BSAI Yellowfin Sole, BSAI Atka Mackerel and AI Pacific Ocean Perch Allocation Review

March 19, 2025[1]

1 Introduction

In July 2016, NMFS issued a Fisheries Allocation Policy Directive 01-119, which describes a mechanism to ensure fisheries allocations are periodically evaluated to remain relevant to current conditions. The Council adopted a 10-year time frame as the primary trigger criteria for review for non-LAPP allocations.

As noted in the 2018 Council Coordinating Committee meeting, the Allocation Review is not meant to include an in-depth analysis. The purpose of the review is to ensure allocations are periodically reviewed, remain relevant, and adhere to adaptive management. The review is to facilitate the assessment of FMP objectives and Allocation objectives while considering other relevant factors (ecological, economic, social, catch, status, etc.). This assessment then informs whether or not further consideration of allocation alternatives is warranted. If the Council decides that development of allocation options is warranted, the Council will proceed with formal analyses, and follow its amendment process for identifying alternatives, soliciting public input, etc. If the Council determines that the objectives are not up-to-date, then the Council should discuss, evaluate, and if necessary, revise the objectives. If the Council determines that the objectives are current and no amendment process is necessary the review is complete.

[1] Prepared by: Michael Fey (PSMFC)

1.1 Overview of allocation

The Bering Sea and Aleutian Islands (BSAI) Fishery Management Plan (FMP) Amendment 80 established allocations for BSAI yellowfin sole, BSAI Atka mackerel, and AI Pacific ocean perch Total Allowable Catch (TAC) between non-AFA catcher processors, also known as Amendment 80 vessels, in a Limited Access Privilege Program (LAPP) and an open access sector also known as the trawl limited access sector or TLAS. Rock sole and flathead sole were also allocated under Amendment 80 and wholly allocated to the Amendment 80 vessels (LAPP eligible non-AFA trawl catcher processors) and Community Development Quota (CDQ). This allocation review covers the TLAS allocation of BSAI yellowfin sole, BSAI Atka mackerel, and AI Pacific ocean perch for 18 years, 2008-2024, starting the first year of the allocation and continuing through the most recent year with landings data. Revenue data is not available for 2024 at this time. The Amendment 80 LAPP reviews complete the requirement for the allocation review for the allocation to the Amendment 80 vessels with the last review being received by the Council in December of 2024. The figures and supporting data presented are available online at the allocation review website. The BSAI Atka mackerel and AI Pacific ocean perch allocations are split by subarea however this review combines the areas to be consistent with the Amendment 80 LAPP review.

1.2 Amendment 80 Allocation Objectives

In general, based on the Council's problem statement and the final rule for the Allocation of Non-Pollock Groundfish and Development of a Cooperative Program for the Non-American Fisheries Act Trawl Catcher Processor Sector (72 Fed Reg 30052 May 30, 2007), the implicit objectives of Amendment 80 were intended:

- To maintain a healthy marine ecosystem to ensure the long-term conservation and abundance of the groundfish and crab resources
- To reduce bycatch
- To minimize waste and improve utilization of the extent practicable
- To provide maximum benefit to present generations of fishermen, including CDQ groups, communities, and the nation as a whole
- To minimize negative impacts on other fisheries.

1.3 BSAI Groundfish FMP Objectives

The Council has developed management objectives for the BSAI groundfish fisheries to guide its development of management recommendations to the Secretary of Commerce, which can be accessed at https://www.npfmc.org/library/fmps-feps/. From the comprehensive list of BSAI FMP objectives, below are those objectives that, according to staff judgement, apply to the BSAI Amendment 80 allocation review.

Promote Sustainable Fisheries and Communities:

- Promote management measures that, while meeting conservation objectives, are also designed to avoid significant disruption of existing social and economic structures.
- Promote fair and equitable allocation of identified available resources in a manner such that no particular sector, group or entity acquires an excessive share of the privileges.

Promote Equitable and Efficient Use of Fishery Resources:

- Provide economic and community stability to harvesting and processing sectors through fair allocation of fishery resources.
- Develop management measures that, when practicable, consider the efficient use of fishery resources considering the interest of harvesters, processors, and communities.

1.4 Regulatory Changes

A list of regulatory amendments affecting the allocation is available on the Federal Register website at: https://www.federalregister.gov/agencies/national-oceanic-and-atmospheric-administration. The rule affecting the yellowfin sole allocation that became effective between 2008 and 2024 is summarized below. No regulatory changes for the BSAI Atka mackerel or Pacific ocean perch trawl limited access allocation went into effect during the time period.

Limiting Access for Offshore Trawl CVs in the BSAI Trawl Limited Access Yellowfin Sole Fishery: NOAA Fisheries issued regulations on October 4th, 2018 (83 FR 49994) to implement Amendment 116 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP). Amendment 116 limits access to the Bering Sea and Aleutian Islands (BSAI) Trawl Limited Access Sector (TLAS) yellowfin sole directed fishery by vessels that deliver their catch of yellowfin sole to motherships for processing. This final rule established eligibility criteria based on historical participation in the BSAI TLAS yellowfin sole directed fishery, issued an endorsement to those groundfish License Limitation Program (LLP) licenses that meet the eligibility criteria, and authorized delivery of BSAI TLAS yellowfin sole to motherships by only those vessels designated on a groundfish LLP license that is endorsed for the BSAI TLAS yellowfin sole directed fishery.

This action was necessary to prevent increased catcher vessel (CV) participation from reducing the benefits the fishery provides to historic and recent participants, mitigate the risk that a "race for fish" could develop, and help to maintain the consistently low rates of halibut bycatch in the BSAI TLAS yellowfin sole directed fishery. This rule was effective November 5, 2018.

2 BSAI Yellowfin Sole

2.1 Allocation and Landings

Bering Sea and Aleutian Islands (BSAI) Fishery Management Plan allocates a portion of yellowfin sole TAC between the non-AFA trawl catcher/processor sector defined in Section 219(a)(7) of the Consolidated Appropriations Act, 2005 (P.L. 108-447) (referred to as the Amendment 80 or A80 vessel sector), and all other BSAI trawl vessels (BSAI TLAS) after deductions for CDQ Program allocations, and incidental catch amounts. The amount of groundfish allocated between trawl sectors after deductions for the CDQ Program and incidental catch allowance is the initial TAC (ITAC). A percentage of the yellowfin sole ITAC is allocated among the trawl sectors depending on the total ITAC. Table 1 below represents the percent of the ITAC allocated between sectors that corresponds to the amount of yellowfin sole ITAC.

Table 1 BSAI Yellowfin Sole TLAS Allocation

ITAC (tons)	Amendment 80	TLAS
<=87,500	93.0%	7.0%
87,500-95,000	87.5%	12.5%
95,000-102,500	82.0%	18.0%
102,500-110,000	76.5%	23.5%
110,000-117,500	71.0%	29.0%
117,500-125,000	65.5%	34.5%
>125,000	60.0%	40.0%

The Regional Administrator may reallocate a portion of the yellowfin sole TAC assigned to the BSAI trawl limited access sector to Amendment 80 cooperatives if the amount assigned to the BSAI trawl limited access sector is projected not to be harvested or used. Any reallocation will result in an amended CQ permit for each Amendment 80 cooperative. The timing of a reallocation will be at the discretion of the Regional Administrator. NMFS relies on its management expertise as well as communication with the fleets about their expected levels of activity and/or encounter rates of yellowfin sole to reallocate yellowfin sole. The first four years of the allocation, 2008-2011, had reallocations in each year. In 2008 and 2009 6,000 tons were reallocated, 2010 had 20,000 tons reallocated and 2011 had 2,000 tons reallocated.

The following figures represent the participation and harvest of BSAI yellowfin sole TLAS fishery from 2008 to 2024. The figures are sourced through the NMFS Alaska Region Catch Accounting System and compiled by AKFIN. The total catch, initial allocation, final allocation (after any re-allocations[2]) and percent of the initial allocation harvested are represented in Figure 1. From 2013 to 2020 the sector utilized over 90% of its allocation. In 2021 the percent of allocation utilized began a downward trend falling to 5% of the TAC utilized by the TLAS vessels in 2024. The amount of allocation increased from 2021-2024 while the amount of catch decreased. Excluding 2009 the years 2021 to 2024 represent the lowest annual percent harvest of yellowfin sole for the sector in the duration of the allocation. In 2024 2,354 tons were harvested which is a 93% decrease in harvest from the peak in 2013. The number of vessels participating has also fallen from an average of 18 vessels from 2013 to 2020 to 6 vessels in 2024 (Figure 2).

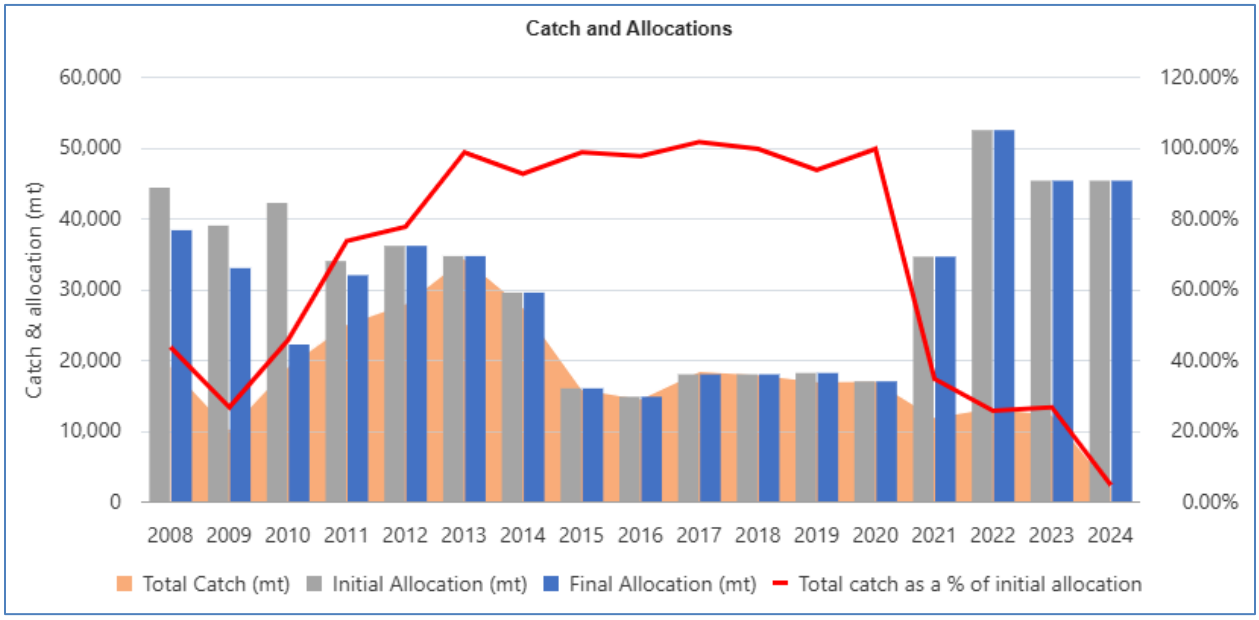

Figure 1 BSAI Yellowfin Sole TLAS Allocation and Percent of Allocation Landed, 2008-2024

[2] Any portion of the BSAI TLAS fisheries not fully utilized may be reallocated to the Amendment 80 sector as cooperative quota on the approval of the Regional Administrator, if NMFS determines that it will go unharvested

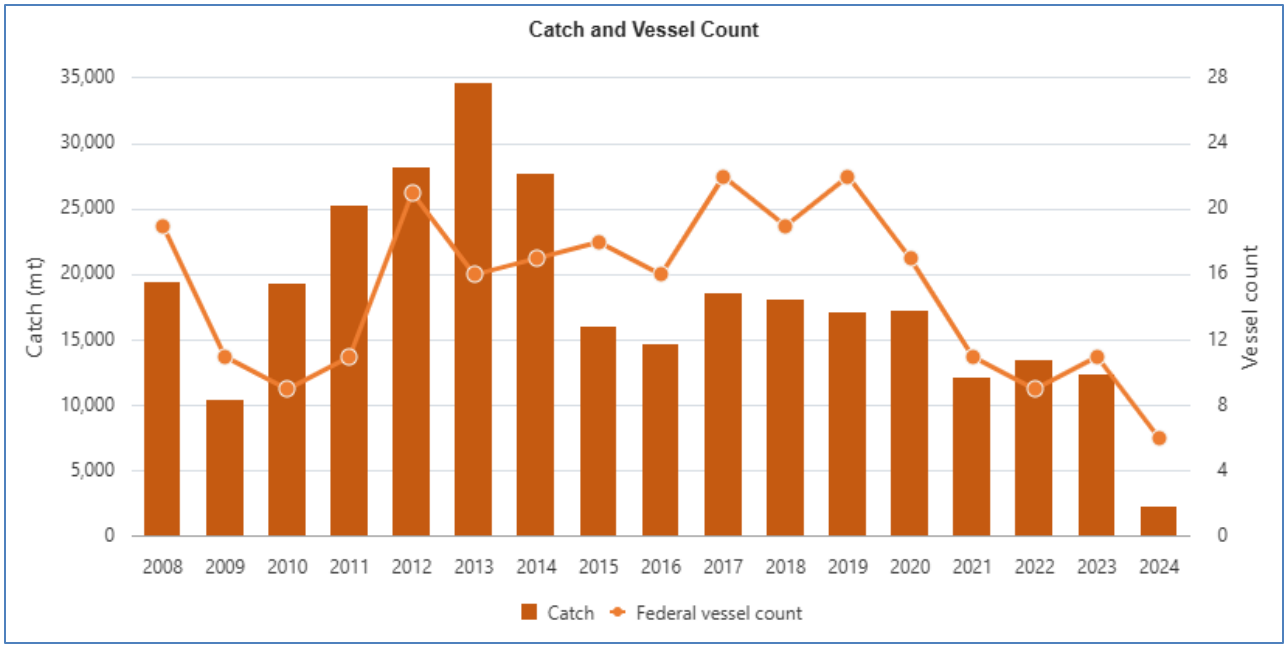

Figure 2 BSAI Yellowfin Sole TLAS Catch and Vessel Count, 2008-2024

2.2 Value

Figure 3 below represents the ex-vessel value received by TLAS vessels while targeting BSAI yellowfin sole and the percent of the vessels' total revenue that BSAI yellowfin sole accounted for. Prior to 2017 the allocation made up less than 3% of participating vessels revenue in all years. In 2020, 2021 and 2022 the percent of revenue exceeded 10% for the sector, falling to below 8% in 2023. Revenue from the sector peaked in 2013 and was greater than $10M per year from 2011 to 2013. The last 4 years with value information (2020 to 2023), the value of the allocation has averaged less than $5M. Value is presented in nominal values and not available for 2024 at this time.

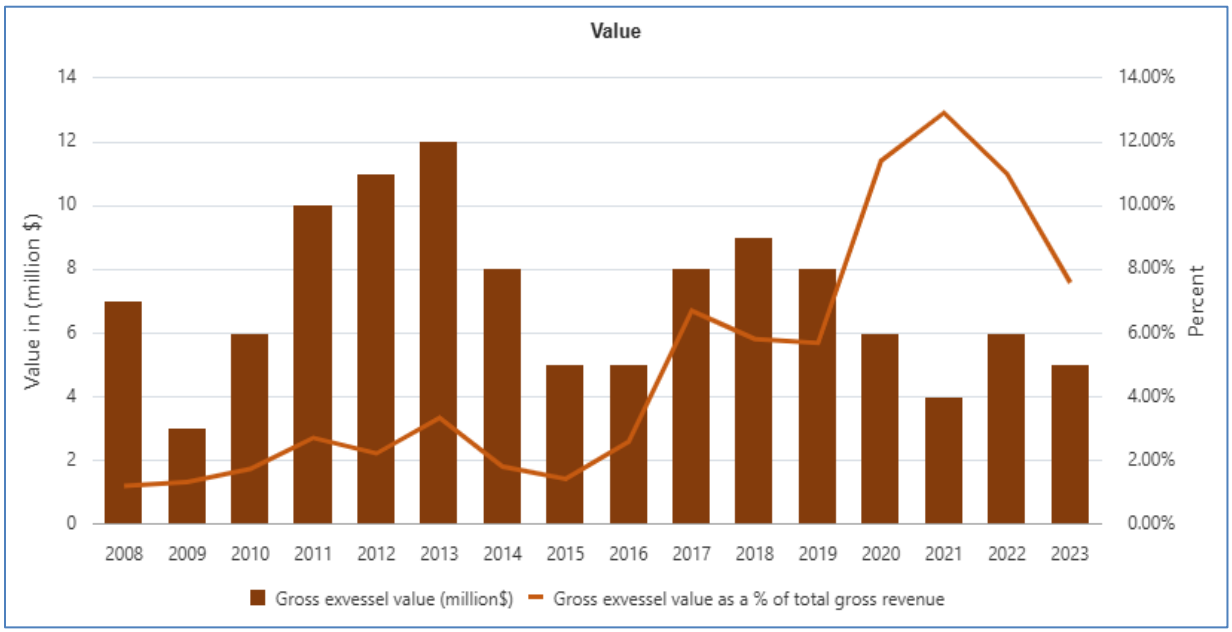

Figure 3 TLAS Estimated Value While Targeting BSAI Yellowfin Sole and BSAI Yellowfin Sole as a Percent of Total Vessel Revenue, 2008-2023

2.3 Prohibited Species Catch (PSC)

Prohibited species catch is included in two figures below. Figure 4 represents the tons of halibut mortality and the number of crab encountered by the TLAS vessels while targeting BSAI yellowfin sole. Halibut mortality shows a downward trend from the peak of 194 tons in 2014 to 80 tons in 2023 and 54 tons in 2024. In 2010 the fishery exceeded the C. Opilio Bycatch Limitation Zone (COBLZ) limit and was closed on February 8th due to over 1.3 million crab encountered. Opilio crab encounters have decreased since that time. In the years 2011 to 2013 over 200,000 crab per year were encountered. The years 2014 to 2024 less than 100,000 Opilio were encountered. The most recent year, 2024 saw 6,110 total tanner crab encounters. Figure 5 identifies the number of chinook and non-chinook salmon encountered by the sector while targeting BSAI yellowfin sole. Combined chinook and non-chinook salmon PSC has been less than 500 animals in all years except 2016 and no salmon PSC has occurred since 2021.

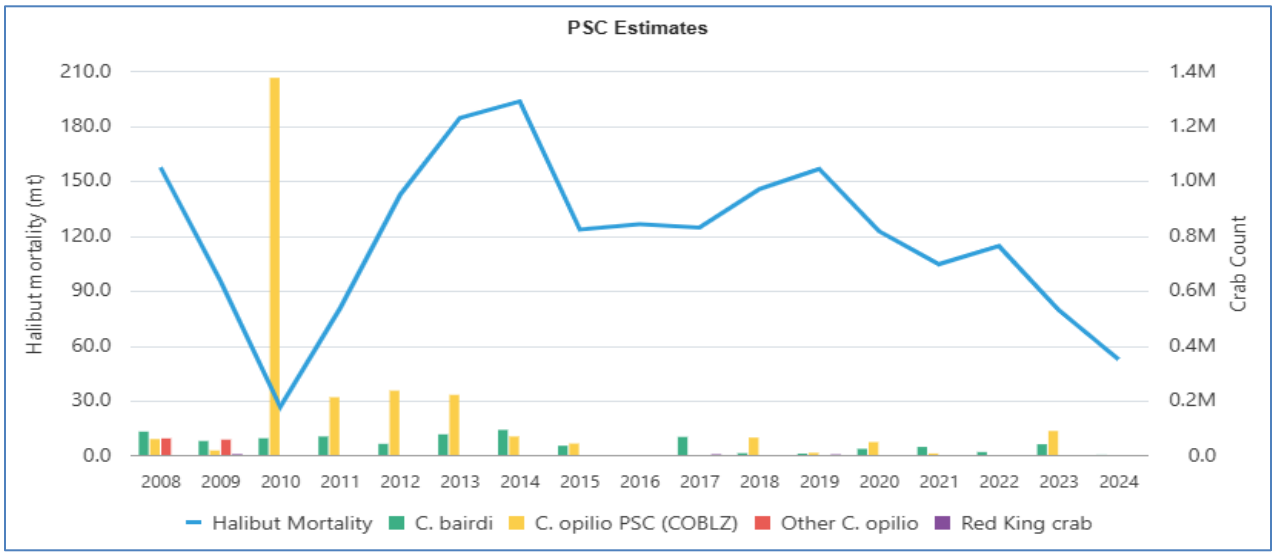

Figure 4 **BSAI Yellowfin Sole Vessels' PSC Estimates of Crab and Tons of Halibut Mortality in the Yellowfin Sole Target, 2008-2024**

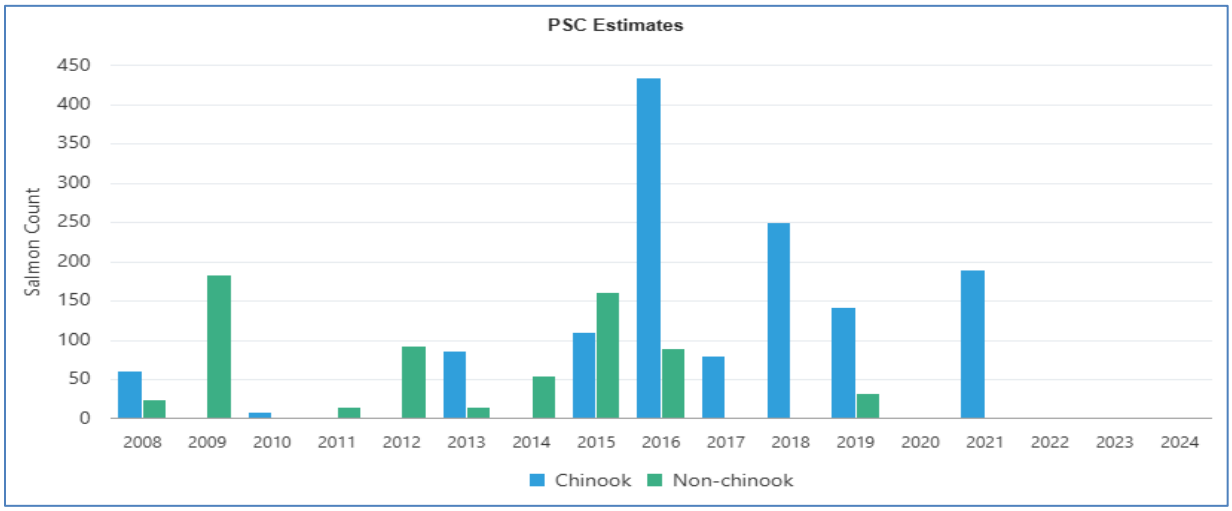

Figure 5 **BSAI Yellowfin Sole Vessels' PSC Estimates of Chinook and Non-Chinook Salmon in the Yellowfin Sole Target, 2008-2024**

2.4 Community Participation

The information in Figure 6 represents the communities in which vessel owners that participate in the BSAI yellow TLAS fishery reside. The majority of vessel ownership in all years of the allocation is in Seattle MSA (metropolitan statistical area). Other Oregon communities which would be Oregon communities other than Newport appear regularly till 2020. The BSAI TLAS yellowfin is processed at sea and does not have shore-based processing linkages. The at-sea processors include catcher processors, motherships and floating processors. All of the at-sea processors have ownership from Seattle MSA.

Some caution should be used in how this information is interpreted, it is not unusual for vessels to have complex ownership structures that involve more than one entity in more than one community or region. Additionally, the community identified by ownership address may not directly indicate where a vessel spends most of its time, purchases services, or hires its crew from. However, what community ownership address information does provide is an approximate indicator of the distribution and magnitude of ownership ties to a particular community and region. In this way, it is a proxy for some economic activity in the community that is associated with the fishery/sector.

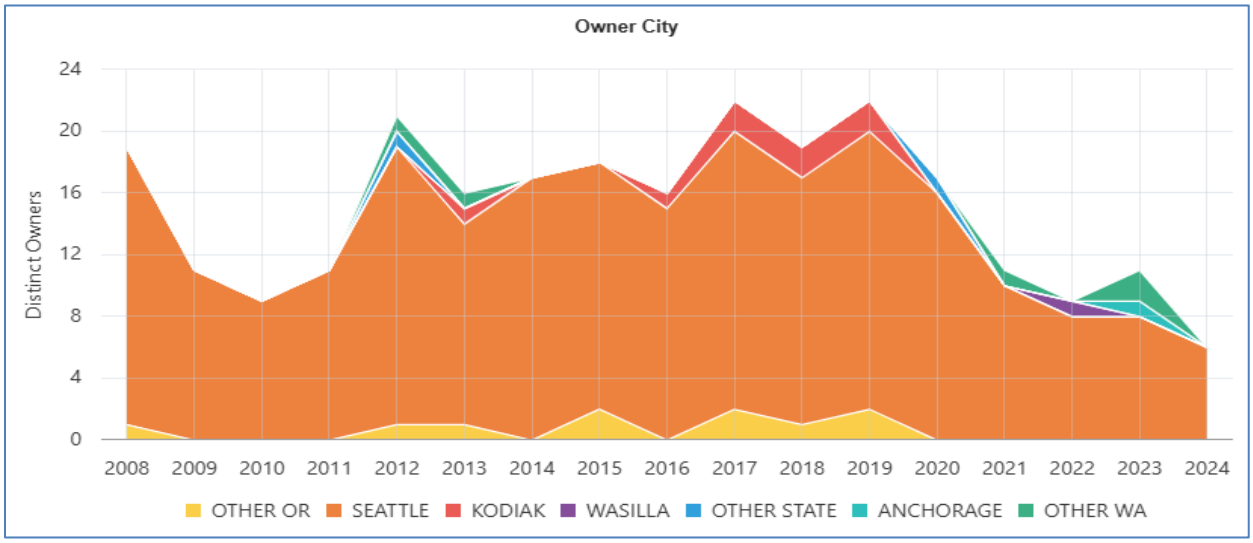

Figure 6 BSAI TLAS Vessel Ownership Community of Vessels in the Atka Mackerel Target, 2008-2024

2.5 Stock Status

Yellowfin sole (Limanda aspera) are one of the most abundant flatfish species in the eastern Bering Sea (EBS) and the largest flatfish fishery off Alaska. This stock is assessed annually for harvest specifications. Yellowfin sole have been managed as a Tier 1 for harvest specifications since 2006. This indicates that there are reliable point estimates of biomass B and BMSY and a reliable probability density function can be calculated for FMSY. However, in discussions with the SSC in December 2024, for the next assessment cycle the author is requested to examine the data and stock-recruitment relationship to consider whether these continue to support a Tier 1 designation.

Stock assessment model results indicate that yellowfin sole total biomass (age 2+) was at low levels during most of the 1960s and early 1970s (700,000-1,000,000 t) after a period of high exploitation. Sustained above-average recruitment from 1967-1976 combined with light exploitation resulted in a biomass increase to a peak in 1985. The population biomass has since been in a slow decline over the time series since a peak in the mid-1980s. The total biomass of yellowfin sole has been slowly declining as the strong 1981 and 1983 year-classes have passed through the population. The current model indicates that the long-term decline is slowing. The female spawning biomass has also declined since the peak in 1985, with a continued decline in 2024 and in the 2025 projection. Stock status for yellowfin sole in 2025

however remains well above its BMSY estimate. Projections indicate that the female spawning biomass will remain above the BMSY level through at least 2038. The large 2017 year class will be age 8 in 2025 and will become selected by the fishery as it grows. This is predicted to result in higher population size estimates for the yellowfin sole stock.

The 1997 catch of 182,814 t (retained and discarded) was the largest since the fishery became completely domestic, but then decreased from 1998–2010, averaging 94,004 t (Spies et al, 2024). From 2011-2014 the catch increased, averaging 155,000 t. The 2013 catch totaled approximately 182,814 t (73% of the ABC) and was the highest annual catch since 1988. Catches have declined since 2013 and the average catch over the past ten years was 123,905 t. The 2024 fishery CPUE has declined since 2023, but overall, CPUE is within the range observed over the past several decades. Fishing reports in 2024 indicate that the yellowfin sole CPUE was good, but that halibut bycatch was high. Due to low prices for yellowfin sole and a surplus of frozen product on the market, fishing was lowered in 2024. There are no specific concerns regarding stock biomass trend, unusual spatial pattern of fishing, changes in the percent of TAC taken, or changes in the duration of fishery openings (Spies et al, 2024).

Over the entirety of the review period 2008-2024, the BSAI Yellowfin sole stock has not been declared overfished, overfishing has not occurred, nor has the stock approached an overfished status per the overfishing definitions under BSAI FMP Amendment 56.

3 BSAI Atka Mackerel

3.1 Allocation and Landings

Atka mackerel are apportioned into three TACs, the Western AI District (Area 543), Central AI District (Area 542) and Eastern AI District (Area 541)/BS. A portion of each TAC is allocated to the CDQ Program and an ICA. In the case of Area 541/BS, an allocation of TAC is made to jig gear. In each of the three areas the remaining ITAC is apportioned into two seasonal apportionments; 50 percent of the ITAC is assigned to the A season, and 50 percent of the ITAC is assigned to the B season. The remainder of the Atka mackerel TAC, after subtraction of the jig gear allocation, CDQ reserve, and incidental catch allowance for the BSAI trawl limited access sector and vessels using non-trawl gear, is allocated to the Amendment 80 vessel sector and BSAI trawl limited access sector.

The BSAI Atka Mackerel allocation between the trawl limited access sector (TLAS) and the A80 vessel sector is at differing ratios by area. Reporting Area 543 has 100% of the TAC allocated to the A80 vessels sector. Area 541/EBS and Area 542 have a tiered allocation that was 98% for the A80 vessel sector and 2% for the trawl limited access sector in 2008. Each subsequent year 2% was moved from the A80 vessel sector to the trawl limited access sector ending in 2012 with 90% of the TAC allocated to the A80 vessel sector and 10% to the trawl limited access sector.

The following figures represent the participation and harvest of BSAI Atka Mackerel TLAS fishery from 2008-2024. The figures are sourced through the NMFS Alaska Region Catch Accounting System and compiled by AKFIN. The total catch, initial allocation, final allocation (after any reallocations) and percent of the initial allocation harvested are represented in Figure 7. Similar to BSAI yellowfin sole, reallocations can occur at the discretion of the Regional Administrator. No reallocations of BSAI Atka mackerel have occurred from 2008-2024 for TLAS Atka mackerel. Since 2014 the Atka mackerel TLAS allocation has been between 4,094 and 6,151 tons with 100% utilization in all years except for 2022 when 80% was utilized. The catch information for 2009 is not shown due to confidentiality concerns. The number of vessels participating has ranged from 8 to 12 since 2017 (Figure 8). Prior to 2017 a high of 20 vessels participated in 2016 and a low of 4 vessels in 2009. Some of the fluctuations in participation maybe due to the increasing allocation which was 751 tons in 2008 and reached 6,151 tons in 2016.

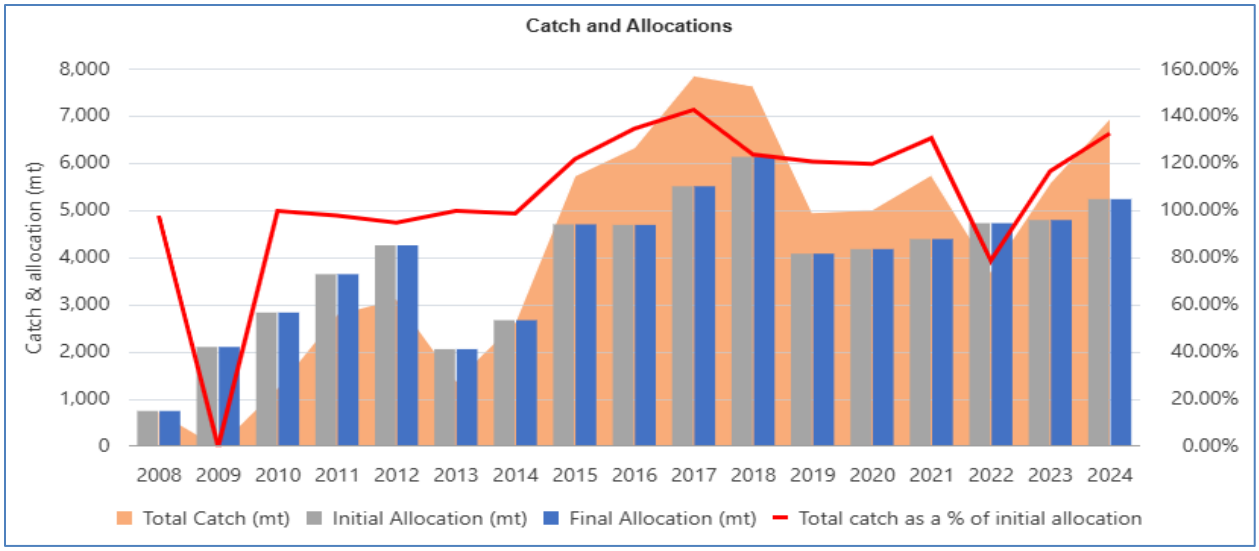

Figure 7 BSAI Atka Mackerel TLAS Allocation and Percent of Allocation Landed, 2008-2024

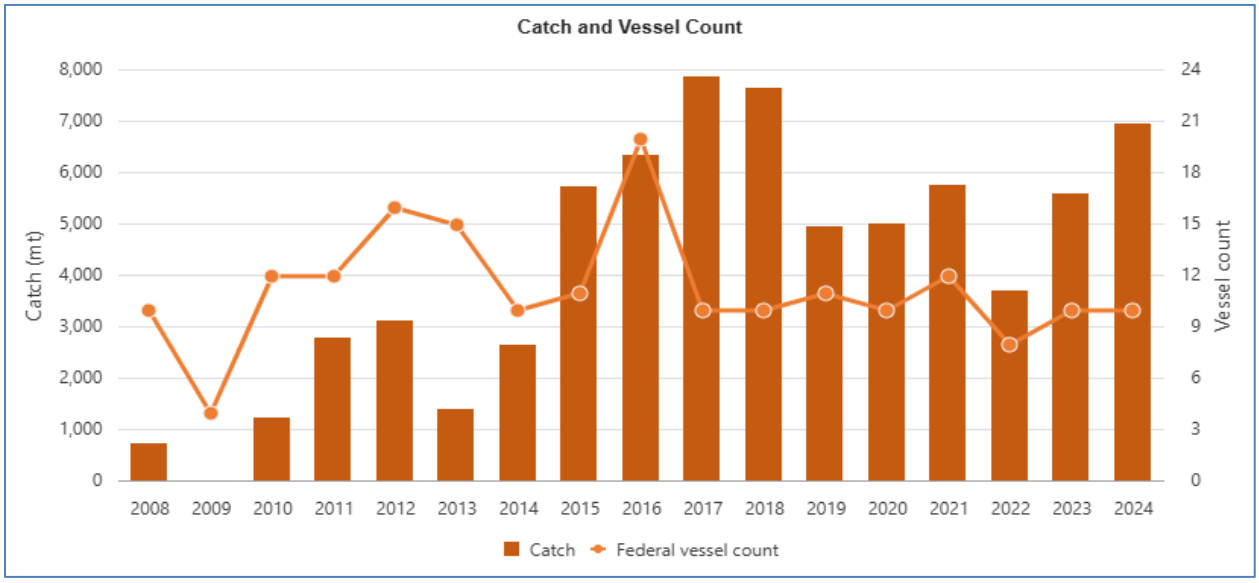

Figure 8 TLAS BSAI Atka Mackerel Harvested and Vessel Counts, 2008-2024

3.2 Value

Figure 9 represents the value and vessel diversification associated with the BSAI Atka mackerel TLAS allocation, 2009 data is not shown due to confidentiality and 2024 is not available. BSAI Atka mackerel represented between 1% to 8% of the participating vessels' total revenue in the 17-year timeframe with 2021 representing the high and 2008 representing the low. The value of the allocation peaked at $4 million in 2018 and was at a low of less than $500,000 in 2008. The value of the allocation has been approximately $2 million since 2018.

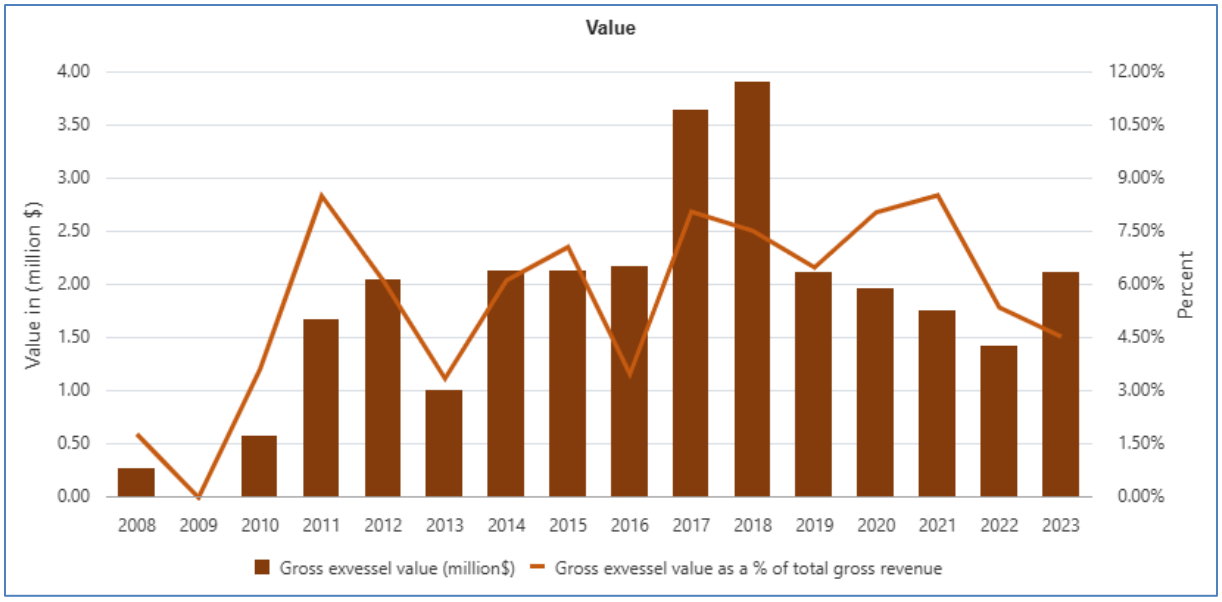

Figure 9 TLAS Estimated Value while Targeting Atka Mackerel and BSAI Atka Mackerel as a Percent of Total Vessel Revenue, 2008-2023

3.3 Prohibited Species Catch (PSC)

Prohibited species catch is included in two figures below. Figure 10 below is specific to the tons of halibut mortality and crab PSC associated with the BSAI Atka mackerel target fishery for TLAS vessels. Halibut mortality shows a significant amount of fluctuation reaching a high of 22 tons in 2012 and multiple years with no halibut mortality. Red king crab encounters were above 1,000 in the first two years of the allocation but has not occurred since 2020.

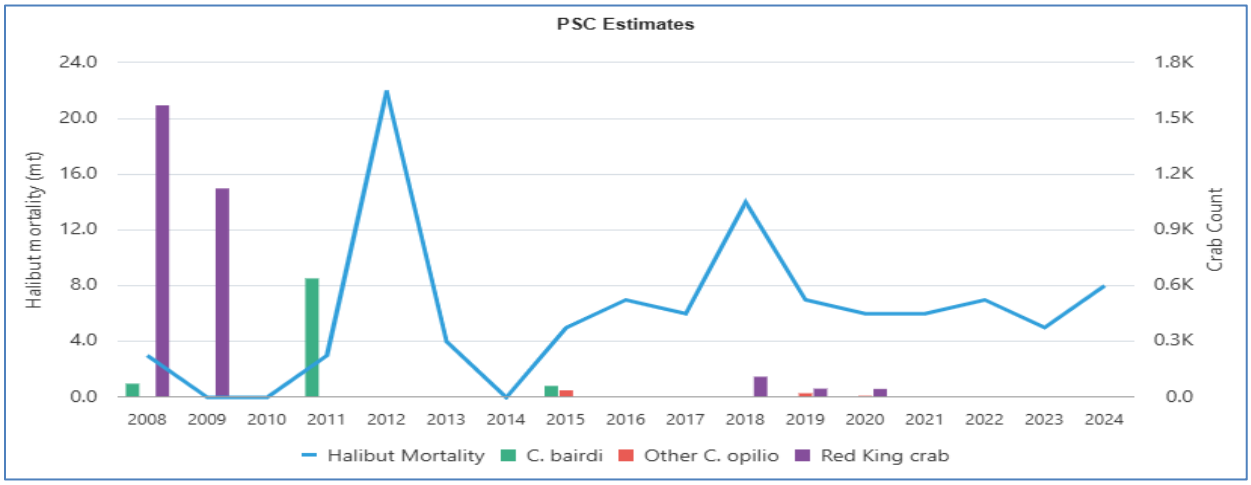

Figure 10 BSAI Atka Mackerel Vessels' PSC Estimates of Halibut and Crab Species in the Atka Mackerel Target, 2008-2024

Figure 11 represents the number of chinook and non-chinook salmon PSC encountered by TLAS vessels while targeting BSAI Atka mackerel. Combined chinook and non-chinook salmon PSC has been less than 1,000 animals in all years of the allocation and has been greater than 500 in one year, 2012.

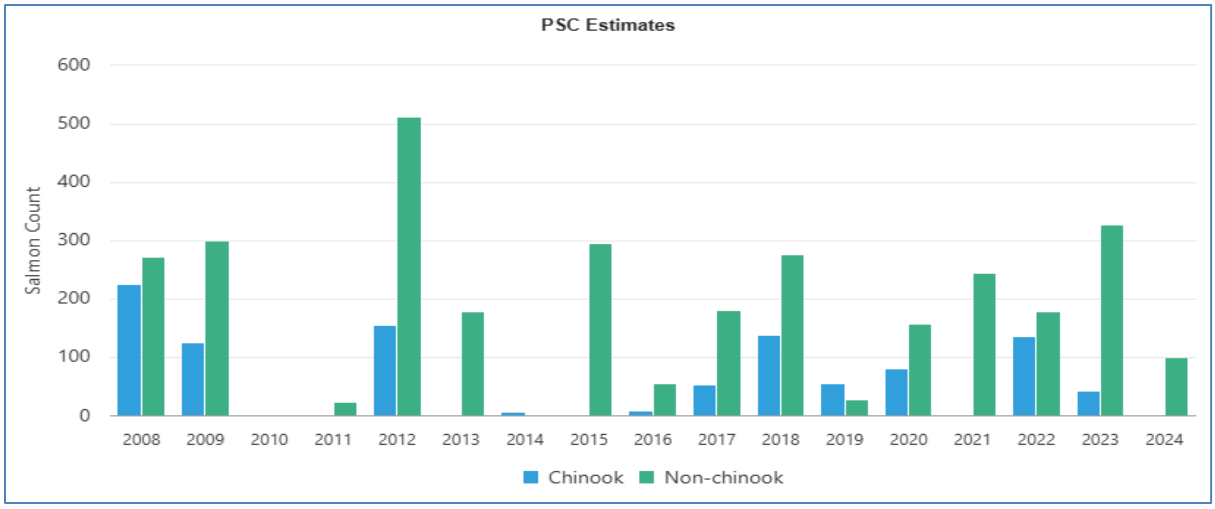

Figure 11 BSAI Atka Mackerel Vessels' PSC Estimates of Chinook and Non-Chinook Salmon in the Atka Mackerel Target, 2008-2024

3.4 Community Participation

The vessels that participate in the allocation typically have vessel owners that reside in Seattle or Other Washington Communities. The Other Oregon communities shown in yellow in the figure refers to communities in Oregon other than Newport. The BSAI TLAS Atka mackerel allocation is processed at sea and does not have shore-based processing linkages. The at-sea processors include catcher processors, motherships and floating processors. All of the at-sea processors have ownership based out of Seattle MSA.

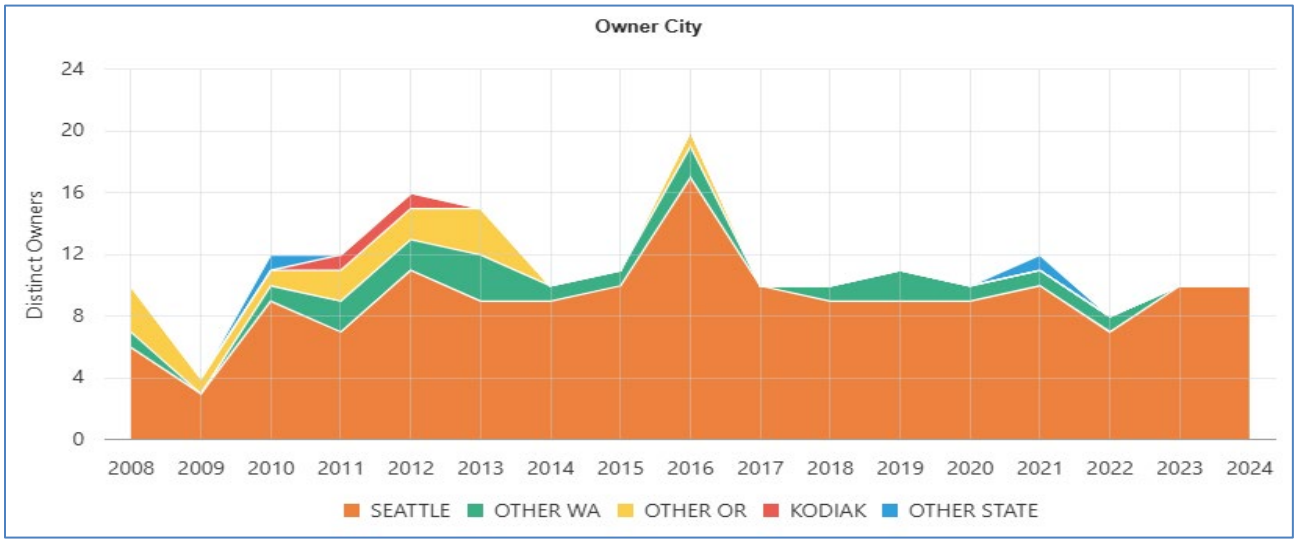

Figure 12 BSAI TLAS Vessel Ownership Community of Vessels in the Atka Mackerel Target, 2008-2024

3.5 Stock Status

Atka mackerel (Pleurogrammus monopterygius) are widely distributed along the continental shelf across the North Pacific ocean and Bering Sea from Asia to North America. In Alaskan waters, Atka mackerel are distributed throughout the Aleutian Islands (AI), where they are most abundant, north along the eastern Bering Sea (EBS) shelf, and through the Gulf of Alaska (GOA) to southeast Alaska. The BSAI stock and the GOA stock are assessed separately. This overview pertains only to the BSAI stock. Starting

in 2023, the BSAI Atka mackerel stock assessment moved from an annual to biennial schedule in even years.

Spatial management of Atka mackerel in the BSAI is divided into three regions for ABC and TAC (the OFL is set at the BSAI wide management unit). These regions are 541 Eastern Aleutians (and EBS), 542 Central Aleutians and 543 Western Aleutians. Prior to 1993 the Atka mackerel ABC was allocated to the entire management unit with no additional spatial management.

In the Aleutians, pelagic foragers, once dominated by Atka mackerel and walleye pollock biomass, are now dominated by rockfish – Pacific ocean perch and northern rockfish which were heavily fished by the foreign fishery in the 1960s and 1970s and have subsequently been increasing since the 1980s to peak biomass (age-3+) in 2011-2012. Since then rockfish have decreased but remain at a high biomass that have potentially displaced Atka mackerel and compete for prey and space. The abundance of competitors: Pacific ocean perch, northern rockfish, and pink salmon in odd years since 2009, along with the increase of pollock, below average fish condition despite the near average temperatures, and potentially unfavorable foraging condition in the western Aleutians, indicate plausible negative cumulative ecosystem impacts on Atka mackerel (Sullivan et al., 2024).

Atka mackerel are a difficult species to survey because: (1) they do not have a swim bladder, making them poor targets for hydroacoustic surveys; (2) they prefer hard, rough and rocky bottom which makes sampling with bottom trawl survey gear difficult; (3) they are patchily distributed, (4) they leave the bottom during daylight hours (called diel vertical migration) to forage, which could affect their availability to the bottom trawl survey (Nichol and Somerton, 2002); and 4) they are thought to be responsive to tide cycles, which may also affect their availability to the survey. As a result, Atka mackerel biomass estimates are influenced by large isolated catches and are often characterized by high uncertainty.

Spawning biomass in 2005 was at the highest level since 1983, after which it decreased through 2013, increased through 2017, and subsequently decreased through 2022 with a slight uptick in 2023 and 2024. The declining trend in biomass indicated by the 2014, 2016, and 2018 surveys is consistent with the population age composition. Population biomass would be expected to decline as fish from the strong 2006 year class aged and is past peak cohort biomass. The 2022 survey showed a large increase, primarily driven by a couple large catches in the eastern AI. There was a subsequent 14.5% decrease in survey biomass in 2024. Despite this decrease, the survey and fishery numbers-at-age provide evidence for above average recruitment in 2019, and currently the assessment model is estimating a slight increase in biomass as that year class grows (Sullivan et al., 2024). Nonetheless, continued decline is projected for 2025 and 2026 (the estimated spawning biomass in 2025 is projected to be roughly 46% of what it was in 2005). Age 1+ biomass is variable in recent years with a 4.0% increase from 2023 to 2024. Some strong recruitment in the early 2000s was followed by above average recruitment in 2006, 2007, 2012, and 2017.

The stock has been managed under Tier 3 of Amendment 56. Tier 3 uses the following reference points: B40%, equal to 40% of the equilibrium spawning biomass that would be obtained in the absence of fishing; F35%, equal to the fishing mortality rate that reduces the equilibrium level of spawning per recruit to 35% of the level that would be obtained in the absence of fishing; and F40%, equal to the fishing mortality rate that reduces the equilibrium level of spawning per recruit to 40% of the level that would be obtained in the absence of fishing. The projected female spawning biomass for 2025 (119,853 t) is projected to be above B40% (105,894 t), and the stock is projected to remain slightly above B40% in 2026. Because this stock is fully attained (i.e., catch is routinely close to the B40% management target), spawning biomass often falls slightly above or below B40%, placing the stock in Tier 3a or 3b, respectively.

4 Aleutian Islands Pacific Ocean Perch

4.1 Allocation and Landings

Aleutian Islands Pacific ocean Perch are apportioned into three TACs, the Western AI District (Area 543), Central AI District (Area 542) and Eastern AI District (Area 541). A portion of each TAC is allocated to the CDQ Program and an ICA. The remainder of the Pacific ocean perch TAC, after subtraction of the CDQ reserve, and incidental catch allowance for the BSAI trawl limited access sector is allocated as ITAC to the Amendment 80 vessel sector and BSAI trawl limited access sectors. The AI Pacific ocean perch allocation between the trawl limited access sector (TLAS) and the A80 vessel sector is at differing ratios by area. Reporting Area 541 and 542 have 90% of the TAC allocated to the A80 vessels sector and 10% allocated to TLAS in all years. Area 543 has 98% allocated to the A80 vessel sector and 2% allocated to TLAS.

Landings for areas in which less than three vessels were active are not included due to confidentiality concerns. Figure 13 therefore shows allocation numbers that are higher than catch numbers yet the percent of allocation utilized still appears high. In those cases, the percent of allocation utilized is based on the area or areas that are not confidential. Areas 541 is not confidential in all years, area 542 is confidential in 2009, 2010, 2012 and 2013, area 543 is not included in the figures and is confidential in all years. Area 543 has had a TLAS allocation between 105 tons in 2010 to a high of 223 tons in 2024 that has been fully utilized in all years. For areas 541 and 542 the Aleutian Islands Pacific ocean perch allocation has been over 90% utilized for all years except 2012. The allocation reached a peak of 1,894 tons in 2019 and was at a low of 573 tons in 2008. Participating vessels was at 22 in 2008, the first year of the allocation, dropping to 5 vessels in 2010 (Figure 14). The number of participating vessels has been between 8 and 13 since 2018.

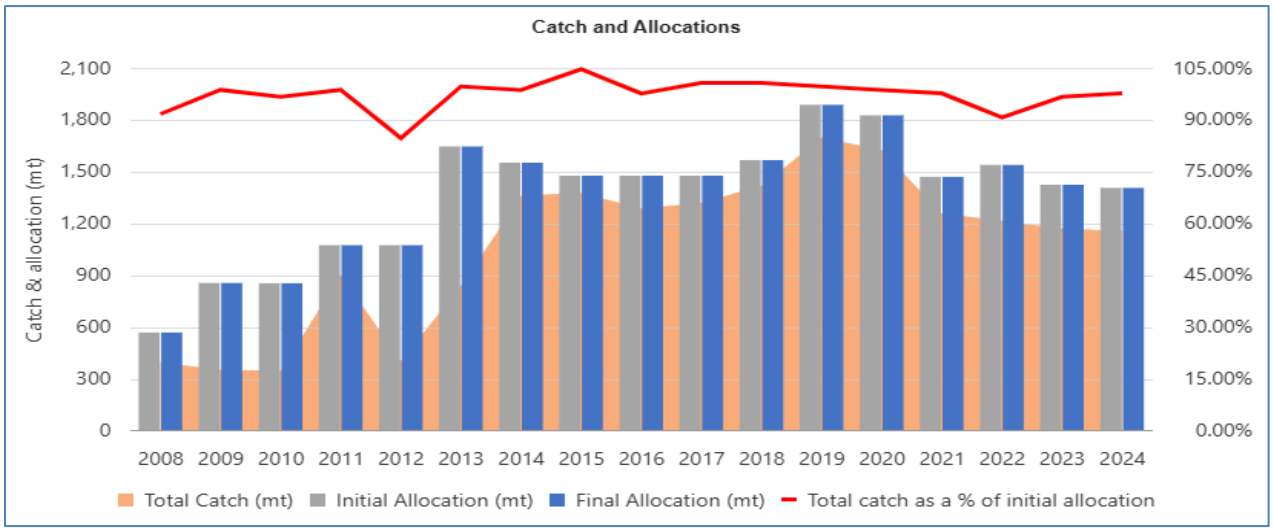

Figure 13 AI Pacific Ocean Perch TLAS Allocation and Percent of Allocation Landed, 2008-2024

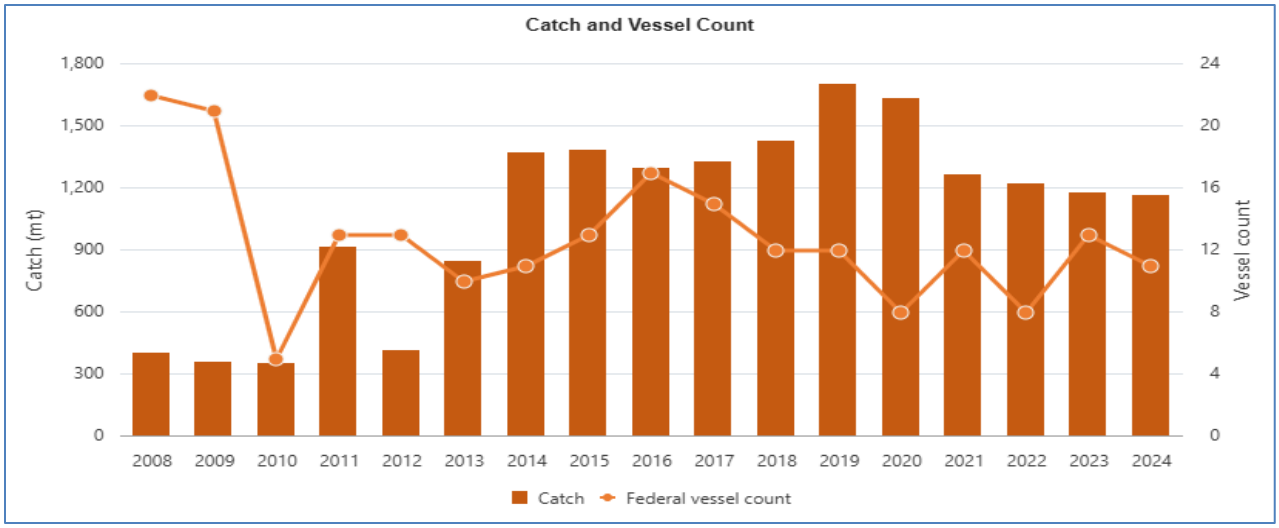

Figure 14 TLAS AI Pacific Ocean Perch Harvested and Vessel Counts, 2008-2024

4.2 Value

Figure 15 represents the value and vessel diversification associated with the AI Pacific ocean perch. The percent of total revenue for the participating vessels has been less than 3% in all years since 2013. The nominal ex-vessel value of the allocation has been less than $1M in all years and between $400,000 and $800,000 in all years after 2010.

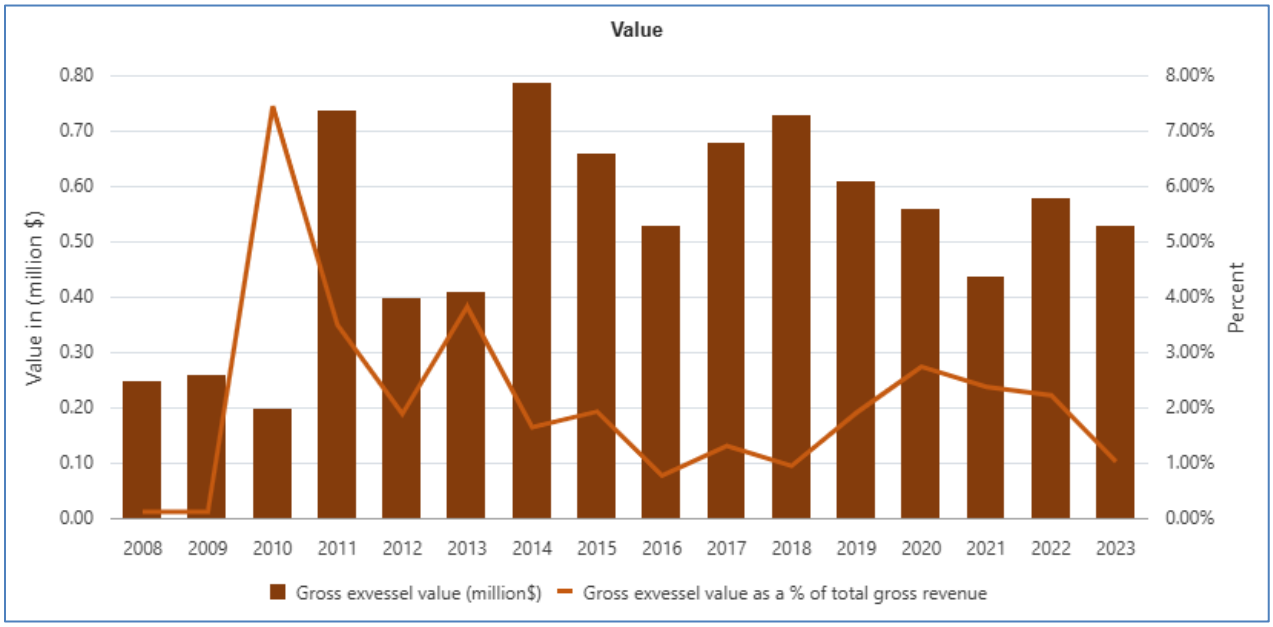

Figure 15 AI Pacific Ocean Perch TLAS Vessels' Estimated Value of Allocated AI Pacific Ocean Perch, and AI Pacific Ocean Perch as a Percent of Total Vessel Revenue, 2008-2023

4.3 Prohibited Species Catch (PSC)

PSC species encountered by the trawl limited access fishery while targeting rockfish is shown in Figure 16 and Figure 17. PSC is low and varied for the TLAS vessels targeting rockfish. Halibut mortality reached a high of 5 tons in 2019 and 2020. Red king crab PSC occurred in 2008 and 2009 but has not occurred since. Non-chinook salmon has been less than 100 animals in all years except 2014 when it reached 105. In 2024 no PSC was encountered by the sector.

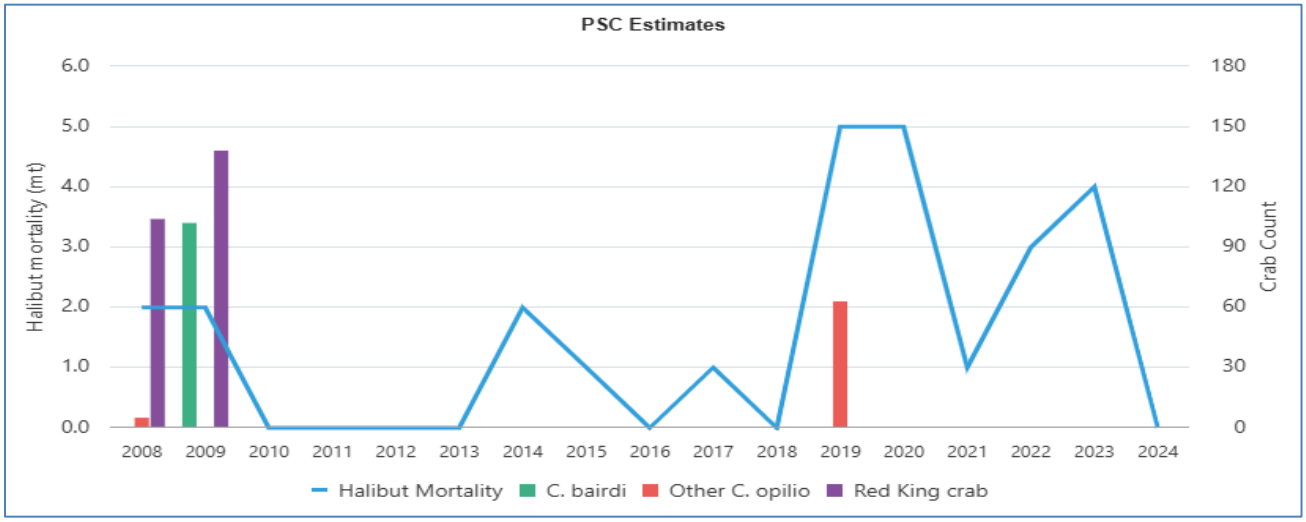

Figure 16 AI Pacific Ocean Perch Vessels' PSC Estimates of Halibut and Crab Species in the Rockfish Target, 2008-2024

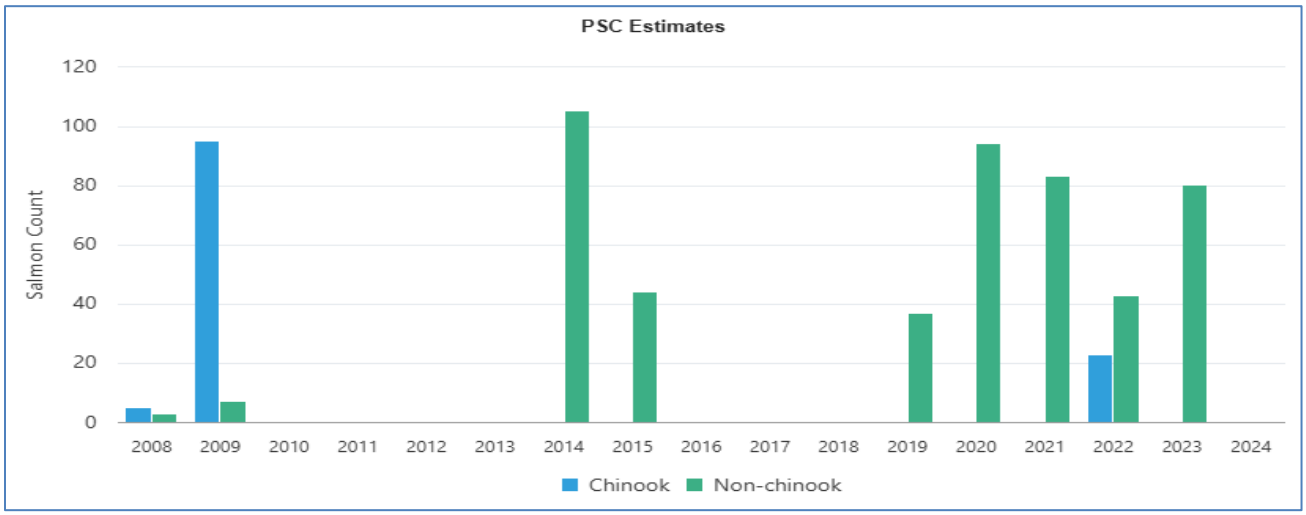

Figure 17 AI Pacific Ocean Perch Vessels' PSC Estimates of Chinook and Non-Chinook Salmon in the Rockfish Target, 2008-2024

4.4 Community Participation

Vessels that participate in the AI Pacific ocean perch allocation typically have vessel owners residing in Seattle or Other Washington communities. Other OR is listed in the figure and includes communities in Oregon other than Newport. The AI TLAS Pacific ocean perch allocation is processed at sea and does not have shore-based processing linkages. The at-sea processors include catcher processors, motherships and floating processors. All of the at-sea processors have ownership from Seattle MSA.

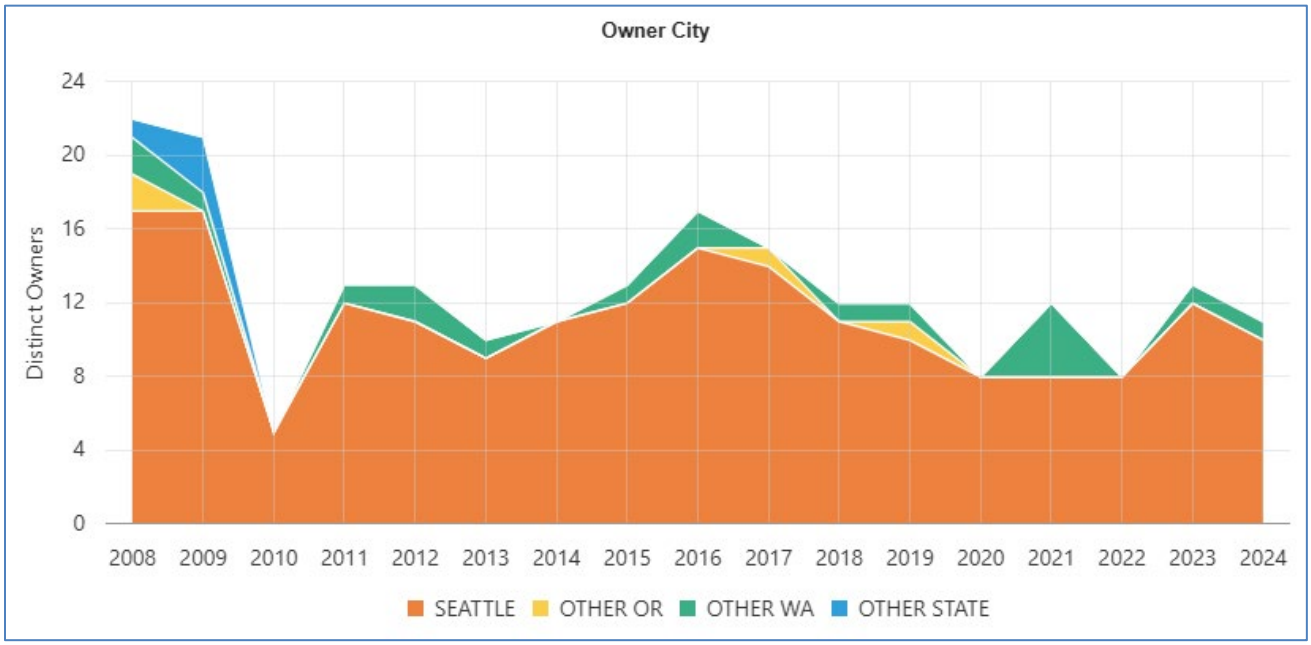

Figure 18 BSAI TLAS Vessel Ownership Community of Vessels in the Rockfish Target, 2008-2024

4.5 Stock Status

Pacific ocean perch (POP, Sebastes alutus) inhabit the outer continental shelf and upper slope regions of the North Pacific Ocean and Bering Sea. POP are the most abundant rockfish in the BSAI. Beginning in 2002, POP were managed as a single stock across the BSAI with the ABC and TACs subdivided between the EBS and AI subareas. Establishment of area-specific TACs in the mid-1990s redistributed the POP catch such that from 1996-2005 approximately 50% of the AI catch was taken in the western Aleutians. In 2023, the proportion of the BSAI catch obtained in the eastern AI and eastern Bering Sea has increased to 66%.

The Aleutian Islands survey biomass estimate is used as an index of abundance for the BSAI POP stock. Since 2000 the survey has occurred biennially (previously the survey was done every three years) but in 2008 the survey was canceled due to a lack of funding and in 2020 the survey was canceled because of Covid-19. The trend in the region appears to be increasing (Spencer and Ianelli, 2024).

The survey biomass estimates over the past fourteen years has increased and is the main reason the stock assessment indicates a high biomass in recent years. The assessment model's residual pattern in the fit to the AI survey index is poor with the most recent 5 survey predictions being below the survey estimates. The rapid increase in the AI survey biomass estimates between 2006 and 2010 appears to be due to above-average recruitment estimates in recent years (i.e., the 2000, 2004-05, 2008, 2014, and 2016 year-classes; Spencer and Ianelli, 2024).

Spawning biomass is projected to be 352,503 t in 2025 and expected to decline slightly by 2026. The recent year classes of 2011-2012, 2014, and 2016 appear to be relatively strong, but the retrospective

analysis in the stock assessment suggests that recruitment estimates for these year classes may not have stabilized. From 2010-2024, the total AI survey biomasses have exceeded 900,000 t for each survey, whereas the survey estimates prior to 2010 have not exceeded 665,000 t. (Spencer and Ianelli, 2024).

Recent age composition data from 2004 -2012 indicate relatively strong year classes from 1996 to 2000. The 2014 and 2016 age compositions indicate relative strong 2004 and 2005 year classes. The 2022 AI survey age composition indicates a relatively strong 2014 year class (Spencer and Ianelli, 2024).

POP are managed within the FMP under "Tier 3" stock which means there are reliable estimates of B40% (272,552 t) F40% (0.060) and F35% (0.072). The projected 2025 spawning biomass (352,503 t) is above the target of B40%. The ABC of BSAI POP is currently partitioned into subarea ABCs based on estimates of relative biomass across BSAI subareas. These are obtained from the research surveys applied to a model that smooths the subarea survey biomass estimates. The growth of the BSAI POP stock since the early 1990s has led to increased catch. Current catches are the largest since the mid-1970s. Tier 3 uses the following reference points: B40%, equal to 40% of the equilibrium spawning biomass that would be obtained in the absence of fishing; F35%, equal to the fishing mortality rate that reduces the equilibrium level of spawning per recruit to 35% of the level that would be obtained in the absence of fishing; and F40%, equal to the fishing mortality rate that reduces the equilibrium level of spawning per recruit to 40% of the level that would be obtained in the absence of fishing.

5 Review of the FMP and allocation objectives

As noted in Section 1, this allocation review was triggered because it has been 10 years since Amendment 80 established sector allocations. One of the basic charges of this review is to evaluate allocation objectives relative to the current fisheries and to determine whether the objectives are being met by the current allocation. If Amendment 80 objectives and the appropriate BSAI groundfish FMP objectives are being met and no major changes have occurred within the fishery, then the allocation review is complete, and the time trigger for Amendment 80 allocation review is reset. If, however, the objectives of the Amendment and those appropriate BSAI groundfish FMP objectives are not being met and/or if other relevant factors have changed enough to warrant an in-depth formal analysis of the allocation, then the standard Council process for an FMP amendment is initiated.

The relevant FMP and allocation objectives are outlined in sections 1.1 and 1.2. Evaluation of these objectives is inherently somewhat subjective. The analysts use the summary information and data in section 2, 3 and 4 to provide a preliminary assessment of whether these objectives are being met with the current allocation. It is also relevant that Amendment 80 included an allocation between sectors and a LAPP and some of the goals outlined may be more appropriate to the LAPP than the allocation. The sector allocations combined with the framework for reallocating BSAI yellowfin sole, BSAI Atka mackerel and AI Pacific ocean perch between sectors provides stability, reduces competition, and promotes sustainable fishing which generally meets the goals of minimizing negative impacts on other fisheries and minimizing waste. Regarding the goals of reducing bycatch and ensuring long-term conservation and abundance of groundfish and crab resources, the BSAI yellowfin sole and BSAI Atka mackerel allocations showed a downward trend while the AI Pacific ocean perch had low encounters throughout the time period. TLAS Halibut mortality for the three allocated species' targets peaked in 2012 at 213 tons and has steadily decreased to 64 tons in 2024. Crab similarly had higher levels of PSC prior to 2015 averaging 410,000 animals and has had lower numbers since averaging 59,000. Some of the decreased PSC is likely attributed to decreased utilization and harvest of BSAI yellowfin sole allocation.

The goal of maximizing the benefit to present fishermen, communities and the nation as a whole may not be currently met as it pertains to the TLAS yellowfin sole allocation. While the AI Pacific ocean perch and BSAI Atka mackerel allocations are generally fully utilized the BSAI yellowfin sole has been underutilized since 2021 and was only 5% utilized in 2024. In contrast the Amendment 80 vessel sector utilized 57% of its yellowfin sole allocation in 2024.

The BSAI yellowfin sole allocation has increased with a robust biomass while harvest and TAC utilization in the trawl limited access sector has fallen. Given changes in participation and less than full utilization of the BSAI yellowfin sole allocation, the Council could initiate an in-depth formal analysis of the allocation, move the allocation review to advisory bodies or initiate relevant discussion papers. Market conditions, as noted in the Amendment 80 program review in November 2024 and section 2.5 of this document, may make it challenging to design or amend the BSAI yellowfin sole TLAS allocation in a way that would increase participation and guarantee a fully harvested allocation.

6 Preparers and Person Consulted

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