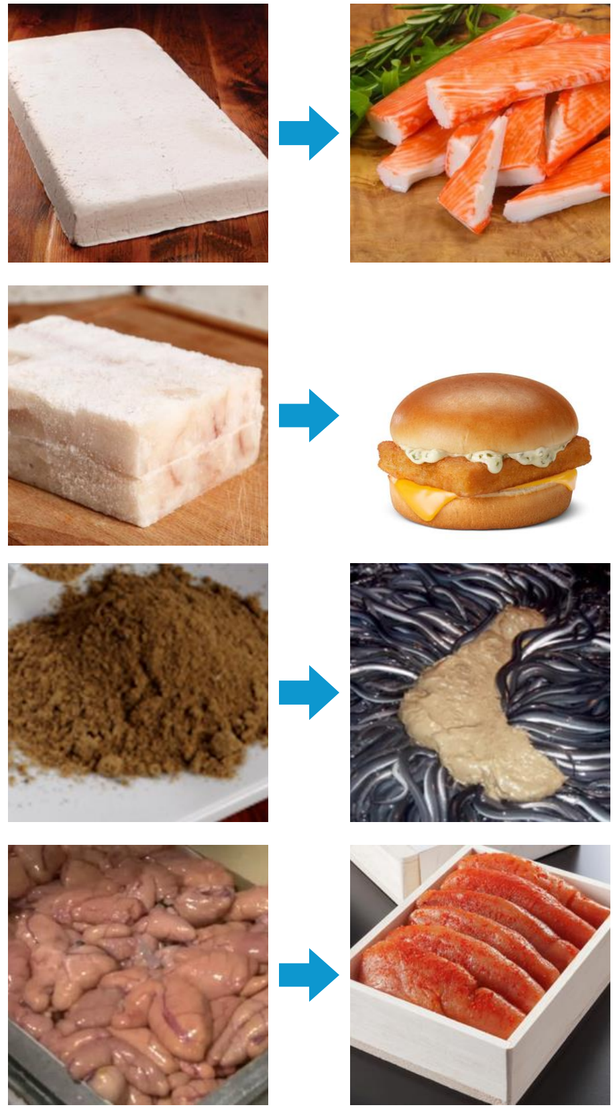
- In 2021, GAPP commissioned Quantis International to conduct a Life Cycle Assessment on the environmental impacts of the harvesting and processing of Wild Alaska Pollock.
- That study found that Wild Alaska Pollock has one of the lowest carbon footprint of all protein sources.
- GAPP produced fact sheets and charts in several different languages for members' use.
- GAPP is repeating the LCA in 2025 with researchers from Dalhousie University (Canada).




PRODUCTS AND MARKETS

WILD ALASKA POLLOCK CATCHES ARE FULLY UTILIZED

- Surimi paste – Fillets are minced, then combined with cryoprotectants. This is the primary ingredient in surimi seafood such as Kamaboko.
- Fillets – The majority of fillets produced are made into uniform blocks and cut in secondary processing plants into portions used in Quick Service Restaurants or in retail breaded and battered portions.
- Headed and Gutted – frozen and shipped overseas where it is thawed, filleted and re-frozen.
- Roe – Valuable product that is made into cured products such as Mentaiko. A staple in the Japanese diet.
- Minced – Pieces of fish that are minced and frozen into blocks for use in value-priced breaded and battered portions.
- Fish Oil – Used in nutraceuticals, pet supplements and aquaculture feeds.
- Fish Meal – Wild Alaska Pollock fish meal has unique characteristics making it highly valued for turtle and eel aquaculture feeds.
- Bone Meal – Used to neutralize harmful contaminants in soil.



DEEPER DIVE ON FILLETS

- Most (more than 95 percent) of fillets are packed in 16.5 lb rectangular blocks (19” by 10” by 2.5”). There are two reasons for this: 1) The pace of the fishery requires high volume freezing with hydraulic plate freezers; and 2) Wild Alaska Pollock are small, with a long-tapered fillet that is not conducive for traditional white fish fillet markets.

- Most of the balance is sold as Individually Quick Frozen (IQF) fillets. These are glazed with ice to provide greater shelf life.

- There are three types of fillets: 1) Deep-skinned, where a deeper cut is taken on the skin side, removing much of the darker flesh that is found there; Pin Bone Out (PBO) – Skinless and boneless, but with some of the darker flesh remaining. This is less of an issue in Europe than it is in the United States; and 3) Pin bone in (PBI) – This is a niche market in Europe with annual production less than 1,000 mt.

- Fillet blocks are cut at highly-automated plants into portions and are typically coated with breading or batter in the US and EU markets, or a flavored sauce or seasonings in Europe (called “Schelmmer filet” in Germany).

DEEPER DIVE ON FILLETS (CONT.)

- The global Alaska pollock fillet market is made up of both single frozen and twice frozen fillets.
- Traditionally, the majority of Russian catches of “pollock” have been put up headed and gutted in Russia, then exported to China, where it is thawed and filleted by hand then re-frozen into unbreaded portions or blocks, often after treating with Sodium Tri-poly Phosphates which can add substantial water weight gain and reduce the quality of the fillet. This product typically has sold for less than once frozen. These are called twice-frozen fillets.
- These compete with US once-frozen fillets in the EU. The US does put up some headed and gutted fish that is exported to China and re-processed and then sold back into the US market.

DEEPER DIVE ON SURIMI

- Surimi paste – Fillets are minced, then combined with cryoprotectants. This is the primary ingredient in surimi seafood such as Kamaboko. While Alaska pollock is the preferred fish, it is also made from US Pacific whiting (a fishery which many GAPP's members participate), warmwater species in Asia or other other whitefish species
- Imitation crab – Surimi seafood can be comprised from anywhere between 30 and 55 percent surimi paste. The other ingredients are starches, salt, binders, sugar and coloring.
- Other products – Surimi paste is made into hundreds, if not thousands of different products in Asian countries.
- Major markets – Over 90 percent of US surimi paste is exported, primarily to Japan, Korea and the EU.
- Growth market in US – The sushi market has been a growth market in the US, not just in dedicated sushi restaurants, but also in retail with most retailers now offering fresh sushi or frozen, pre-packaged California rolls that are also now selling in convenience stores. Some retailers report that California rolls make up 50 percent or more of total sushi sales.

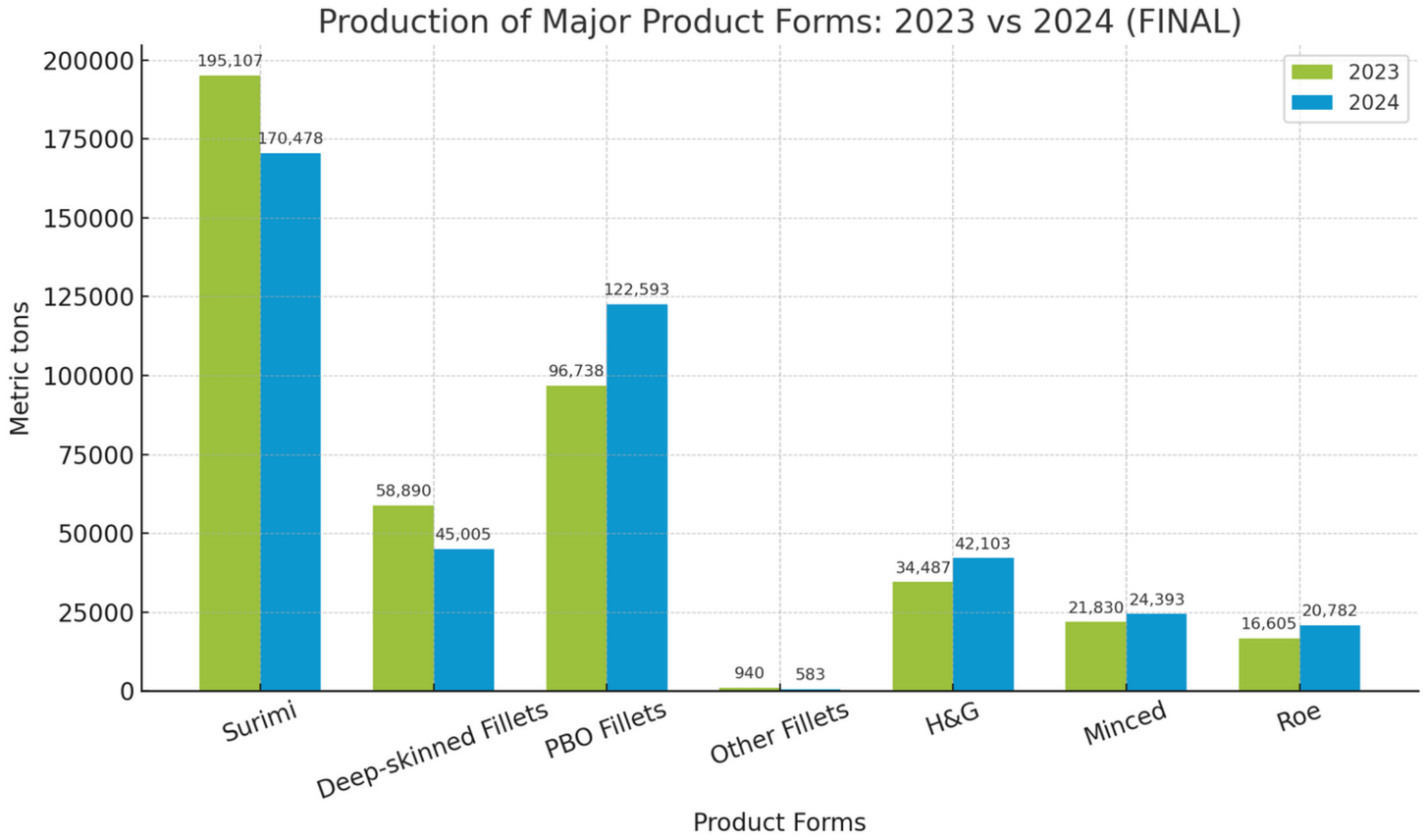
DEEPER DIVE ON WILD ALASKA ROE

- Roe – Valuable product that is made into a variety of cured and seasoned products:
  - Mentaiko – Spicy Wild Alaska Pollock roe seasoned with dashi, red chili peppers andother seasonings.
  - Tarako – Salted Wild Alaska Pollock Roe

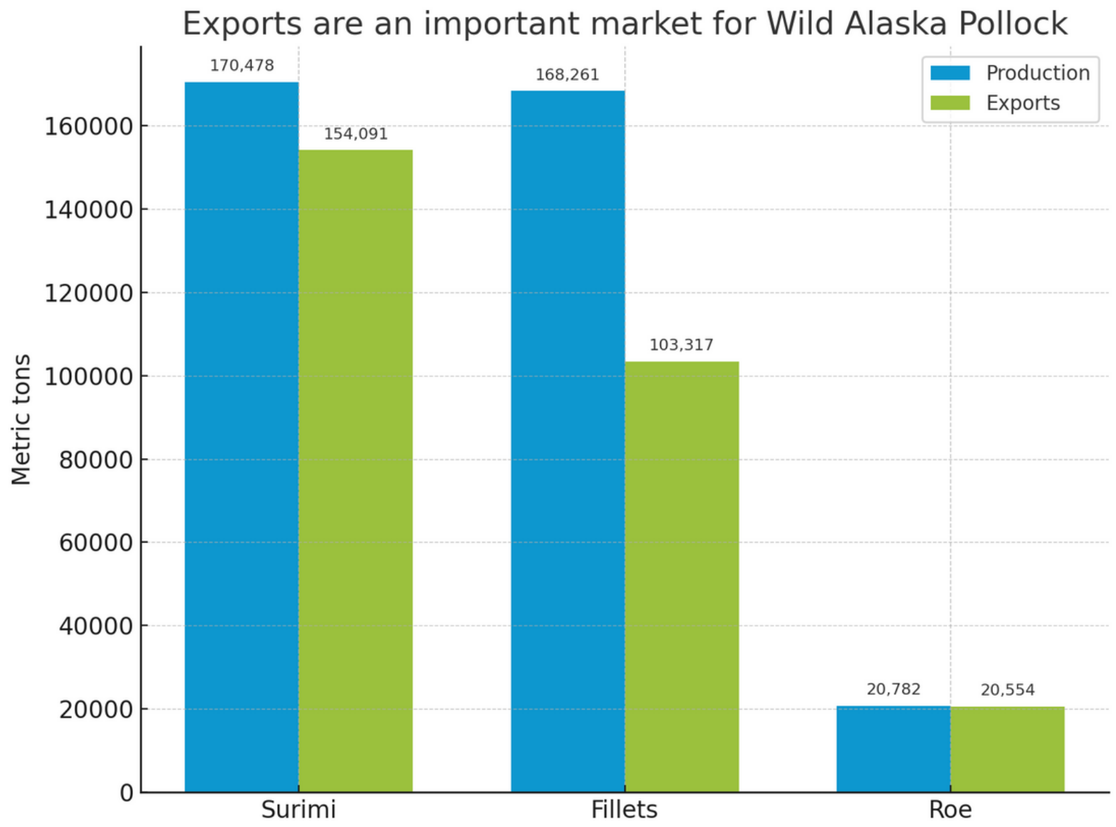
- Mentaiko and Tarako have historically been sold in gift boxes that were given as holiday gifts, particularly with gift boxes. This practice has declined over time.

- The roe market changed dramatically when Russian roe products began to be sold internationally (around 2000 to 2005) and competed with US origin roe.

PRODUCTION OF PRIMARY PRODUCTS

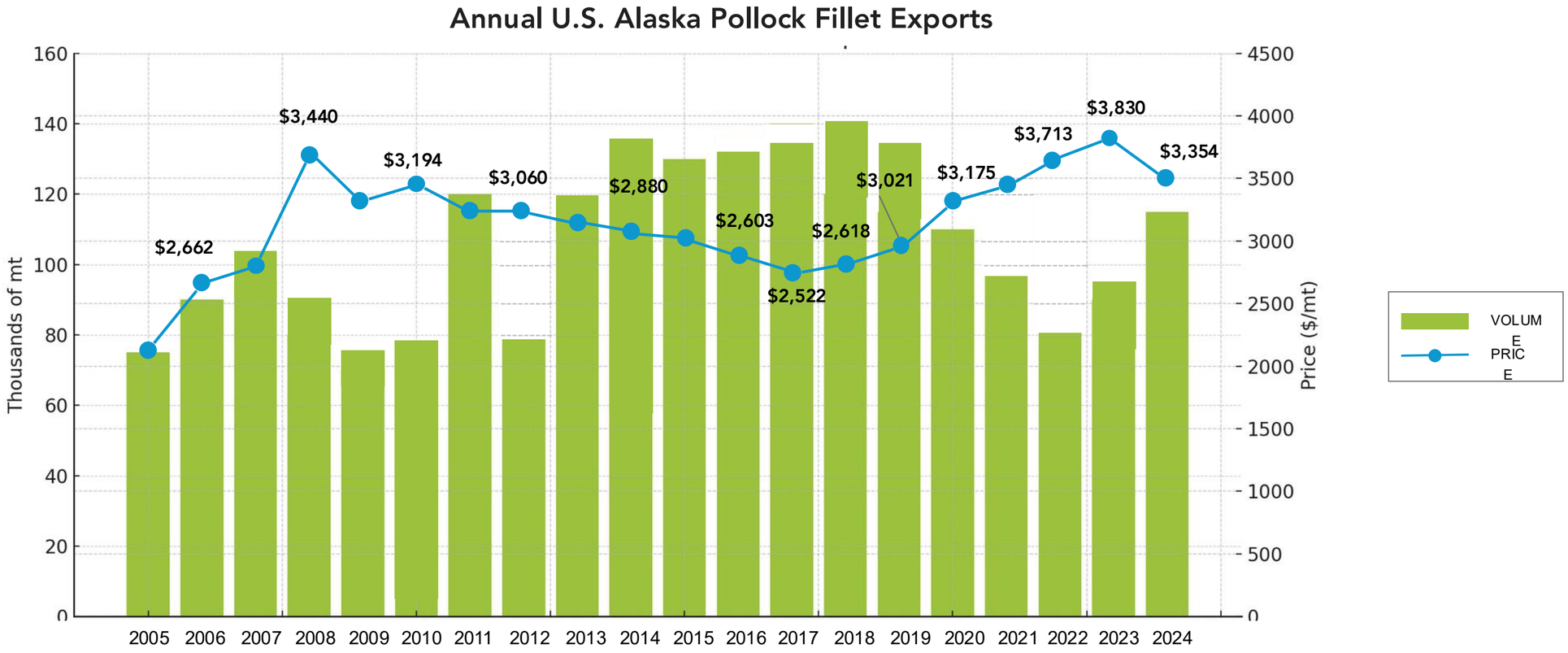


EXPORTS ARE AN IMPORTANT MARKET



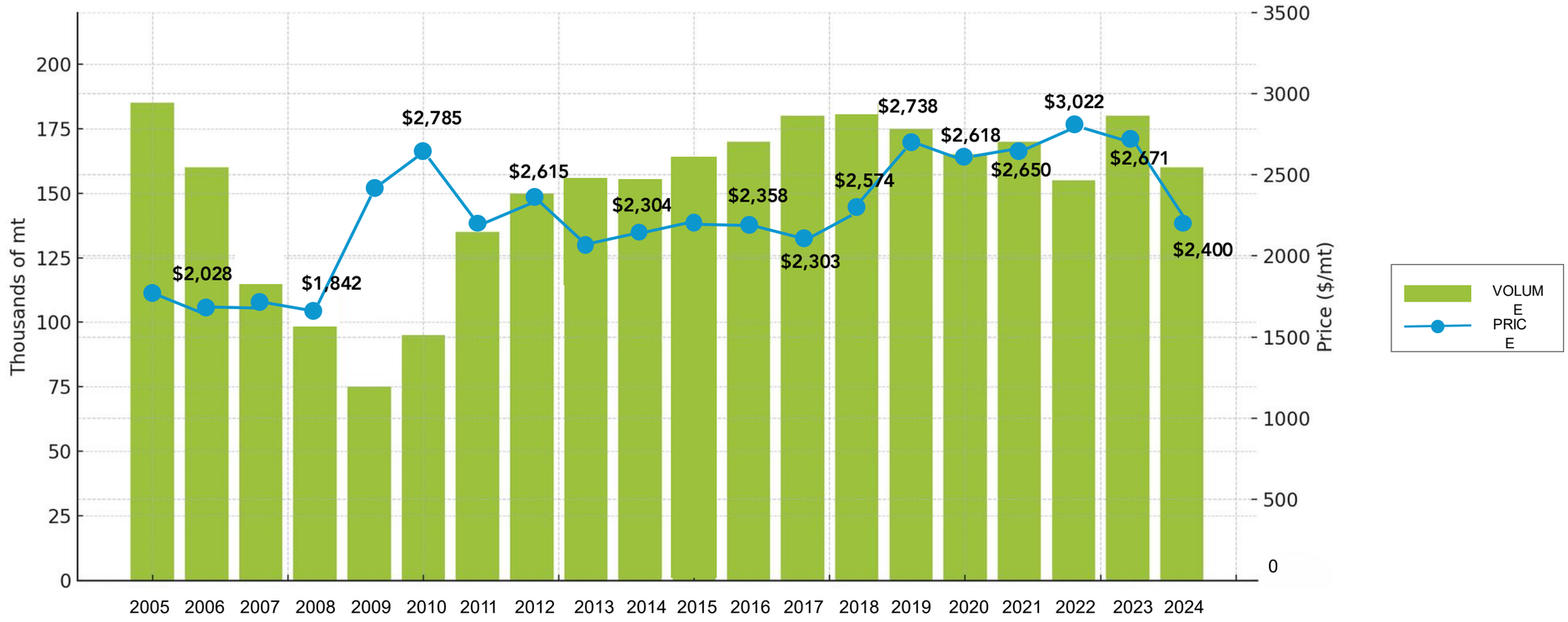
FILLET EXPORTS – VOLUME AND PRICES

Export prices peaked in 2023 and have fallen off since.



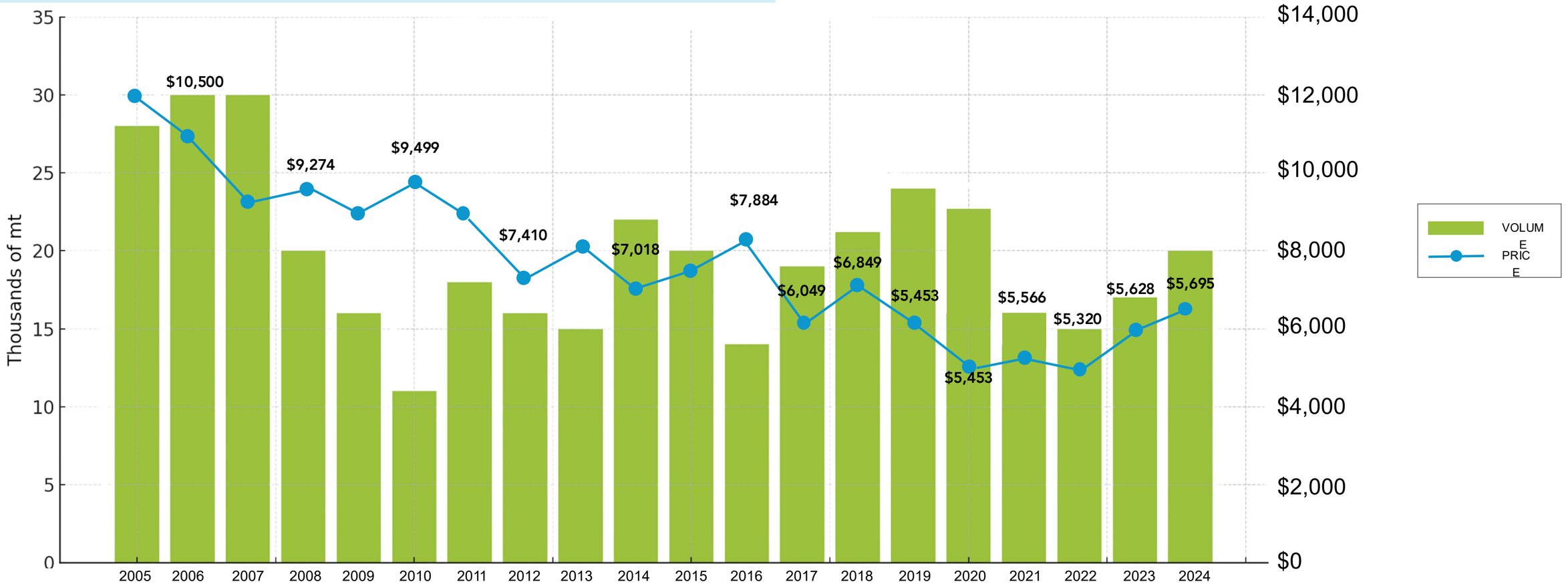
SURIMI EXPORTS – VOLUME AND PRICES

Surimi prices peaked in 2022.



ROE EXPORTS – VOLUME AND PRICES

Roe prices have steadily fallen since 2005.



PER CAPITA CONSUMPTION/AWARENESS

- In the United States, per capita consumption of Alaska Pollock/Pollock has varied between 0.7 pounds to 1.1 pounds per capita and has ranked between #4 and #6 of most consumed seafood items.
- Awareness of Alaska pollock has increased over the past five years.
- Awareness of Alaska pollock varies. In the United States, our 2024 survey revealed that 58% of the respondents were familiar with Wild Alaska Pollock and 46% had a positive opinion of it (72% of those familiar had a positive opinion).
- In Europe, 88% of German, 80% of French and 64% of UK consumers are aware of the name Alaska Pollock.

NFI's Annual Top 10 List

SPECIES	2022 (in lbs)	CHANGE FROM 2021 (in lbs)
Shrimp	5.50	-0.40
Salmon	3.22	-0.16
Canned Tuna	2.20	0.30
Tilapia	1.01	-0.034
Pangasius	0.86	0.15
Alaska Pollock	0.81	0.03
Cod	0.75	0.15
Catfish	0.54	0.02
Crab	0.47	-0.12
Oysters	0.24	0.05

2022 Per Capita Consumption: 19.7
2022 Total Top 10: 15.58
All Other Species Consumption: 4.12
Top 10 as % of Total Consumption: 79%

NATIONAL FISHERIES INSTITUTE

ALASKA POLLOCK IS SOLD BY SOME OF THE WORLD'S LEADING FOOD COMPANIES


WILD ALASKA POLLOCK MESSAGING

- Guidance for Wild Alaska Pollock messaging can be found in the GAPP Communications Toolkit
  - GAPP Overarching Messages
  - Wild-Caught – Wild Alaska Pollock is a product of Alaska, wild caught from the rich, pristine waters of the Bering Sea and Gulf of Alaska.
  - Sustainability – Wild Alaska Pollock is the most abundant certified-sustainable fish in the world. It also has one of the lowest carbon footprints of any protein.
  - Nutrition – Wild Alaska Pollock is one of the 20 most nutritious foods on the planet, packed with nutrients and omega-3 fatty acids and is mercury safe.
  - Fresh Taste/Versatility – Wild Alaska Pollock is a fresh-tasting, mild in flavor that makes it a versatile food for families and children.