Intersector Allocation Review

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Evaluating the Performance of Intersector Allocations Since Implementation of the Trawl Catch Share Program

Pacific Coast Groundfish Fishery Management Plan (FMP) Amendment 21 (Am 21) established long-term, formal allocations to trawl and non-trawl sectors of the groundfish fishery as well as designated certain stocks that would have allocations be determined on a biennial basis. These sector allocations, designed to support the trawl catch share program, were implemented in 2011. The Pacific Management Council (Council) scheduled a five-year review of the performance of the trawl catch share

program, including the Am 21 sector allocations, when developing the program. The Council amended that schedule with the adoption of the first catch share and intersector allocation reviews to occur every six years after the previous review. In September 2024, the Council expanded the scope of the allocation review to also examine allocations of biennial species.

Considerations for Evaluating the Performance of Intersector Allocations

National Marine Fisheries Service (NMFS) policy directive 01-119-02 provides a list of recommended practices and factors to consider when reviewing and making allocation decisions. The following are the relevant topics covered in that directive.

Recommended Practices When Reviewing and Making Allocation Decisions

The NMFS policy directive identifies four practices when reviewing and making allocation decisions that would "improve the allocation process by increasing transparency and minimizing conflict." This list is not comprehensive and may not be applicable to all circumstances.

a. Evaluate and Update Council and Fishery Management Plan (FMP) Objectives. The Groundfish FMP goals and objectives can be found in Appendix B of this document. As a part of the allocation review, the policy guidance states that "If FMP objectives are not current, clear, or measurable, a Council should re-assess the FMP objectives prior to or concurrent to initiating the allocation discussion." If the Council concludes that the FMP objectives are not current, clear, or measurable, the Council may want to consider taking that evaluation up under a broader action.

b. Identify User Needs. The specific needs and interests of the different types of fishery participants or sectors within a fishery may vary. With the groundfish fishery evolving due to environmental changes and other factors such as loss of fishing opportunities (e.g., salmon, crab, etc.) since the implementation of Am 21, there may be differing needs for each sector compared to when the allocations were established. As an example, if the Council identifies that a sector is potentially constrained and another sector may be stranding fish, a change in the allocation structure may meet the needs of all participants. Stocks allocated each biennium generally consider these needs and interests each biennial harvest specifications cycle.

c. Minimize Speculative Behavior. This practice is focused on providing stakeholders with a clear understanding of possible changes to allocations and states that the Council should consider announcing a control date by sector when appropriate. Since implementation of Am 21, a control date for changes to allocations subject to formal intersector allocations has not been needed and therefore this consideration is likely not to apply.

d. Plan for Future Conditions. NMFS guidance for this practice includes the concept of providing a mechanism within the FMP for expediting a change in allocations. An example given is in the Bering Sea and Aleutian Islands FMP which has pre-arranged "if/then" allocations for yellowfin sole between two sectors depending on the total allowable catch (TAC). Historically, three species in the groundfish fishery (widow, darkblotched, and Pacific Ocean perch, POP) had allocations based on this type of structure to allocate within the trawl fishery (shoreside and at-sea). For those species, a percentage or metric tonnage (whichever value was greater) was allocated to the whiting sectors pro-rata (formula was removed under Am 21-3 and 21-4). With groundfish being on a two year cycle and formal trawl/non-trawl allocations able to be reviewed during the development of the forthcoming biennial specifications and management measures, it is likely that this concept would not provide the same flexibility for the groundfish fishery unless it were tied to other framework changes to increase efficiency. These types of changes are being discussed under Agenda Item E.7 at this meeting.

Factors to Consider When Reviewing and Making Allocation Decisions

In addition to the four practices described above, the NMFS Policy Directive also lists four factors to consider when reviewing and making allocation decisions. However, this is not all-inclusive and other factors may be appropriate to consider.

1. Ecological Factors

a. What are expected ecological impacts on target species?
b. What are the expected ecological impacts on other fisheries? What is the status of non-target species? What are the expected impacts on bycatch and bycatch mortality of both non-target species and protected species?
c. What are the impacts on the marine ecosystem? What are the impacts on habitat? What are the impacts on the ecological community (e.g., relevant predator, prey, or competitive dynamics)?

The ecological impacts associated with West Coast groundfish fisheries were analyzed using the Atlantis model when the Council considered and ultimately adopted Am 24 to the FMP, which concerned the identification of harvest control rules that would be implemented in the biennial specifications process as a default in the absence of a discrete Council decision to make changes to those rules. That analysis indicated removals of groundfish species other than Pacific whiting across a wide range of removals analyzed did not result in any significant ecological impacts to the California Current ecosystem (PFMC and NMFS 2015). Each biennium since Am 24 has tiered off that analysis and most recently concluded in the 2025-2026 Harvest Specifications and Management Measures that there would be no significant impacts to the marine ecosystem, habitat, or other non-target and protected species through the full attainment of any of the groundfish stocks.

2. Economic Factors

a. Can economic efficiency be improved?
b. What are the economic impacts of potential changes in allocation?

As described in (Plummer, et al. (2012), "efficiency refers to how well resources are utilized in production or consumption. An efficient allocation of resources is one that maximizes the value of those resources (again, in production or consumption)." National Standard 5 (NS 5) on efficiency states that "In theory, an efficient fishery would harvest the [optimum yield] OY with the minimum use of economic inputs such as labor, capital, interest, and fuel." In considering changes to allocations, NS 5 states that management measures aimed at efficiency do not simply redistribute gains and burdens without an increase in efficiency. As discussed below, some stocks have been changed from formal allocations to biennial allocations to reduce instances of stranded yield and increase opportunities and attainments of annual catch limits (ACLs). The analysis below provides an assessment of recent landings and revenue of the remaining formal allocation species as well as biennial stocks for the Council and advisory bodies to consider whether or not there is evidence of stranded yield or economic inefficiencies and whether allocation changes should be considered. With respect to economic efficiency, evaluation of economic efficiency of fishery harvest allocations is described in Plummer, et al (2012). The economic impacts of potential changes in allocation would be analyzed depending on the scope set by the Council and whether changes in any of the formal allocations were proposed.

3. Social Factors

a. Is an allocation fair and equitable?
b. Are there disproportionate adverse effects on low income and/or minority groups?
c. What is the importance of fishery resources to fishing communities? i. What is the individual, local, and regional dependence and engagement in each sector? ii. What is the community's vulnerability and adaptive capacity? iii. Are there other social impacts?

NS 4 discusses allocations and states that allocations should be fair and equitable. While the original allocations were analyzed to meet this standard, NS 4 states that "an allocation need not preserve the status quo in the fishery to qualify as"fair and equitable" if a restructuring of fishing privileges would maximize overall benefits." Some of the information provided in this document related to attainment of current allocations may help address some of these considerations if, for example, one sector is continuously attaining an allocation where the other sector is not. However, other factors are likely not addressed explicitly.

Dependence (reliance on a fishery, such as the groundfish fishery, in relation to all other fisheries in a port) and involvement (measure of a port's contribution to a fishery) is examined for each port group for the commercial and recreational sectors. Vulnerability of each port group was assessed by using the most recent California Current Integrated Ecosystem Assessment (CCIEA) report.

4. Indicators of Performance and Change

a. What are the trends in catch/landings?
b. What is the status of fishery resources?
c. Has the distribution of the species changed?
d. What is the quality of information available for each sector or group?

Many of the indicators of performance and change are addressed to some degree in this document. Trends by sector for catch and landings are provided below. Information on the status of the fishery resource and the distribution of the stocks can be found in the 2024 Groundfish Stock Assessment and Fishery Evaluation document. Information quality by each sector/group varies.

Stocks Considered in This Evaluation

Stocks with formal trawl/non-trawl sector allocations include arrowtooth flounder, chilipepper rockfish south of 40° 10' N. lat., darkblotched rockfish, Dover sole, English sole, lingcod north of 40° 10' N. lat., longspine thornyhead north of 34° 27' N. lat., Other Flatfish complex, Pacific cod, POP north of 40° 10' N. lat., sablefish south of 36° N. lat., slope rockfish complex north of 40° 10' N. lat., splitnose rockfish south of 40° 10' N. lat., starry flounder, and yellowtail rockfish north of 40° 10' N. lat.

Since the 2017 review, five formal allocations have been changed into biennial allocations through the biennial specifications process.

- Slope rockfish south of 40° 10' N. lat. (Am 29)
- Widow rockfish (Am 29)
- Petrale sole (Am 29)
- Lingcod south of 40° 10' N. lat. (Am 29)
- Shortspine thornyhead north and south of 34° 27' N. lat.- combined into single stock (Am 33)

Other stocks with biennial allocations include big skate, bocaccio south of 40° 10' N. lat., canary rockfish, cowcod rockfish south of 40° 10' N. lat., longnose skate, petrale sole, shelf rockfish north of 40° 10' N. lat., shelf rockfish south of 40° 10' N. lat., and yelloweye rockfish.

Stocks or complexes without allocations are not considered in this review. These include black rockfish (California), black rockfish (Washington), blue/deacon/black rockfish (Oregon), cabezon (California), cabezon/kelp greenling (Oregon), cabezon/kelp greenling (Washington), California scorpionfish, longspine thornyhead south of 34° 27' N. lat., nearshore rockfish north of 40° 10' N. lat., nearshore rockfish south of 40° 10' N. lat., other fish complex, and spiny dogfish.

Sector allocations of sablefish north of 36° N lat. were decided prior to development of Am 21, but are included in this evaluation since Am 21 called for a review of all formal allocations included in the FMP. Pacific whiting allocations only affect the trawl sectors (non-trawl set-asides are specified as appropriate). Both of these species, in addition to Pacific halibut, are discussed below separately from the other allocated stocks.

Sector catches for the species in this review are from the NMFS West Coast Groundfish Observer Program (WCGOP) groundfish expanded mortality matrix (GEMM) for 2011-2023 with preliminary 2024 estimates from PacFIN and estimated discard mortality from the GEMM.

Trawl/Non-Trawl Allocations

Attainment Trends

Am 21 contemplated long-term allocations in order to provide more stability and predictability for all groundfish sectors. Many of the stocks formally allocated under Am 21 are considered trawl-dominant (defined in Am 21 as ≥90 percent of the average total directed non-tribal landings in the 1995-2005 time period). At the time of Am 21, there was a need for these allocations in order to implement Am 20 (the trawl rationalization program). A minimum allocation of 5 percent of the fishery harvest guideline (HG) of the trawl-dominant species was allocated to non-trawl sectors under Am 21 to provide for developing fisheries but created the potential for stranded yield in non-trawl fisheries. As an example, stranded yield as a result of limited targeting was the impetus for changing from the percentage-based allocation formula for petrale sole- a highly attained trawl stock- to a set amount for non-trawl and the remainder allocated to the trawl sector (Am 29). The Council adopted a measure to formalize allocations for other stocks at the time of Am 21 as they were considered either non-trawl dominant (e.g., yelloweye rockfish), were overfished (e.g., canary rockfish, cowcod), or caught extensively by both trawl and non-trawl sectors. As described in Am 21 Final Environmental Impact Statement (FEIS):

> "Predicting an equitable balance of fishing opportunities and economic outcomes under such a dynamic mix of target and constraining species led the Council to recommend against pursuing long-term allocations for these species. Any species not allocated in this process are recommended for short-term allocations every two years in the Council process to decide biennial harvest specifications and management measures. While this may compromise some of the fishery stability and certainty inherent in deciding long-term allocations, such short-term allocations can be better informed with new assessments and other information relevant to making these decisions."

While some stocks had allocations established as percentages each biennium, other stocks were allocated by specific metric tonnage amounts in certain years (e.g., yelloweye rockfish and canary rockfish).

When looking at all stocks with allocations (formal, biennial, and those that have changed from formal to biennial), allocations for the trawl sector have increased by 56.3 percent (2016-2024 compared to the previous review period of 2011-2015). This change is primarily driven by increases in the Dover sole ACL in 2015 (doubled) and then another increase in 2017 due to arrowtooth flounder (over 3 fold) and canary rockfish (18x increase) (Figure 1). While the total mortality has remained relatively flat (with a decline in recent years, shown in the black bars), the overall utilization by the trawl sector has declined on average from 26.8 percent to 23.9 percent comparing 2016-2023 and 2011-2015. For the non-trawl sector, utilization has declined as well but to a lesser degree than trawl (from 25.2 percent to 17.3 percent).

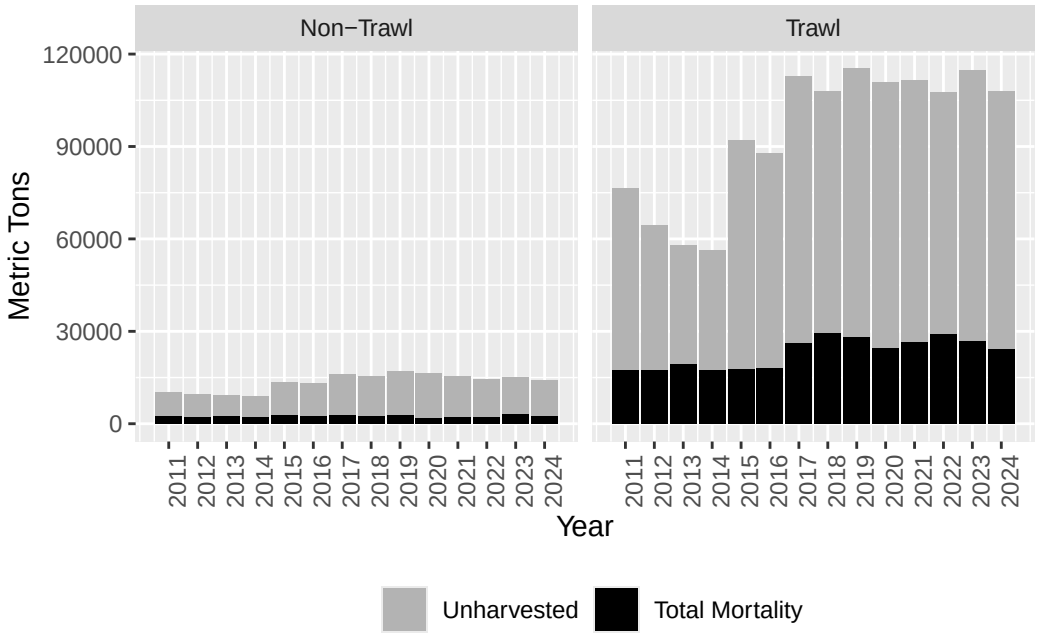

Figure 1: Allocations- Harvested and Unharvested by Sector, 2011-2024

Table 1 shows for each stock the allocation type and for each sector, the minimum and maximum attainment from 2011-2024 plus the number of years that the sector attained 50 and 90 percent attainment. For the five stocks that have changed from a formal (A21) to biennial allocation, this is noted in the "Allocation Type" column. On an individual species level, only two stocks (petrale sole and widow rockfish) have had 90 percent or greater trawl allocation attainment in a given year; whereas, the non-trawl sector has seen ten stocks with greater than 90 percent allocation attainment (shown in grey shaded cells in Table 1). Yet, for the non-trawl sector, some of these instances of high attainment have been for trawl dominant stocks (i.e., Am 21 stocks) where the allocations were incredibly low (e.g., darkblotched rockfish and longnose skate in 2011). For the majority of the stocks where the attainment exceeded 100 percent for the non-trawl sector, it was in the early years of Am 21 where several ACLs and resulting allocations were low (e.g., canary, cowcod, darkblotched- see Table 21). Lingcod south of 40° 10' N. lat. exceeded the non-trawl allocations in 2015 and 2016 (Table 23) which contributed to the Council considering changing the allocation in the 2017-2018 harvest specifications (A29).

Overall, few stocks have greater than 50 percent attainment on a consistent basis. Since the last review in 2015, there have been sixteen stocks or complexes with over 50 percent attainment. Of those stocks, most only reached 50 percent in one or two years. The species that were the most consistent in exceeding 50 percent were widow rockfish, yellowtail rockfish, and petrale sole for the trawl sector and yelloweye rockfish and shortspine thornyhead north of 34° 27' N. lat. for the non-trawl sector.

For the species where allocation types were changed in the 2021-2022 biennium (lingcod south of 40° 10' N. lat., petrale sole, slope rockfish south of 40° 10' N. lat., and widow rockfish), there have been differential responses to the changes in allocation. For widow rockfish, there has been a noticeable increase in the mortality and attainment in the trawl sector in response to the change in allocation start in 2021 with average catches and attainment increasing from an average of 8702 mt and 79.8 percent from 2017-2020 to 10924 mt and 87.8 percent 2021-2024. For the other stocks, petrale sole has seen an increase in mortality for both sectors, lingcod south has seen a decline in mortality in both sectors, and slope rockfish south has remained fairly flat in terms of mortality and attainment (noting a slight increase in the non-trawl sectors in recent years).

The average allocations, catches, and attainment rates for trawl and non-trawl sectors during 2011-2015 compared to 2016-2019 and 2020-2024 are provided in Table 2 and Table 3 respectively. For an annual assessment of allocation, mortality, and attainment for all stocks, see Appendix A.

Note that, for the trawl sector, while sector attainment rates may be low, there could be some individual constraints on the vessel level given the nature of the individual fishing quota (IFQ) program. Further investigation of these situations are to be examined within the upcoming trawl catch share review (preliminary review scheduled for September 2025).

Table 1: Minimum and Maximum Attainment by Sector and Number of Years with Over 50% and 90% Attainment, 2011-2024

		Trawl				Non-Trawl			
Stock/Complex	Allocation Type	min	max	Number of Yrs 50%	Number of Yrs 90%	min	max	Number of Yrs 50%	Number of Yrs 90%
Arrowtooth Flounder	A21	5	63	3	0	3	19	0	0
Big Skate[1]	Biennial	6	56	1	0	4	48	0	0
Bocaccio Rockfish (South Of 40 10)	Biennial	9	75	4	0	7	64	3	0
Canary Rockfish	Biennial	12	79	3	0	30	140	9	4
Chilipepper Rockfish (South Of 40 10)	A21	6	64	2	0	1	47	0	0
Cowcod Rockfish (South Of 40 10)	Biennial	0	37	0	0	3	144	6	3
Darkblotched Rockfish	A21	35	61	2	0	7	114	2	1
Dover Sole	A21	7	36	0	0	0	1	0	0
English Sole	A21	1	6	0	0	0	2	0	0
Lingcod (North Of 40 10)[2]	A21	13	44	0	0	17	41	0	0
Lingcod (South Of 40 10)[2]	Change	3	23	0	0	39	127	7	2
Longnose Skate	Biennial	31	80	3	0	22	145	3	2
Longspine Thornyhead (North Of 34 27)	A21	1	57	1	0	2	9	0	0
Other Flatfish	A21	8	20	0	0	3	22	0	0
Pacific Cod	A21	0	37	0	0	2	17	0	0
Pacific Ocean Perch (North Of 40 10)	A21	9	66	2	0	0	9	0	0
Petrale Sole	Change	76	100	14	11	3	101	2	2
Sablefish (South Of 36)	A21	5	85	1	0	14	105	4	1
Shelf Rockfish North (North Of 40 10)	Biennial	3	51	1	0	2	9	0	0
Shelf Rockfish South (South Of 40 10)	Biennial	1	30	0	0	27	74	6	0
Shortspine Thornyhead (North Of 34 27)	Change	25	61	4	0	42	93	12	1
Shortspine Thornyhead (South Of 34 27)	Change	0	17	0	0	4	58	1	0
Slope Rockfish North (North Of 40 10)	Biennial	17	37	0	0	12	61	1	0
Slope Rockfish South (South Of 40 10)	Change	7	33	0	0	9	174	3	1
Splitnose Rockfish (South Of 40 10)	A21	0	4	0	0	0	0	0	0
Starry Flounder	A21	0	2	0	0	0	6	0	0
Widow Rockfish	Change	34	93	11	5	1	15	0	0
Yelloweye Rockfish	Biennial	0	21	0	0	32	129	12	4
Yellowtail Rockfish (North Of 40 10)	A21	24	82	8	0	7	32	0	0

[1]Excludes 2011-2012 in 2011-2015 average due to different management line
[2]Excludes 2011-2016 in statistics due to no allocations

Table 2: Mortality, Allocation, and Attainment Averages for Trawl Sector, 2011-2015, 2016-2019, 2020-2024

		Mort			Alloc			Attain		
Stock/Complex	Allocation Type	2011-2015	2016-2019	2020-2024	2011-2015	2016-2019	2020-2024	2011-2015	2016-2019	2020-2024
Arrowtooth Flounder	A21	2,199.6	1,190.8	751.1	6,501.1	9,516.7	10,160.4	42.8	18.8	8.2
Big Skate[1]	Biennial	NA	175.4	115.4	NA	419.7	1,077.5	NA	42.0	12.4
Bocaccio Rockfish (South Of 40 10)	Biennial	17.3	152.1	329.0	71.2	367.8	696.1	22.8	44.8	47.4
Canary Rockfish	Biennial	15.8	286.0	432.7	46.5	794.6	911.4	31.0	35.8	47.6
Chilipepper Rockfish (South Of 40 10)	A21	299.1	211.8	809.5	1,235.2	1,700.3	1,628.3	24.8	12.0	50.2
Cowcod Rockfish (South Of 40 10)	Biennial	0.2	0.5	1.7	1.4	1.6	17.5	13.4	28.5	14.4
Darkblotched Rockfish	A21	111.6	272.0	316.7	280.9	521.5	762.1	39.6	50.2	41.8
Dover Sole	A21	7,178.5	6,656.6	4,067.6	26,989.0	45,985.5	45,983.0	29.4	14.8	8.8
English Sole	A21	214.8	258.9	231.4	9,805.3	8,060.8	8,579.0	3.0	3.5	2.8
Lingcod (North Of 40 10)[2]	A21	246.9	430.8	356.6	1,186.5	1,453.6	1,953.5	20.7	30.5	18.8
Lingcod (South Of 40 10)[2]	Change	19.7	43.1	53.1	472.6	488.4	370.4	4.0	9.0	15.4
Longnose Skate	Biennial	858.8	719.4	537.4	1,504.5	1,684.1	1,403.7	59.6	42.8	38.8
Longspine Thornyhead (North Of 34 27)	A21	912.3	522.5	64.1	2,107.6	2,628.8	2,232.1	45.2	19.5	2.6
Other Flatfish	A21	779.3	683.3	415.7	4,910.1	6,450.9	4,371.1	16.6	10.8	9.6
Pacific Cod	A21	270.3	110.1	19.6	1,115.8	1,037.0	1,039.2	24.6	10.8	1.8
Pacific Ocean Perch (North Of 40 10)	A21	54.1	233.9	419.3	133.3	1,170.8	3,504.9	40.6	45.5	11.6
Petrale Sole	Change	1,762.6	2,558.3	2,644.7	1,837.3	2,620.1	3,055.2	96.0	97.5	87.0
Sablefish (South Of 36)	A21	223.8	109.3	85.0	604.1	812.6	857.7	38.8	13.5	10.0
Shelf Rockfish North (North Of 40 10)	Biennial	31.4	299.8	368.1	665.4	1,171.6	867.6	5.0	25.2	41.6
Shelf Rockfish South (South Of 40 10)	Biennial	11.3	7.2	31.0	105.2	191.3	166.1	12.4	3.8	18.8
Shortspine Thornyhead (North Of 34 27)	Change	752.8	708.6	452.7	1,457.6	1,562.1	1,291.7	51.6	45.5	35.6
Shortspine Thornyhead (South Of 34 27)	Change	3.3	0.4	0.0	50.0	50.0	40.1	6.4	0.8	0.0
Slope Rockfish North (North Of 40 10)	Biennial	249.0	374.7	367.7	973.4	1,353.9	1,232.4	26.2	27.2	29.8
Slope Rockfish South (South Of 40 10)	Change	92.2	58.2	46.5	386.6	436.9	467.5	24.0	13.2	10.0
Splitnose Rockfish (South Of 40 10)	A21	47.9	17.0	26.3	1,509.6	1,655.0	1,535.4	3.2	1.0	1.6
Starry Flounder	A21	8.3	6.0	0.1	725.6	563.2	180.8	1.0	1.0	0.0
Widow Rockfish	Change	482.4	6,843.3	10,422.9	1,051.9	8,915.7	12,002.2	44.6	73.2	87.0
Yelloweye Rockfish	Biennial	0.0	0.2	0.5	0.8	1.7	3.4	4.0	8.2	14.8
Yellowtail Rockfish (North Of 40 10)	A21	1,111.9	2,686.0	3,008.5	3,633.8	4,551.0	4,162.2	30.4	59.2	72.2

[1]Excludes 2011-2016 in averages due to no allocation

[2]Excludes 2011-2012 in 2011-2015 average due to different management line

Table 3: Mortality, Allocation, and Attainment Averages for Non-Trawl Sector, 2011-2015, 2016-2019, 2020-2024

		Mort			Alloc			Attain		
Stock/Complex	Allocation Type	2011-2015	2016-2019	2020-2024	2011-2015	2016-2019	2020-2024	2011-2015	2016-2019	2020-2024
Arrowtooth Flounder	A21	39.2	46.2	28.5	342.3	500.9	534.8	12.8	10.8	5.8
Big Skate[1]	Biennial	NA	8.6	9.6	NA	22.1	56.7	NA	39.0	16.8
Bocaccio Rockfish (South Of 40 10)	Biennial	109.9	125.2	192.3	227.1	608.4	1,086.9	49.6	24.8	18.0
Canary Rockfish	Biennial	38.0	109.5	167.7	40.6	311.9	349.4	97.0	47.5	48.2
Chilipepper Rockfish (South Of 40 10)	A21	7.8	8.5	100.0	411.7	566.8	542.8	2.0	1.5	19.2
Cowcod Rockfish (South Of 40 10)	Biennial	0.8	1.9	6.9	1.6	2.9	31.1	66.4	60.8	41.6
Darkblotched Rockfish	A21	7.7	4.8	3.5	14.8	27.5	40.1	53.2	18.8	8.8
Dover Sole	A21	7.3	5.6	3.1	1,420.3	2,420.3	2,420.2	0.6	0.0	0.0
English Sole	A21	0.1	0.0	1.4	516.2	424.3	451.5	0.0	0.0	0.4
Lingcod (North Of 40 10)[2]	A21	497.2	519.2	531.7	1,450.3	1,776.6	2,387.7	34.3	31.0	22.8
Lingcod (South Of 40 10)[2]	Change	529.5	470.3	234.0	577.7	597.0	534.1	92.7	80.2	44.8
Longnose Skate	Biennial	64.3	83.7	45.4	140.1	187.1	156.0	68.2	44.8	29.8
Longspine Thornyhead (North Of 34 27)	A21	7.1	5.6	2.4	111.0	138.3	117.5	6.6	4.0	2.4
Other Flatfish	A21	83.3	40.9	34.8	545.7	716.8	485.7	16.8	5.5	7.2
Pacific Cod	A21	3.6	3.7	2.9	58.8	54.7	54.7	6.2	6.8	5.2
Pacific Ocean Perch (North Of 40 10)	A21	0.3	0.3	0.1	6.9	61.6	184.5	4.6	2.2	0.0
Petrale Sole	Change	2.3	9.2	17.2	35.0	111.9	49.2	6.6	10.0	52.8
Sablefish (South Of 36)	A21	542.6	384.1	203.0	834.1	1,122.1	1,184.5	67.2	34.0	17.2
Shelf Rockfish North (North Of 40 10)	Biennial	20.3	27.8	35.5	439.8	774.5	573.6	5.2	3.8	6.6
Shelf Rockfish South (South Of 40 10)	Biennial	395.3	556.3	543.9	757.4	1,377.3	1,195.5	55.8	40.2	46.2
Shortspine Thornyhead (North Of 34 27)	Change	60.0	57.4	33.6	76.7	82.2	68.0	78.6	69.8	50.2
Shortspine Thornyhead (South Of 34 27)	Change	118.4	112.7	38.2	411.8	827.3	713.7	35.0	13.8	5.2
Slope Rockfish North (North Of 40 10)	Biennial	79.5	87.7	42.6	228.2	317.6	289.1	35.8	27.8	14.6
Slope Rockfish South (South Of 40 10)	Change	72.4	29.1	44.8	187.2	256.7	208.4	63.6	11.5	22.2
Splitnose Rockfish (South Of 40 10)	A21	0.2	0.0	0.0	79.5	87.1	80.8	0.0	0.0	0.0
Starry Flounder	A21	1.3	1.5	2.1	725.6	563.2	180.8	0.0	0.5	1.2
Widow Rockfish	Change	10.4	18.9	19.6	104.0	881.8	517.1	10.0	2.2	4.6
Yelloweye Rockfish	Biennial	9.6	15.2	19.9	10.9	19.2	38.7	87.6	93.8	51.2
Yellowtail Rockfish (North Of 40 10)	A21	50.4	68.3	128.1	495.5	620.6	567.6	10.6	10.8	22.6

[1]Excludes 2011-2016 in averages due to no allocation

[2]Excludes 2011-2012 in 2011-2015 average due to different management line

Landings vs. Discard

In consideration of how user groups utilize allocations, it is important to assess the breakdown of landings versus discards. Some fisheries utilize certain stocks for accessing target stocks (such as bycatch of midwater stocks in whiting fisheries) whereas other sectors have a multi-species targeting strategy (e.g., the Dover sole-thornyhead-sablefish [DTS] strategy in bottom trawl or general "bottomfish" trips in the recreational fleet). High discards could be a result of regulatory restrictions (trip limits or bag limits) or economic in nature (market limitations). For the trawl sector (Figure 2), there is an increasing proportion of arrowtooth flounder and English sole being discarded- likely due to lack of markets.

For the non-trawl sector (Figure 3), high discard proportions are mostly due to regulatory restrictions (canary rockfish, yelloweye rockfish, and cowcod). Other species with high discard proportions such as arrowtooth flounder, Dover sole, and longnose skate are not targeted and infrequently caught in the non-trawl sectors. Therefore, the high discard proportions are likely a result of the low mortality overall. These stocks could be potentially examined for changes in allocations given that they are typically more valued by the trawl sector, however, they are highly under-attained in that sector (as described above).

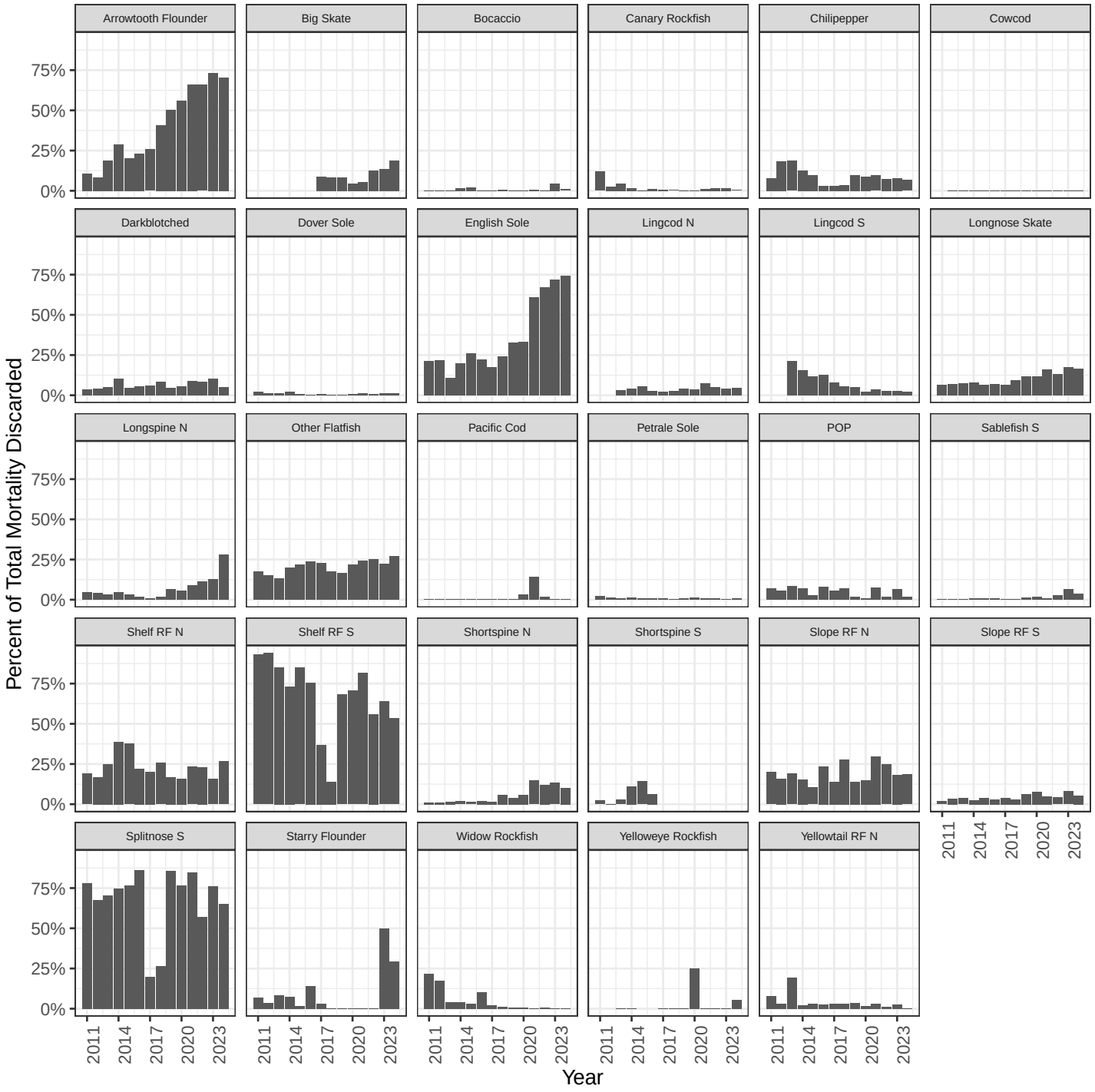

Figure 2: Percentage of Total Mortality Discarded by Trawl Sector and Species, 2011-2024

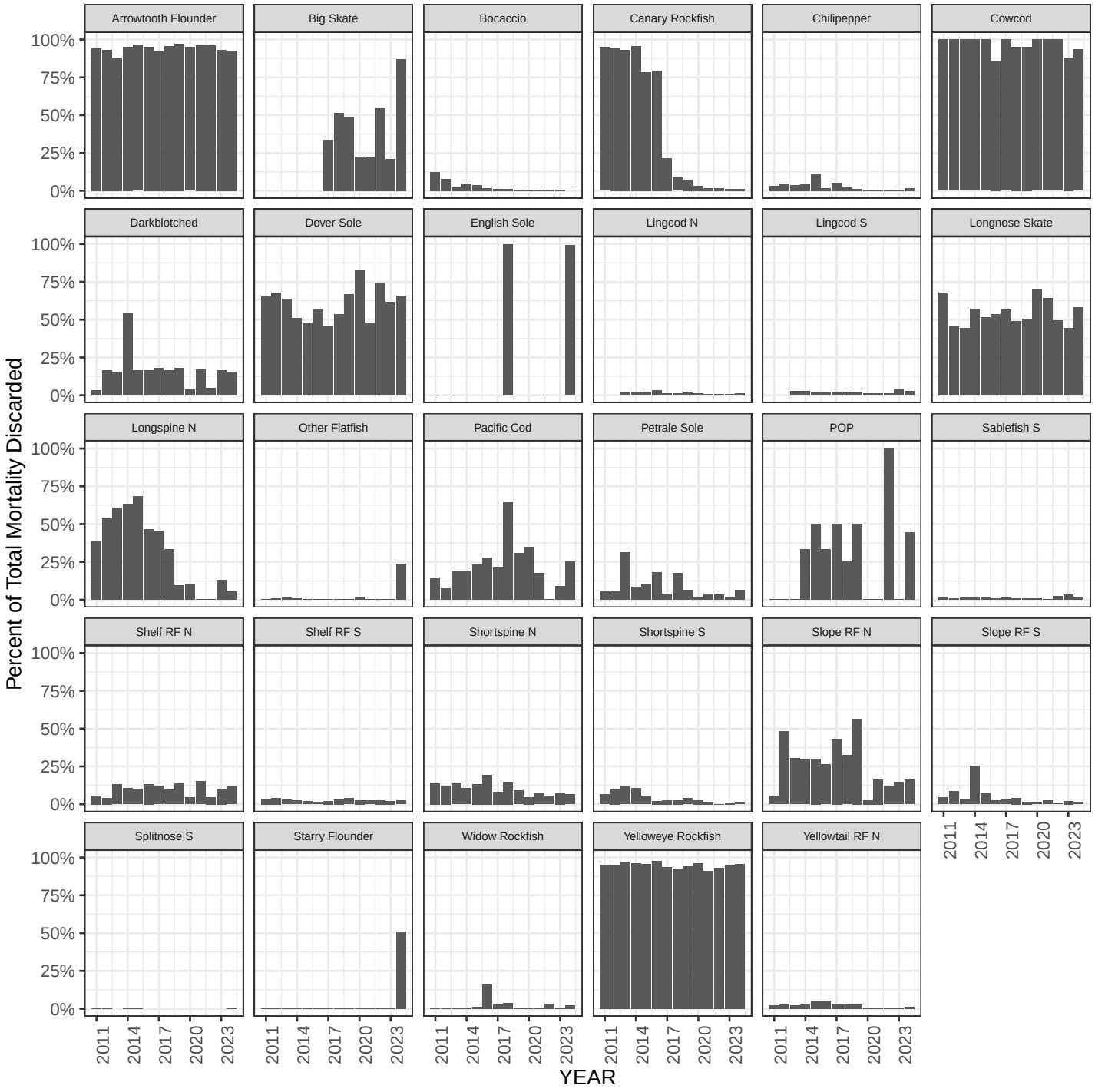

Figure 3: Percentage of Total Mortality Discarded by Non-Trawl Sector and Species, 2011-2024

Landings, Revenue, Trips

Average commercial landings of stocks that are allocated to trawl and non-trawl sectors from the five years leading up to the original intersector allocation review (2011-2015) and the eight years since the last review (2016-2019, 2020-2024) are shown in Table 4, respectively. Inflation-adjusted ex-vessel revenue averages (adjusted to 2024 dollars) associated with those landings are provided in Table 5. With the expansion of the review to include all allocated stocks, catch of allocated species/complexes and bottomfish trips associated with the recreational sector are also provided over the same time series is provided. There are no revenues associated with recreational catch; however, the number of trips and landings amounts might provide an indicator of the importance of these species to the recreational sector.

For the trawl sector, there has been an increase in the overall landings starting in 2017 with the re-emergence of the midwater rockfish fishery (Figure 4, right panel). This is further seen in the increases in landings of key midwater stocks over the three time periods (widow, yellowtail, and canary; Table 4). While there has been inter-annual variability since 2017, with 2020 (COVID) and 2024 seeing the lowest landings levels, the overall average is 48.5 percent greater than 2011-2016. While revenues initially saw an increase in 2017, revenues (adjusted for inflation) have dropped below 2011-2016 levels (Figure 5, right panel). Dover sole and thornyhead average landings and revenue have seen declines over the time series (Table 4, Table 5).

For the commercial non-trawl sector though, there has been a general decline in landings and revenue since the start of Am 21 in 2011 (Figure 4, left panel). While there was a spike in 2017 in revenue (similar to the trawl sector), the ex-vessel revenue from the commercial non-trawl sector from 2017-2024 was a decline of 11.7 percent of the pre-2017 revenue (Figure 5, left panel). Species with average landings and revenue increases over the three eras include lingcod north of 40° 10’ N. lat. and other shelf stocks such as chilipepper, bocaccio and canary rockfish. Sablefish south of 36° N. lat, lingcod south of 40° 10’ N. lat., and shortspine (north and south) have seen declines on average (Table 4, Table 5).

Table 4: Landings Averages by Period, 2011-2024

	2011-2015		2016-2019		2020-2024	
Stock/Complex	Non-Trawl[1,2]	Trawl[1,2]	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl
Arrowtooth Flounder	2.6	1,814.2	2.0	773.9	1.1	215.3
Big Skate	0.0	0.0	4.6	153.9	2.0	103.5
Bocaccio Rockfish (South Of 40 10)	4.7	17.0	9.8	152.4	66.2	324.3
Canary Rockfish	0.4	15.1	8.2	267.7	28.9	422.0
Chilipepper Rockfish (South Of 40 10)	1.0	257.1	4.6	199.3	43.9	741.9
Cowcod Rockfish (South Of 40 10)	0.0	0.2	0.0	0.5	0.0	1.6
Darkblotched Rockfish	6.5	99.8	3.9	217.7	2.9	243.6
Dover Sole	2.8	7,060.1	2.5	6,606.3	0.9	4,005.7
English Sole	0.2	170.3	0.0	196.5	0.0	79.7
Lingcod (North Of 40 10)	86.9	236.7	115.7	417.6	141.9	337.9
Lingcod (South Of 40 10)	59.7	16.7	54.1	40.5	30.8	51.5
Longnose Skate	29.2	796.3	39.3	658.9	17.1	449.1
Longspine Thornyhead (North Of 34 27)	3.1	876.0	3.4	509.3	2.2	56.4
Other Flatfish	5.4	607.8	5.3	525.7	3.1	285.8
Pacific Cod	2.2	263.5	2.2	109.5	0.6	19.0
Pacific Ocean Perch (North Of 40 10)	0.3	47.3	0.2	173.6	0.1	374.5
Petrale Sole	0.8	1,736.8	2.4	2,543.0	2.9	2,581.9
Sablefish (South Of 36)	523.8	219.8	378.3	103.5	196.3	85.9
Shelf Rockfish North (North Of 40 10)	4.5	22.0	5.9	216.5	7.5	290.8
Shelf Rockfish South (South Of 40 10)	28.8	1.6	58.0	2.9	120.8	10.5
Shortspine Thornyhead (North Of 34 27)	52.1	731.0	50.2	655.6	31.2	307.8
Shortspine Thornyhead (South Of 34 27)	108.3	3.1	108.8	1.9	37.3	0.0
Slope Rockfish North (North Of 40 10)	50.7	170.6	48.9	175.1	28.4	185.2
Slope Rockfish South (South Of 40 10)	64.4	88.6	26.5	55.9	34.5	43.7
Splitnose Rockfish (South Of 40 10)	0.2	13.0	0.0	9.6	0.0	7.4
Starry Flounder	0.2	8.4	0.1	5.4	0.1	0.1
Widow Rockfish	0.5	429.6	1.5	6,558.9	7.6	10,260.1
Yelloweye Rockfish	0.0	0.1	0.0	0.2	0.0	0.5
Yellowtail Rockfish (North Of 40 10)	1.6	1,012.8	2.1	2,456.4	6.7	2,891.1

[1]Excludes big skate in average due to no allocations in 2011-2016

[2]Excludes lingcod in average due to different management line in 2011-2012

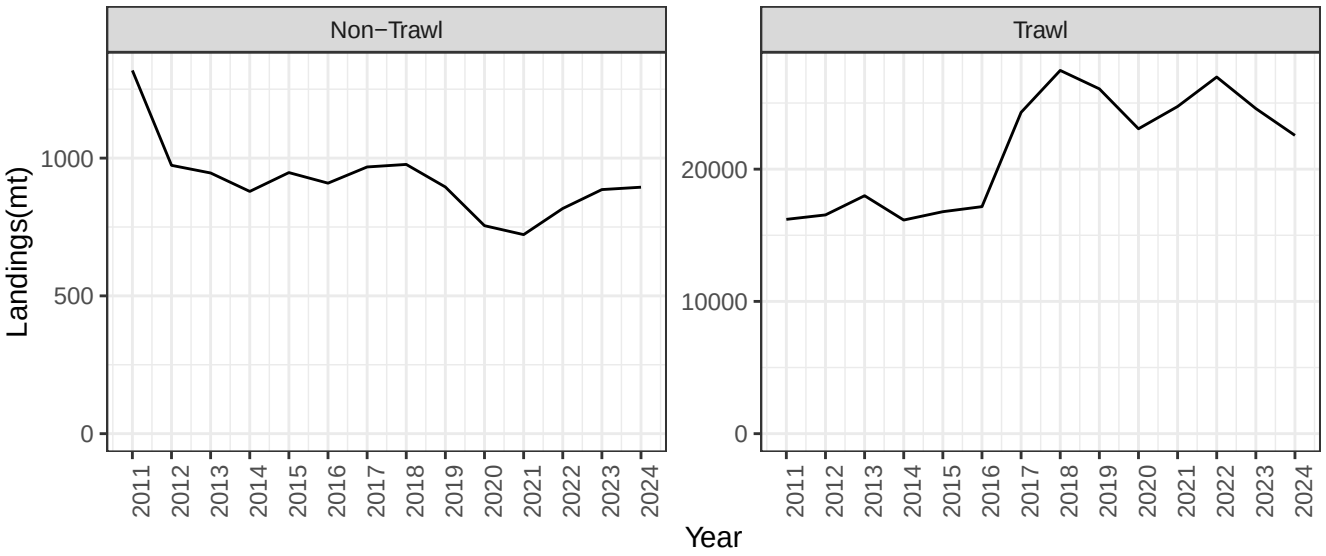

Figure 4: Commercial Landings by Sector, 2011-2024

Table 5: Commercial Average Ex-Vessel Revenues (1000s of 2024$)

	2011-2015		2016-2019		2020-2024	
Stock/Complex	Non-Trawl[1,2]	Trawl[1,2]	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl
Arrowtooth Flounder	$1	$569	$1	$203	$0	$37
Big Skate	$0	$0	$4	$147	$2	$88
Bocaccio Rockfish (South Of 40 10)	$26	$35	$57	$204	$256	$303
Canary Rockfish	$1	$23	$50	$290	$162	$311
Chilipepper Rockfish (South Of 40 10)	$6	$513	$22	$268	$187	$794
Cowcod Rockfish (South Of 40 10)	$0	$0	$0	$1	$0	$2
Darkblotched Rockfish	$21	$136	$12	$218	$8	$138
Dover Sole	$6	$8,915	$4	$7,792	$1	$3,877
English Sole	$1	$156	$0	$155	$0	$31
Lingcod (North Of 40 10)	$586	$522	$822	$1,069	$922	$655
Lingcod (South Of 40 10)	$503	$52	$459	$107	$243	$121
Longnose Skate	$28	$891	$36	$644	$13	$362
Longspine Thornyhead (North Of 34 27)	$10	$1,123	$11	$622	$8	$31
Other Flatfish	$53	$768	$64	$532	$35	$247
Pacific Cod	$3	$438	$4	$178	$2	$20
Pacific Ocean Perch (North Of 40 10)	$1	$66	$0	$171	$0	$233
Petrale Sole	$3	$6,269	$9	$8,087	$10	$7,008
Sablefish (South Of 36)	$3,817	$1,500	$2,820	$601	$1,264	$275
Shelf Rockfish North (North Of 40 10)	$24	$21	$34	$190	$41	$173
Shelf Rockfish South (South Of 40 10)	$229	$5	$485	$2	$949	$3
Shortspine Thornyhead (North Of 34 27)	$531	$1,748	$590	$1,198	$501	$294
Shortspine Thornyhead (South Of 34 27)	$1,543	$36	$2,234	$21	$822	$0
Slope Rockfish North (North Of 40 10)	$121	$200	$118	$123	$67	$50
Slope Rockfish South (South Of 40 10)	$256	$197	$134	$95	$183	$51
Splitnose Rockfish (South Of 40 10)	$1	$11	$0	$5	$0	$1
Starry Flounder	$1	$10	$1	$5	$0	$0
Widow Rockfish	$3	$527	$10	$4,789	$39	$6,024
Yelloweye Rockfish	$0	$0	$0	$0	$0	$0
Yellowtail Rockfish (North Of 40 10)	$6	$1,441	$8	$2,076	$25	$1,530

[1]Excludes big skate in average due to no allocations in 2011-2016
[2]Excludes lingcod in average due to different management line in 2011-2012

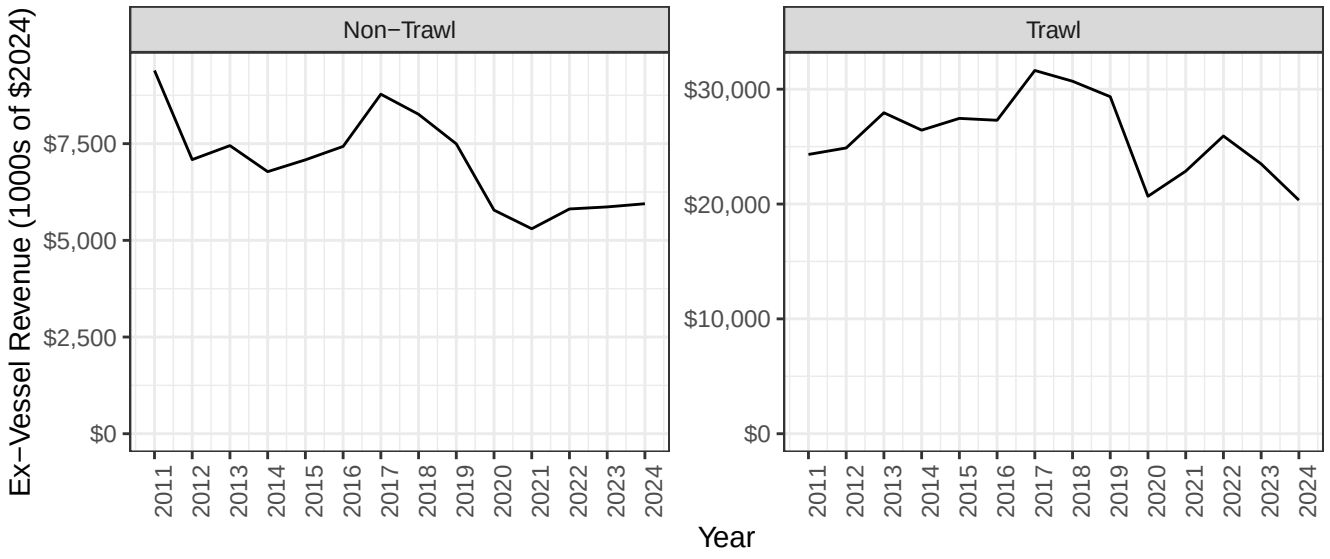

Figure 5: Commercial Revenues (1000s of 2024$) by Sector, 2011-2024

For the recreational sector, Figure 6 and Figure 7 shows the total retained catch (mt) for all allocated groundfish stocks from 2011-2024 in total and by state. Overall, coastwide landings have been increasing over the time series.[1] At the state level, Oregon and Washington have seen a general increasing trend of total retained catch over the time series, whereas California has had more variability in the total retained catch levels. The COVID-19 pandemic in 2020 had a significant impact on total retained coastwide recreational catch. California landings specifically dropped by 51 percent from 2019 to 2020. While landings increased since 2020, the downturn in 2024 was likely due to restrictions for vermilion rockfish (two-fish bag limit) in California which is in the shelf rockfish complex south of 40° 10' N. lat., and potentially other impacts from California quillback rockfish management measures in response to it being declared overfished (noting again that nearshore species are not included in this analysis).

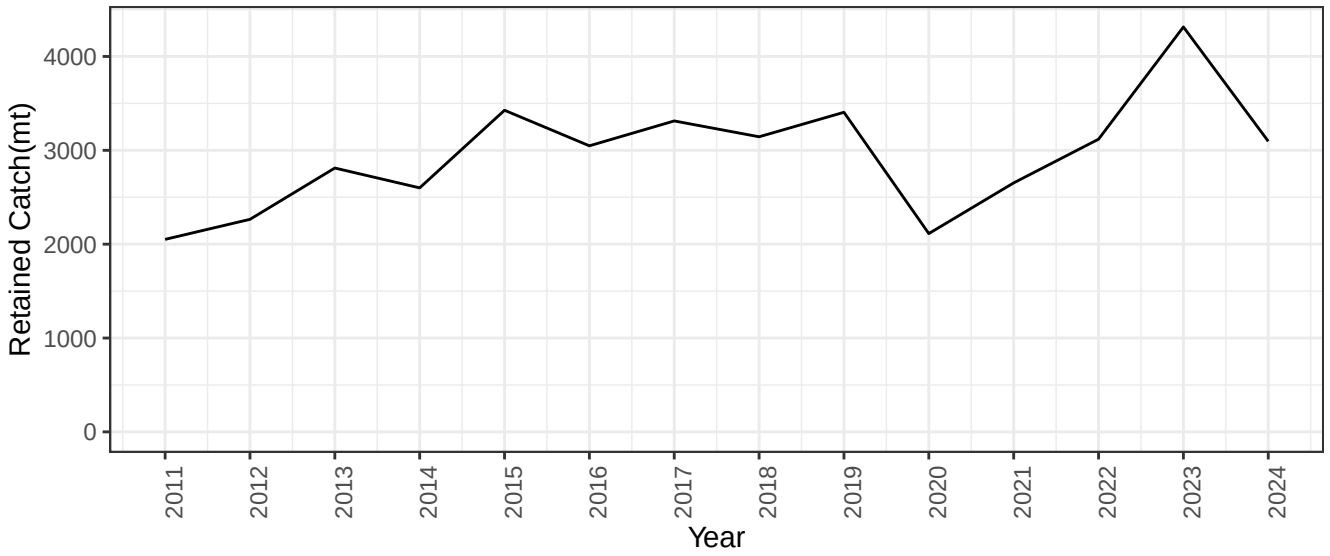

Figure 6: Recreational Total Retained Catch (mt), 2011-2024

[1]Key recreational stocks such as the nearshore complexes and black rockfish are not included in these figures or statistics as they are not allocated stocks.

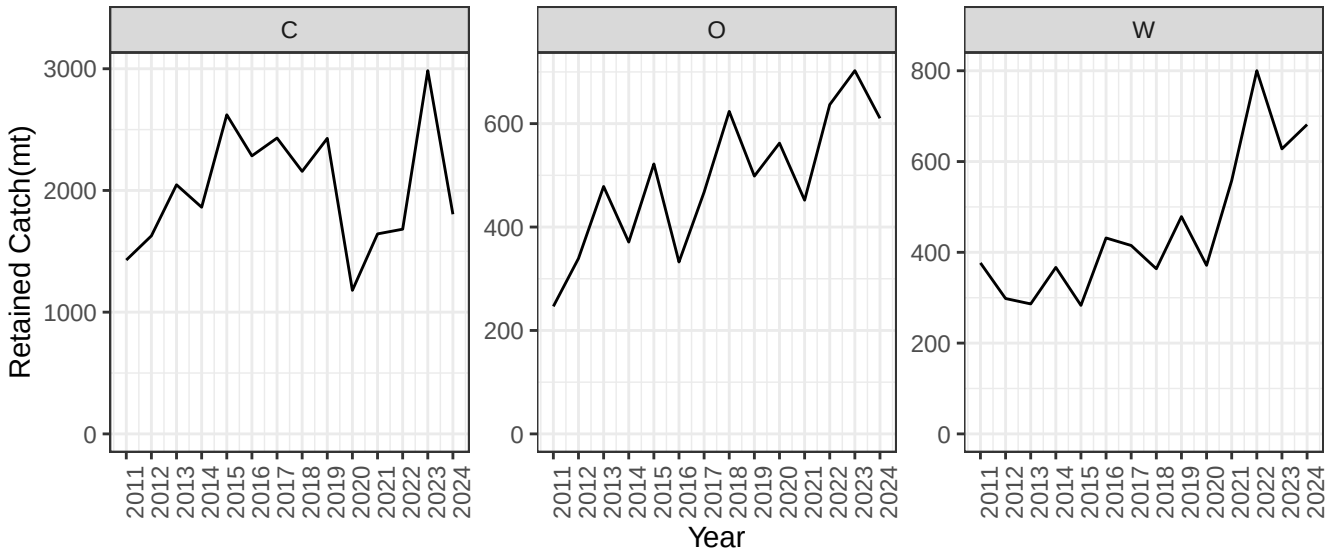

Figure 7: Recreational Total Retained Catch (mt) by State, 2011-2024

Table 6: Recreational Retained Catch (mt) Averages by Period, 2011-2024

Stock/Complex	2011-2015[1]	2016-2019[1]	2020-2024
Arrowtooth Flounder	0.1	0.2	0.5
Big Skate	0.0	0.1	0.1
Bocaccio Rockfish (South Of 40 10)	196.9	227.7	249.8
Canary Rockfish	7.0	159.2	272.4
Chilipepper Rockfish (South Of 40 10)	12.9	7.7	110.3
Cowcod Rockfish (South Of 40 10)	0.1	0.2	0.7
Darkblotched Rockfish	0.0	0.0	0.0
Dover Sole	0.0	0.1	0.0
English Sole	0.0	0.0	0.1
Lingcod (North Of 40 10)	797.1	780.3	808.4
Lingcod (North of 42)	504.5	0.0	0.0
Lingcod (South Of 40 10)	911.2	812.6	393.2
Lingcod (South of 42)	480.6	0.0	0.0
Longnose Skate	0.2	0.3	0.3
Other Flatfish	138.6	64.2	52.2
Pacific Cod	1.5	0.8	3.8
Pacific Ocean Perch (North Of 40 10)	0.0	0.0	0.0
Petrale Sole	2.3	11.7	26.5
Shelf Rockfish North (North Of 40 10)	27.4	35.9	46.9
Shelf Rockfish South (South Of 40 10)	706.2	960.4	813.6
Shortspine Thornyhead (North Of 34 27)	0.0	0.0	0.0
Slope Rockfish North (North Of 40 10)	0.0	0.0	0.8
Slope Rockfish South (South Of 40 10)	1.7	1.7	15.9
Starry Flounder	1.9	2.1	0.5
Widow Rockfish	19.6	32.9	24.7
Yelloweye Rockfish	0.8	1.8	2.2
Yellowtail Rockfish (North Of 40 10)	94.5	127.7	236.2

[1]Excludes big skate in average due to no allocations in 2011-2016

Community Impacts

Landings and revenues within a port by each shoreside commercial sector by stock may provide some information relative to the importance of those stocks to West Coast communities. Table 7 and Table 8 below show the average commercial landings and revenues (1000s of 2024$) for each port group across 2011-2015, 2016-2019, and 2020-2024. [2] Astoria is the top trawl port in terms of landings and revenue across each time period and both landings and revenue averages have increased over the time series. Newport (OR) had the greatest increase in trawl landings across the time series (257 percent increase in the average landings from 2011-2015 compared to 2020-2024); however, this data does not fully capture the recent closure of a major non-whiting processor in Newport, which may impact landings at this port in the future. In terms of commercial non-trawl port groups, landings and revenue have increased in several Oregon and Northern California port groups. In general, Central and Southern California ports have decreasing landings. Morro Bay has seen an overall decline in both trawl and non-trawl landings and revenues and Los Angeles and San Diego seeing a decline in non-trawl landings and revenues (no trawling present).

For recreational fisheries, retained catch (mt) and angler trips are provided by RecFIN port code/district code to provide a comparison of importance of the allocated non-whiting species to communities. Table 9 shows the average recreational retained catch (mt) for each port/port group for the allocated species across the same time series as Table 7 and Table 8.

Table 7: Average Commercial Landings by IOPAC Port Group ("c" denotes confidential strata)

	2011-2015		2016-2019		2020-2024	
IOPAC Port Group	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	90.8	C	144.5	3,049.6	95.8	C
NORTH WA COAST	106.3	0.0	91.2	C	21.8	0.0
SOUTH AND CENTRAL WA COAST	96.9	4,986.1	62.4	6,516.1	70.0	14,989.2
ASTORIA	16.5	34,263.2	26.6	41,502.7	32.7	54,761.9
TILLAMOOK	61.6	0.0	70.9	0.0	71.7	0.0
NEWPORT	123.0	7,587.4	129.0	18,509.0	236.0	27,090.6
COOS BAY	99.3	7,544.1	96.2	C	102.8	C
BROOKINGS	234.2	4,982.0	255.6	C	345.1	1,202.0
CRESCENT CITY	34.8	553.6	45.5	C	91.9	C
EUREKA	46.2	9,720.0	74.5	10,300.7	169.1	9,830.5
FORT BRAGG	95.0	6,118.0	112.2	3,279.0	165.7	7,746.7
BODEGA BAY	23.7	C	33.7	0.0	169.3	0.0
SAN FRANCISCO	51.2	1,456.7	48.2	1,100.2	107.4	1,167.0
MONTEREY	164.5	1,499.7	154.1	60.8	419.3	1,464.1
MORRO	1,567.9	2,444.5	573.4	659.7	563.7	C
SANTA BARBARA	1,178.7	C	1,285.9	0.0	954.3	0.0
LOS ANGELES	505.4	0.0	220.1	0.0	181.5	0.0
SAN DIEGO	568.0	0.0	325.2	0.0	276.2	0.0

[1]Excludes lingcod N in average due to different management line in 2011-2012

[2]0.22 mt were removed from query due to no IOPAC port code.

Table 8: Average Revenues (1000s of 2024$) by IOPAC Port Group ("c" denotes confidential strata)

	2011-2015		2016-2019		2020-2024	
IOPAC Port Group	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	$143.6	C	$175.2	$5,033.9	$122.5	C
NORTH WA COAST	$206.2	$0.0	$167.2	C	$39.2	$0.0
SOUTH AND CENTRAL WA COAST	$151.0	$6,523.4	$120.8	$3,273.0	$151.2	$7,208.7
ASTORIA	$33.5	$48,513.2	$73.7	$48,822.9	$76.6	$51,536.1
TILLAMOOK	$439.1	$0.0	$518.0	$0.0	$493.6	$0.0
NEWPORT	$571.7	$10,752.3	$725.3	$21,491.3	$1,402.0	$22,283.5
COOS BAY	$425.9	$11,521.4	$410.5	C	$482.7	C
BROOKINGS	$1,334.3	$7,046.6	$1,676.6	C	$2,126.6	$1,260.4
CRESCENT CITY	$210.8	$743.2	$284.0	C	$541.3	C
EUREKA	$211.4	$14,890.7	$423.8	$15,894.6	$1,013.2	$11,386.8
FORT BRAGG	$486.4	$10,506.9	$765.7	$5,326.1	$1,112.5	$11,066.4
BODEGA BAY	$189.9	C	$303.4	$0.0	$857.9	$0.0
SAN FRANCISCO	$468.5	$2,884.7	$442.7	$1,722.9	$953.8	$1,595.2
MONTEREY	$1,189.0	$2,873.5	$1,513.4	$201.5	$2,328.0	$1,960.4
MORRO	$11,514.0	$10,396.4	$4,370.1	$3,249.7	$3,763.1	C
SANTA BARBARA	$10,808.1	C	$14,864.2	$0.0	$9,213.6	$0.0
LOS ANGELES	$4,615.5	$0.0	$2,303.6	$0.0	$1,548.3	$0.0
SAN DIEGO	$4,788.3	$0.0	$2,824.3	$0.0	$2,474.7	$0.0

[1]Excludes lingcod N in average due to different management line in 2011-2012

Table 9: Recreational Retained Catch of Allocated Stocks (mt) by Port Group

RecFIN Port Name	2011-2015[1]	2016-2019[1]	2020-2024
SEKIU	NaN	NaN	63.8
NEAH BAY	64.8	81.6	139.2
LA PUSH	42.7	54.2	53.7
OCEAN SHORES	NaN	NaN	0.5
WESTPORT	200.1	264.8	395.8
TOKELAND	NaN	0.0	0.0
ILWACO	14.0	21.2	47.6
CHINOOK	0.5	0.4	1.0
COLUMBIA RIVER NORTH JETTY	0.1	0.1	0.5
ASTORIA	2.1	2.4	8.0
GARIBALDI	58.0	80.3	85.5
PACIFIC CITY	21.3	23.6	28.8
DEPOE BAY	68.5	92.0	93.0
NEWPORT	70.3	86.3	103.2
FLORENCE	0.0	0.1	0.2
WINCHESTER BAY	0.1	7.2	69.2
CHARLESTON	68.0	76.5	104.6
BANDON	16.1	23.9	20.1
PORT ORFORD	4.3	1.8	2.2
GOLD BEACH	24.6	37.6	28.0
BROOKINGS	58.1	48.9	49.9
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	134.0	137.9	102.9
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	117.9	165.8	181.8
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	326.9	484.6	466.5
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	511.2	691.8	532.5
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	367.3	421.0	237.5
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	459.7	423.6	337.3

[1]No records of big skate landings from in 2011-2016

Port involvement is a measure of a port's contribution to the West Coast groundfish fishery. For commercial fisheries (trawl and non-trawl), this value is measured as the ex-vessel value from the fishery landed in the area as a share of the total ex-vessel value from the fishery. For this intersector allocation review, the involvement was specific to the species assessed in the portion of the review (i.e., all allocated stocks to trawl/non-trawl). As there is no value estimation available for the recreational fishery, however, bottomfish angler trips were used as a proxy. Angler trip estimates are not associated with specific species and therefore recreational involvement considers all bottomfish effort (i.e., not specifically tied to allocated stocks).Additionally, due to the different levels of data available at the time of this report, recreational port involvement is considered within a state rather than coastwide.

Table 10 shows the relative ranking of IOPAC port groups involvement and the average contribution of ex-vessel revenue in commercial trawl and non-trawl fisheries (for allocated stocks) and bottomfish angler trips for recreational fisheries between 2020 and 2024. Due to confidentiality, select IOPAC port groups have no contribution averages provided for the commercial sectors.

For trawl landings, Astoria had the highest degree of involvement averaging about 45.9 percent of the revenue from the allocated stocks considered in this review from 2020-2024. Newport and Eureka were the second and third most involved port groups in these fisheries. North Washington Coast, Bodega Bay, Los Angeles, San Diego, Santa Barbara, and Tillamook port groups had no recorded trawl landings of any allocated stock since 2020. For the non-trawl commercial fisheries, Santa Barbara ports were the most involved with non-trawl landings in 2020-2024 with a 32.1 percent of the revenue followed by Morro Bay, Monterey Bay, and Brookings.

The most involved trawl ports (Astoria, Newport and Eureka) have been classified as having medium, medium/medium high, and medium high in terms of social vulnerability from 2020-2022 based on the recent CCIEA report. However, all the highly involved non-trawl ports are classified as having low social vulnerability.

For recreational groundfish fisheries, the southern ports (San Diego, Orange, and Los Angeles counties) were the most involved with 56.5 of the angler trips on average from 2020-2024. California ports saw a greater proportion of angler trips overall, with the highest involvement from Oregon being out of Newport 23.4 percent and South and Central Washington Ports for Washington (54.6 percent). Based on the recent CCIEA report, ports in the southern California region range in social vulnerability from low to medium-high. Newport is considered to have medium to medium high social vulnerability and the Westport medium high to high social vulnerability.

Table 10: Ranking of Commercial Port Involvement and Average Percentage of Revenue by IOPAC Port Group, 2020-2024 (“c” denotes confidential strata)

Trawl		Non-Trawl	
Port Group	Avg Perc	Port Group	Avg Perc
ASTORIA	45.9%	SANTA BARBARA	32.1%
NEWPORT	19.3%	MORRO BAY	13.0%
EUREKA	10.0%	SAN DIEGO	8.6%
FORT BRAGG	9.8%	MONTEREY	8.1%
SOUTH AND CENTRAL WA COAST	6.3%	BROOKINGS	7.4%
COOS BAY	C	LOS ANGELES	5.4%
MONTEREY	1.8%	NEWPORT	4.9%
SAN FRANCISCO	1.4%	FORT BRAGG	3.9%
MORRO BAY	1.2%	EUREKA	3.5%
BROOKINGS	1.1%	SAN FRANCISCO	3.3%
PUGET SOUND	C	BODEGA BAY	3.0%
CRESCENT CITY	C	CRESCENT CITY	1.9%
BODEGA BAY	0.0%	TILLAMOOK	1.7%
LOS ANGELES	0.0%	COOS BAY	1.7%
NORTH WA COAST	0.0%	SOUTH AND CENTRAL WA COAST	0.5%
SAN DIEGO	0.0%	PUGET SOUND	0.4%
SANTA BARBARA	0.0%	ASTORIA	0.3%
TILLAMOOK	0.0%	NORTH WA COAST	0.1%

Table 11: Ranking of Recreational Port Involvement and Average Percentage of Trips by Port Group, 2020-2024 (“c” denotes confidential strata)

Recreational	
Port Group	Avg Perc
CALIFORNIA	
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	56.5%
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	13.4%
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	11.3%
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	10.7%
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	4.2%
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	3.8%
OREGON	
NEWPORT	23.4%
DEPOE BAY	19.7%
BROOKINGS	18.1%
CHARLESTON	11.5%
GARIBALDI	10.3%
PACIFIC CITY	5.2%
GOLD BEACH	4.4%
BANDON	3.6%
WINCHESTER BAY	2.6%
ASTORIA	0.7%
PORT ORFORD	0.4%
FLORENCE	0.0%
WASHINGTON	
WESTPORT	54.6%
NEAH BAY	16.0%
ILWACO	14.7%
SEKIU	10.4%
COLUMBIA RIVER NORTH JETTY	8.9%
LA PUSH	7.7%
CHINOOK	0.3%
OCEAN SHORES	0.1%
TOKELAND	0.0%

Port dependence for the commercial fisheries is considered in terms of the commercial fishing businesses in a particular port and their relative reliance on the groundfish fishery as compared to other regionally caught landings from ocean areas that are first delivered to the port. For this analysis specifically, it considers the impact of revenue from allocated stocks versus all other landings.

In general, the ports that are more involved in the fishery are more dependent on the fishery- with Fort Bragg, Astoria, and Eureka having the highest average level of dependence on trawl landings. Morro Bay, San Diego, and Santa Barbara are the top three relative to non-trawl landings- noting that the degree of dependence (in terms of average percent revenue of total fishery landings coming into the port) are much lower for non-trawl fisheries compared to trawl fisheries. Relative to the trawl ports dependence, Morro Bay has a similar level of dependence on non-trawl fisheries in the period analyzed (averaging 22.4 percent of total revenues coming from non-trawl fisheries landings) which is similar percentage wise compared to Fort Bragg (32.2), Astoria (20.8) and Eureka (20.5) for trawl landings. (Table 12)

For recreational dependence, this analysis examines overall groundfish trips compared to all other trip types within a port. As discussed above in relation to port involvement, there is no way to distinguish angler trips associated with allocated stocks. Therefore, overall groundfish trips are used as a proxy. As with the involvement analysis, this is organized by state due to the district/port difference in scale. For California, the Redwood District has the highest level of dependence (as defined) on groundfish recreational trips. For Oregon, Port Orford and Gold Beach have the highest level of dependence. For Washington, La Push, Columbia River, and Wesport are the most involved port in groundfish recreational activity.

Table 12: Ranking of Port Dependence and Average Percentage of Revenue/Trips Compared to All Other Revenue/Trips by IOPAC Port Group, 2020-2024

Trawl		Non-Trawl	
Port Group	Avg Perc	Port Group	Avg Perc
FORT BRAGG	32.2%	MORRO BAY	22.4%
ASTORIA	20.8%	SAN DIEGO	5.4%
EUREKA	20.5%	SANTA BARBARA	4.5%
MORRO BAY	8.3%	MONTEREY	4.2%
NEWPORT	7.6%	BROOKINGS	3.5%
MONTEREY	5.4%	FORT BRAGG	3.1%
COOS BAY	C	BODEGA BAY	2.2%
BROOKINGS	1.9%	EUREKA	1.8%
SAN FRANCISCO	1.6%	LOS ANGELES	1.4%
SOUTH AND CENTRAL WA COAST	1.6%	TILLAMOOK	1.2%
PUGET SOUND	C	CRESCENT CITY	1.1%
CRESCENT CITY	C	SAN FRANCISCO	1.0%
BODEGA BAY	0.0%	PUGET SOUND	0.6%
LOS ANGELES	0.0%	NEWPORT	0.5%
NORTH WA COAST	0.0%	COOS BAY	0.4%
SAN DIEGO	0.0%	NORTH WA COAST	0.1%
SANTA BARBARA	0.0%	SOUTH AND CENTRAL WA COAST	0.0%
TILLAMOOK	0.0%	ASTORIA	0.0%

Table 13: Ranking of Port Dependence and Average Percentage of Trips Compared to All Other Revenue/Trips by RecFIN Port District, 2020-2024

Port District	Avg Perc
CALIFORNIA	
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	85.0%
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	78.6%
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	50.5%
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	43.1%
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	38.9%
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	34.7%
OREGON	
PORT ORFORD	100.0%
GOLD BEACH	96.7%
BANDON	88.8%
BROOKINGS	71.3%
DEPOE BAY	70.0%
CHARLESTON	59.4%
PACIFIC CITY	55.2%
GARIBALDI	40.1%
NEWPORT	38.0%
WINCHESTER BAY	14.3%
ASTORIA	8.4%
FLORENCE	C
WASHINGTON	
LA PUSH	50.1%
COLUMBIA RIVER NORTH JETTY	48.9%
WESTPORT	30.2%
SEKIU	26.7%
NEAH BAY	23.6%
OCEAN SHORES	20.8%
ILWACO	17.7%
CHINOOK	5.2%
TOKELAND	C

Sablefish North of 36° N. lat.

Sablefish north of 36° N. lat. were formally allocated through Am 6, but were cemented as a part of Am 21 (Figure 8). The allocations, estimated mortality, and percent of the annual allocation attained of sablefish north of 36° N. lat. by the non-tribal commercial sectors of the groundfish fishery during 2011-2024 are provided in Table 14. Grey shading denotes values greater than 90 percent attainment of the respective allocation. The limited entry (LE, trawl and fixed gear) share of the commercial HG has averaged 83.9 percent attainment since 2016, with notable declines in four of the last five years with 2024 seeing 74.3 percent attainment. Similar patterns of decline were seen in both the trawl and fixed gear sectors. The attainment of the open access (OA) share (which includes accounting for all incidental OA catch of sablefish north) has been extremely variable since 2016.

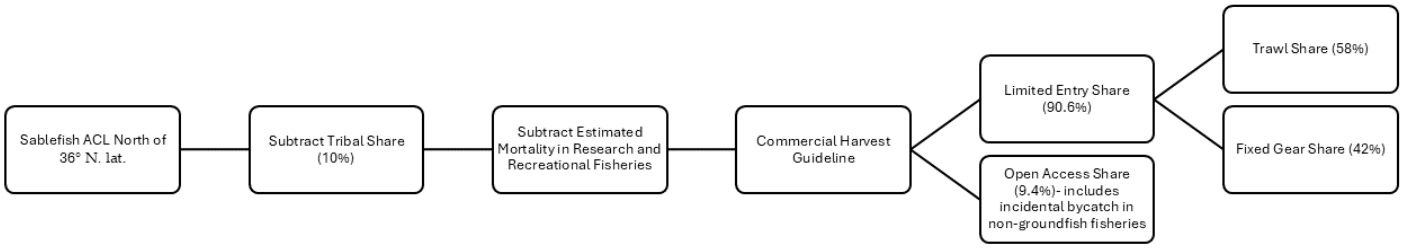

Figure 8: Diagram of sablefish N allocations

Table 14: Sablefish North Allocation (mt), Mortality (mt) and Attainment (%) by Sector, 2011-2024

	Comm HG			LE Share			Trawl			LEFG			OAN		
YEAR	Mort.	Alloc.	Attain	Mort.	Alloc.	Attain	Mort.	Alloc.	Attain	Mort.	Alloc.	Attain	Mort.	Alloc.	Attain
2011	4,828.0	4,941.0	98%	4,385.2	4,476.0	98%	2,384.8	2,597.0	92%	2,000.4	1,880.0	106%	442.8	464.0	95%
2012	4,167.6	4,790.0	87%	3,899.6	4,340.0	90%	2,215.2	2,517.0	88%	1,684.4	1,823.0	92%	268.0	450.0	60%
2013	3,238.3	3,575.0	91%	3,086.0	3,239.0	95%	1,848.7	1,878.0	98%	1,237.3	1,360.0	91%	152.2	336.0	45%
2014	3,387.3	3,878.0	87%	3,120.3	3,513.0	89%	1,872.5	2,038.0	92%	1,247.8	1,476.0	85%	266.9	365.0	73%
2015	4,161.6	4,281.0	97%	3,741.4	3,878.0	96%	2,191.1	2,249.0	97%	1,550.3	1,629.0	95%	420.2	402.0	105%
2016	4,414.4	4,684.0	94%	4,016.7	4,244.0	95%	2,311.8	2,461.0	94%	1,704.8	1,782.0	96%	397.8	440.0	90%
2017	4,802.0	4,693.7	102%	4,362.9	4,252.5	103%	2,652.5	2,466.4	108%	1,710.5	1,786.0	96%	439.1	441.2	100%
2018	4,495.0	4,894.4	92%	4,122.7	4,434.3	93%	2,398.7	2,571.9	93%	1,724.0	1,862.0	93%	372.4	460.1	81%
2019	4,639.3	5,007.2	93%	4,267.4	4,536.5	94%	2,619.0	2,631.2	100%	1,648.4	1,905.0	87%	371.9	470.7	79%
2020	3,492.7	5,113.2	68%	3,300.2	4,632.6	71%	1,825.5	2,686.9	68%	1,474.7	1,946.0	76%	192.5	480.6	40%
2021	4,291.4	6,165.0	70%	4,026.5	5,585.5	72%	2,342.1	3,239.6	72%	1,684.5	2,346.0	72%	264.8	579.5	46%
2022	5,783.6	5,871.6	99%	5,195.1	5,319.7	98%	3,216.8	3,085.4	104%	1,978.3	2,234.0	89%	588.5	551.9	107%
2023	5,589.0	7,552.0	74%	5,142.0	6,842.1	75%	2,845.8	3,968.4	72%	2,296.2	2,874.0	80%	447.1	709.9	63%
2024	5,141.8	6,919.3	74%	4,813.5	6,268.9	77%	2,753.6	3,636.0	76%	2,059.9	2,633.0	78%	328.4	650.4	50%

The previous review discussed potential issues regarding the sablefish management line at 36° N. lat. This management boundary is used only for sablefish and was established when the stock was first assessed due to the trawl surveys extending only down to that latitude. However, it has been noted that this line is likely not a meaningful biological boundary and led to sablefish being defined as a coastwide stock in the groundfish FMP (Am 31). In the last two biennia, a new apportionment method using the five-year rolling biomass average (rather than the long-term average) from the bottom trawl survey is used to apportion the coastwide biomass north and south of the 36° N. lat. line for management. The Council has previously considered removing the management line for the trawl sector only or moving the management line to 34° 27' N. lat., but neither idea was ultimately moved forward. Most recently in terms of trawl and fixed gear allocations and opportunity, the Council recommended putting a limit on the amount of gear switching allowed in the IFQ program in years where limited sablefish (<6,000 mt ACL) was available.

Within-Trawl Sector Allocations

The only stock that has formal within-trawl allocations is Pacific whiting. Pacific whiting is allocated 42 percent to shoreside IFQ, 34 percent to catcher processor (CP) sector, and 24 percent to the mothership (MS) sector. The allocations to each sector were established in 1997 (62 FR 27519) and formalized in the FMP as a part of Am 21 and therefore are included within this review. During the 2017 review, there was also evaluation of further within trawl allocations for canary rockfish, darkblotched rockfish, POP north of 40° 10' N. lat., and widow rockfish for the shorebased IFQ, CP, and MS sectors. Management of these four stocks in the at-sea sectors has evolved since 2016, with all four stocks now being managed as set-asides off the top of the trawl allocations as is done for the remainder of species caught as bycatch in the at-sea fishery (see discussion below).

Table 15 through Table 17 below show the allocations, catches, and allocation attainment percentage for Pacific whiting by sector and year since implementation of the trawl catch share program. The CP sector has had overall higher attainment of their allocation- averaging 84.5 percent of the final allocation (i.e. post-tribal reapportionment) since 2016 (Table 15). SS whiting has seen an average of 72.9 percent (Table 17) whereas the MS sector has averaged 53.2 percent (Table 16). The overall underutilization of the MS sector allocation led to the Council adopting regulatory amendments in March 2022 intended to increase utilization of the sector. That amendment also included a change in the season start date to May 1st for all sectors starting in 2023. For a summary of that action, see the Council webpage on Pacific Whiting Utilization in the At-Sea Sectors.

Table 15: CP Landings, Allocation, and Attainment of Pacific Whiting, 2011-2024

Year	Total Mortality (mt)	Initial Allocation (mt)	Initial Attainment (%)	Post-Tribal Reapportionment (mt)	Post-Tribal Reapportionment Attainment (%)
2011	71,610	75,138	95.3%	75,138	95.3%
2012	55,602	46,064	120.7%	55,584	100.0%
2013	77,943	69,374	112.4%	79,574	98.0%
2014	103,267	88,186	117.1%	103,486	99.8%
2015	68,484	90,673	75.5%	100,873	67.9%
2016	108,804	102,589	106.1%	114,149	95.3%
2017	137,130	123,312	111.2%	137,252	99.9%
2018	116,050	123,312	94.1%	136,912	84.8%
2019	116,379	123,312	94.4%	136,912	85.0%
2020	111,015	118,649	93.6%	132,249	83.9%
2021	103,357	103,362	100.0%	115,141	89.8%
2022	126,450	112,687	112.2%	126,287	100.1%
2023	107,625	129,266	83.3%	144,566	74.4%
2024	61,909	114,760	53.9%	130,060	47.6%

Table 16: MS Landings, Allocation, and Attainment of Pacific Whiting, 2011-2024

Year	Total Mortality (mt)	Initial Allocation (mt)	Initial Attainment (%)	Post-Tribal Reapportionment (mt)	Post-Tribal Reapportionment Attainment (%)
2011	50,111	53,039	94.5%	53,039	94.5%
2012	38,152	32,515	117.3%	39,235	97.2%
2013	52,479	48,970	107.2%	56,170	93.4%
2014	62,038	62,249	99.7%	73,049	84.9%
2015	27,669	64,004	43.2%	71,204	38.9%
2016	65,018	72,415	89.8%	80,575	80.7%
2017	66,257	87,044	76.1%	96,884	68.4%
2018	67,145	87,044	77.1%	96,644	69.5%
2019	52,417	87,044	60.2%	96,644	54.2%
2020	38,110	83,752	45.5%	93,352	40.8%
2021	35,912	72,961	49.2%	81,276	44.2%
2022	59,320	79,544	74.6%	89,144	66.5%
2023	32,566	91,247	35.7%	102,047	31.9%
2024	21,034	81,007	26.0%	91,807	22.9%

Table 17: SS Landings, Allocation, and Attainment of Pacific Whiting, 2011-2024

Year	Total Mortality (mt)	Initial Allocation (mt)	Initial Attainment (%)	Post-Tribal Reapportionment (mt)	Post-Tribal Reapportionment Attainment (%)
2011	90,758	92,818	97.8%	92,818	97.8%
2012	65,416	56,902	115.0%	68,662	95.3%
2013	97,327	85,697	113.6%	98,297	99.0%
2014	98,477	108,935	90.4%	127,835	77.0%
2015	58,040	112,007	51.8%	124,607	46.6%
2016	85,757	126,727	67.7%	141,007	60.8%
2017	145,916	152,327	95.8%	169,547	86.1%
2018	129,443	152,327	85.0%	169,127	76.5%
2019	144,083	152,327	94.6%	169,126	85.2%
2020	138,503	146,567	94.5%	163,367	84.8%
2021	126,111	127,682	98.8%	142,233	88.7%
2022	104,803	139,202	75.3%	156,002	67.2%
2023	100,459	159,681	62.9%	178,581	56.3%
2024	81,205	141,762	57.3%	160,662	50.5%

Set-Aside Considerations

To account for the at-sea mortality of non-whiting groundfish, Am 21 developed at-sea set asides which are amounts deducted from the trawl allocation before the trawl sector IFQ is dispersed. The list of species for which at-sea set asides are defined have varied since 2011, but the following table shows the list and values in place for 2025 and 2026 (Table 18).

As discussed above, allocations were initially set for four species: canary rockfish, darkblotched rockfish, widow rockfish, and POP through the development of Am 21. All four stocks were overfished at the time of Am 21 and the latter three were considered trawl-dominant stocks and had formal allocations specified in the FMP via formulas. Each at-sea sector was allocated a specific amount with an expectation that the at-sea cooperatives managed their operations to not exceed that value. If they exceeded or were projected to exceed the allocations for these stocks, one of both of the sectors would be closed automatically (50 CFR 660.60(d)(1)(ii)). Each at-sea sector exceeded their initial allocation of darkblotched rockfish at one time (CPs in 2011 and MS in 2014). The 2014 overage resulted in an emergency Council meeting in order to re-open the fishery since the allocation overage was not expected to result in a conservation concern, jeopardize the ACL, or adversely affect other sectors. To provide more flexibility, reduce the risk of inseason closure, reduce operational costs, and take into account that ACLs for these stocks were generally underattained, the Council moved to using set-asides rather than allocations for the four stocks (and removed the formula for setting the values for darkblotched, widow, and POP) through Amendment 21-3 and 21-4 to the FMP. By moving to set aside management, it was posited that it might provide flexibility to the whiting sectors to continue fishing in years were bycatch exceeded those amounts- as long as the harvest specifications were not in jeopardy and there were no impacts to other fisheries or conservation concerns. This was particularly in light of other constraining stocks like sablefish or Chinook salmon that were resulting in co-ops having to prioritize which stocks to avoid and finding it difficult to maximize avoidance of all of them at the same time.

In recent meetings, there have been several discussions at the Council regarding at-sea set-aside overages and the expectation that the sectors were to stay within those set-asides. However, as noted in Am 21 FEIS:

> In the trawl rationalization program, several species/sector combinations are not scheduled to be managed using IFQs or bycatch limits. It is these sector/species combinations where set-asides are necessary and where allocations are not necessarily appropriate. The perspective taken to establish a set-aside is different from the perspective taken for establishing allocations. Since set-asides are not accompanied with a firm and direct management tool, the appropriate amount of fish attributed to a set aside is best examined as an amount that can reasonably accommodate the incidental amount of fish that a sector could take. This differs from an allocation where a firm catch level is established that is a direct target, and that target may be lower than historic catch amounts.

An expectation that set-asides would be reviewed and adjusted as needed through the biennial harvest specifications process, with inseason management only if specific criteria are met, is defined at 50 CFR 660.150(c)(2)(i)(B)(1) and 50 CFR 660.160(c)(3)(i):

> "At-sea set-asides of non-whiting groundfish species will be managed on an annual basis unless there is a risk of a harvest specification being exceeded, unforeseen impact on other fisheries, or conservation concerns, in which case inseason action may be taken. Set asides may be adjusted through the biennial specifications and management measures process as necessary."

This review aims to provide information for the Council to consider in the management of bycatch in the at-sea fishery as the set aside amount impact the IFQ allocation. Depending on the intent of how the at-sea sectors should account for or manage bycatch, the Council could consider through the biennial harvest specifications process (or a separate action) whether it wishes to change the means by which access to these stocks is provided to the at-sea sectors. If there is an expectation that the at-sea sectors are to remain within the set-aside values, then another accountability measure should be used to clarify that intent to the sector, the Council, and the public (such as an HG). If there is not an expectation that the sectors remain within the

set-aside and that the set-aside amount is truly intended to be an estimate of the mortality expected to be taken in the fishery, then a set-aside may continue to be appropriate. This decision may differ by species- similar to the rationale used under Am 21 to create allocations (rather than set-asides) for the four species discussed above. Additionally, the Council may which to consider whether the set-asides or other management measure values should be set for the sector as a whole (as currently done for set-asides) or for the individual at-sea co-ops (as was done for the Am 21 allocations). When the Council changed from allocations to set asides for Am 21-3 and 21-4, the Council elected to combine the once sector specific values into a single value like the remainder of the set asides. With a single set-aside value, there is additional flexibility that may help accommodate significant inter-annual variability in each sector's bycatch for various species.

Table 18: 2025-2026 At-Sea Set-Asides

Species	Set Aside (mt)
Arrowtooth Flounder	100
Canary Rockfish	20
Darkblotched Rockfish	100
Dover Sole	10
Lingcod N of 40 10	15
Longnose Skate	5
Other Flatfish	100
Pacific Ocean Perch	300
Petrale Sole	5
Sablefish North	429
Shelf Rockfish North	35
Shortspine Thornyhead	70
Slope Rockfish North	300
Widow Rockfish	300
Yellowtail Rockfish	360

Looking historically at the set aside values compared to the actual mortality (assessed post season) for stocks that are currently managed as set asides, certain stocks were more frequent than others in exceeding the set aside value (Table 19). This table only includes years when stocks were managed by set asides in the at-sea fishery (i.e., excludes years when canary, widow, darkblotched rockfish, and POP were managed as allocations). For years where each sector had a sector-specific set aside (darkblotched and POP for 2018-2020 and canary and widow rockfish in 2020), this analysis combines those values to provide a comparison across the time series.

In general, the set aside amounts appear to have been set at a value to capture the potential bycatch of each non-whiting groundfish stock and the regulations regarding set asides and when the Council should act have never been utilized. That is, the degree to which the set aside was exceeded never put at risk another sector or a harvest specification (nor was there a conservation concern).

Table 19: Number of Years (2011-2024) At-Sea Sector Set Aside was Exceeded by Stock/Stock Complex

Stock/Complex	Number of Years Within Set Aside	Number of Years Exceeding Set Aside
Arrowtooth Flounder	11	3
Canary Rockfish[1]	5	0
Darkblotched Rockfish[2]	3	4
Dover Sole	13	1
English Sole	10	0
Lingcod (North Of 40 10)	12	0
Lingcod (North of 42)	2	0
Longnose Skate	12	0
Longspine Thornyhead (North Of 34 27)	10	0
Other Fish	4	0
Other Flatfish[2]	11	3
Pacific Cod	10	0
Pacific Ocean Perch (North Of 40 10)	6	1
Petrale Sole	14	0
Sablefish (North Of 36)	8	6
Shelf Rockfish North (North Of 40 10)	14	0
Shortspine Thornyhead (North Of 34 27)[1]	5	9
Slope Rockfish North (North Of 40 10)	9	5
Starry Flounder	10	0
Widow Rockfish	5	0
Yellowtail Rockfish (North Of 40 10)	13	1

[1]Only under set aside management since 2020
[2]Only under set aside management since 2018

Pacific Halibut

Pacific halibut is a prohibited species in the trawl fishery and the trawl catch share program was designed to minimize Pacific halibut bycatch. Pacific halibut bycatch in the IFQ fishery north of 40° 10' N. lat. is managed under a system of individual bycatch quotas (IBQ) where the dead discarded catch of Pacific halibut in the fishery is debited against the permit's IBQ. The FMP sets the trawl bycatch mortality limit at 15 percent of the Area 2A total constant exploitation yield (TCEY) established by the International Pacific Halibut Commission and federal regulations at 50 CFR Part 300 Subpart E for legal-size (i.e., ≥32") halibut (net weight), not to exceed 100,000 pounds annually. Additionally, the FMP specifies that 10 mt will be used to accommodate bycatch in the at-sea whiting fishery and the trawl fishery south of 40° 10' N. lat. Historically, this has been split evenly between the two fisheries and the amount can be adjusted through the biennial specifications process.

The IBQ values in Table 20 are the quota pounds (converted to mt) of Pacific halibut IBQ issued to the IFQ fishery north of 40° 10' N. lat. (IFQ Vessel Account Webpage). The total estimated mortality of Pacific halibut in trawl fisheries was obtained from the Halibut Mortality Report (Agenda Item I.1.b, NWFSC Report 1, November 2024) for 2011-2023, the preliminary estimate for 2024 for the shoreside IFQ fishery was from the IFQ Vessel Account System, and the preliminary estimate for the at-sea fisheries was based on the annual co-op reports (Supplemental Informational Report 3, March 2025, Supplemental Informational Report 6, March 2025). [3]

Since the last review, the percent attainment of Pacific halibut limits (IBQ + set-asides) in trawl fisheries has ranged from 13.8 percent to 41.5 percent (Table 20). The average for the last review period (2011-2015) was 30.8 percent compared to 33 percent from 2016-2024.

[3] Bycatch from 2020 IFQ Pot (gear switching), 2019-2022 shoreside whiting, and 2011 midwater rockfish fisheries were not included in the totals due to confidentiality.

Table 20: Halibut Allocations and Mortality, 2011-2024

Year	At-Sea Total Mortality	At-Sea Set Aside	At-Sea Attainment	IFQ Total Mortality	IFQ Allocation	IFQ Attainment	Total Mortality	Trawl Allocation	Total Attainment
2011	0.6	5.0	12%	33.3	121.8	27%	33.9	126.8	27%
2012	0.6	5.0	13%	39.5	110.6	36%	40.2	115.6	35%
2013	1.1	5.0	21%	34.3	112.3	31%	35.4	117.3	30%
2014	0.4	5.0	7%	28.3	112.3	25%	28.6	117.3	24%
2015	0.1	5.0	1%	36.0	89.5	40%	36.1	94.5	38%
2016	0.1	5.0	3%	35.6	95.7	37%	35.7	100.7	35%
2017	0.6	5.0	11%	36.5	84.3	43%	37.1	89.3	41%
2018	0.7	5.0	13%	33.1	84.9	39%	33.8	89.9	38%
2019	0.5	5.0	11%	31.3	74.6	42%	31.8	79.6	40%
2020	0.4	5.0	8%	27.2	76.1	36%	27.6	81.1	34%
2021	0.7	5.0	13%	33.5	82.4	41%	34.2	87.4	39%
2022	1.8	5.0	35%	35.0	109.5	32%	36.8	114.5	32%
2023	0.3	5.0	6%	27.1	110.1	25%	27.4	115.1	24%
2024	0.2	5.0	3%	15.0	105.0	14%	15.1	110.0	14%

Appendix A: Annual Tables

Annual Mortality and Attainment by Sector

Table 21: Annual Mortality, Allocation, and Attainment by Sector, 2011-2012

	2011								2012							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	2,571.9	12,441.0	21.0	71.8	655.0	11.0	95.0	5.0	2,491.4	9,472.0	26.0	42.7	499.0	9.0
Bocaccio Rockfish (South Of 40 10)	24.0	76.0	5.3	60.0	9.0	105.8	189.6	56.0	23.0	77.0	8.8	60.0	15.0	128.7	200.6	64.0
Canary Rockfish	41.6	36.3	4.2	34.1	12.0	41.6	29.8	140.0	40.0	34.3	7.6	34.8	22.0	29.0	29.8	97.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	317.4	1,475.0	22.0	6.0	492.0	1.0	75.0	25.0	288.1	1,331.0	22.0	8.7	443.0	2.0
Cowcod Rockfish (South Of 40 10)	66.7	33.3	0.0	1.8	0.0	1.3	0.9	144.0	66.7	33.3	0.1	1.8	6.0	0.7	0.9	78.0
Darkblotched Rockfish	95.0	5.0	102.9	265.0	39.0	16.0	14.0	114.0	95.0	5.0	93.1	263.0	35.0	9.1	14.0	65.0
Dover Sole	95.0	5.0	7,832.7	22,240.0	35.0	8.3	1,170.0	1.0	95.0	5.0	7,289.0	22,240.0	33.0	9.9	1,170.0	1.0
English Sole	95.0	5.0	137.6	18,678.0	1.0	0.0	983.0	0.0	95.0	5.0	147.1	9,548.0	2.0	0.3	503.0	0.0
Lingcod (North of 42)	45.0	55.0	262.1	927.0	28.0	267.7	1,132.0	24.0	45.0	55.0	337.8	846.0	40.0	330.6	1,034.0	32.0
Lingcod (South of 42)	45.0	55.0	7.4	943.0	1.0	255.0	1,152.0	22.0	45.0	55.0	19.9	971.0	2.0	314.4	1,186.0	27.0
Longnose Skate	95.0	5.0	819.0	1,159.0	71.0	88.2	61.0	145.0	95.0	5.0	921.7	1,159.0	80.0	66.6	61.0	109.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	948.8	1,971.0	48.0	7.7	104.0	7.0	95.0	5.0	896.8	1,919.0	47.0	6.0	101.0	6.0
Other Flatfish	90.0	10.0	705.1	4,217.0	17.0	93.6	469.0	20.0	90.0	10.0	694.3	4,217.0	16.0	80.6	469.0	17.0
Pacific Cod	95.0	5.0	258.0	1,140.0	23.0	4.3	60.0	7.0	95.0	5.0	396.2	1,140.0	35.0	2.8	60.0	5.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	54.1	137.0	39.0	0.6	7.0	9.0	95.0	5.0	57.5	137.0	42.0	0.3	7.0	4.0
Petrale Sole	96.2	3.8	812.4	876.0	93.0	1.7	35.0	5.0	96.8	3.2	1,056.5	1,060.0	100.0	1.7	35.0	5.0
Sablefish (South Of 36)	42.0	58.0	448.8	531.0	85.0	769.9	733.0	105.0	42.0	58.0	223.3	514.0	43.0	479.6	710.0	68.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	16.9	557.0	3.0	20.7	368.0	6.0	60.2	39.8	41.0	557.0	7.0	26.3	368.0	7.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	2.9	86.0	3.0	346.2	615.0	56.0	12.2	87.8	13.4	86.0	16.0	380.6	615.0	62.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	732.7	1,451.6	50.0	71.1	76.4	93.0	95.0	5.0	723.7	1,435.5	50.0	64.9	75.5	86.0
Shortspine Thornyhead (South Of 34 27)	NA	NA	8.4	50.0	17.0	182.6	313.0	58.0	NA	NA	1.0	50.0	2.0	128.0	309.0	41.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	235.7	885.0	27.0	66.4	207.0	32.0	81.0	19.0	297.5	885.0	34.0	126.5	207.0	61.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	52.0	377.0	14.0	139.5	222.0	63.0	63.0	37.0	122.8	377.0	33.0	130.6	222.0	59.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	39.5	1,381.3	3.0	0.1	72.7	0.0	95.0	5.0	59.8	1,454.5	4.0	0.3	76.5	0.0
Starry Flounder	50.0	50.0	8.7	672.5	1.0	1.4	672.5	0.0	50.0	50.0	8.3	676.5	1.0	1.0	676.5	0.0
Widow Rockfish	91.0	9.0	174.6	490.6	36.0	2.0	48.5	4.0	91.0	9.0	234.0	490.6	48.0	6.5	48.5	13.0
Yelloweye Rockfish	5.4	94.6	0.0	0.6	0.0	8.5	10.5	81.0	5.4	94.6	0.0	0.6	0.0	10.6	10.5	101.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	819.9	3,394.2	24.0	67.2	462.8	15.0	88.0	12.0	1,037.6	3,407.4	30.0	35.0	464.6	8.0

Table 22: Annual Mortality, Allocation, and Attainment by Sector, 2013-2014

	2013								2014							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	2,450.5	3,866.1	63.0	27.7	203.5	14.0	95.0	5.0	1,748.5	3,487.1	50.0	30.8	183.5	17.0
Bocaccio Rockfish (South Of 40 10)	24.0	76.0	12.9	74.9	17.0	135.0	236.7	57.0	24.0	76.0	19.7	79.0	25.0	82.3	249.6	33.0
Canary Rockfish	53.3	46.7	10.9	52.5	21.0	29.8	46.0	65.0	53.3	46.7	11.3	54.1	21.0	33.4	47.4	70.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	396.2	1,099.5	36.0	8.4	366.5	2.0	75.0	25.0	301.5	1,067.3	28.0	8.9	355.8	3.0
Cowcod Rockfish (South Of 40 10)	34.5	65.5	0.2	1.0	20.0	1.4	1.9	74.0	34.5	65.5	0.2	1.0	20.0	0.4	1.9	21.0
Darkblotched Rockfish	95.0	5.0	122.5	281.4	44.0	3.9	14.8	26.0	95.0	5.0	108.5	293.7	37.0	5.9	15.5	38.0
Dover Sole	95.0	5.0	7,978.3	22,239.5	36.0	6.9	1,170.5	1.0	95.0	5.0	6,495.4	22,239.5	29.0	5.5	1,170.5	0.0
English Sole	95.0	5.0	221.0	6,376.4	3.0	0.0	335.6	0.0	95.0	5.0	239.5	5,265.9	5.0	0.0	277.2	0.0
Lingcod (North Of 40 10)	45.0	55.0	332.4	1,241.2	27.0	463.6	1,517.1	31.0	45.0	55.0	231.7	1,170.1	20.0	445.8	1,430.2	31.0
Lingcod (South Of 40 10)	45.0	55.0	13.8	495.9	3.0	418.2	606.1	69.0	45.0	55.0	16.2	474.3	3.0	487.7	579.7	84.0
Longnose Skate	90.0	10.0	924.0	1,735.0	53.0	57.0	192.8	30.0	90.0	10.0	850.5	1,735.0	49.0	51.6	192.8	27.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	1,065.5	1,864.5	57.0	8.6	98.2	9.0	95.0	5.0	894.2	1,816.4	49.0	6.8	95.6	7.0
Other Flatfish	90.0	10.0	812.7	4,213.0	19.0	102.9	468.0	22.0	90.0	10.0	842.8	4,213.0	20.0	93.6	468.0	20.0
Pacific Cod	95.0	5.0	154.1	1,131.4	14.0	2.6	59.5	4.0	95.0	5.0	166.1	1,131.4	15.0	2.1	59.5	4.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	55.4	126.8	44.0	0.2	6.7	3.0	95.0	5.0	45.0	129.7	35.0	0.3	6.8	4.0
Petrale Sole	98.5	1.5	2,125.9	2,323.0	92.0	3.2	35.0	9.0	98.6	1.4	2,318.6	2,383.0	97.0	1.2	35.0	3.0
Sablefish (South Of 36)	42.0	58.0	86.9	602.3	14.0	532.0	831.7	64.0	42.0	58.0	198.5	653.1	30.0	484.9	901.9	54.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	30.6	543.0	6.0	20.6	359.0	6.0	60.2	39.8	34.8	543.0	6.0	17.0	359.0	5.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	20.8	81.0	26.0	397.7	587.0	68.0	12.2	87.8	10.1	81.0	12.0	317.5	587.0	54.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	862.7	1,406.7	61.0	61.4	74.0	83.0	95.0	5.0	708.4	1,392.5	51.0	53.8	73.3	73.0
Shortspine Thornyhead (South Of 34 27)	NA	NA	3.7	50.0	7.0	109.5	305.0	36.0	NA	NA	2.7	50.0	5.0	93.4	301.0	31.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	239.8	889.0	27.0	79.5	209.0	38.0	81.0	19.0	208.3	889.0	23.0	50.4	209.0	24.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	116.7	376.0	31.0	23.2	221.0	10.0	63.0	37.0	100.2	379.0	26.0	38.3	22.0	174.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	47.0	1,518.1	3.0	0.0	79.9	0.0	95.0	5.0	64.2	1,575.1	4.0	0.4	82.9	0.0
Starry Flounder	50.0	50.0	3.5	756.5	0.0	1.2	756.5	0.0	50.0	50.0	14.7	760.5	2.0	1.7	760.5	0.0
Widow Rockfish	91.0	9.0	442.8	1,283.8	34.0	19.4	127.0	15.0	91.0	9.0	710.7	1,283.8	55.0	16.3	127.0	13.0
Yelloweye Rockfish	8.2	91.8	0.1	1.0	10.0	9.2	11.2	82.0	8.2	91.8	0.1	1.0	10.0	8.2	11.2	73.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	965.6	3,235.3	30.0	41.5	441.2	9.0	88.0	12.0	1,205.1	3,238.8	37.0	56.2	441.7	13.0

Table 23: Annual Mortality, Allocation, and Attainment by Sector, 2015-2016

	2015								2016							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	1,735.5	3,239.1	54.0	22.8	170.5	13.0	95.0	5.0	1,426.4	3,078.6	46.0	31.1	162.0	19.0
Bocaccio Rockfish (South Of 40 10)	24.0	76.0	39.7	81.9	48.0	97.9	258.8	38.0	24.0	76.0	42.8	85.0	50.0	76.7	268.7	29.0
Canary Rockfish	53.3	46.7	45.1	56.9	79.0	56.3	49.9	113.0	53.3	46.7	20.2	58.5	35.0	47.4	51.3	92.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	192.2	1,203.0	16.0	7.0	401.0	2.0	75.0	25.0	75.1	1,196.3	6.0	5.9	398.8	1.0
Cowcod Rockfish (South Of 40 10)	35.0	65.0	0.3	1.4	21.0	0.4	2.6	15.0	35.0	65.0	0.3	1.4	21.0	0.7	2.6	27.0
Darkblotched Rockfish	95.0	5.0	130.8	301.3	43.0	3.6	15.9	23.0	95.0	5.0	124.8	308.9	40.0	4.2	16.3	26.0
Dover Sole	95.0	5.0	6,297.3	45,985.8	14.0	5.9	2,420.3	0.0	95.0	5.0	7,158.8	45,985.8	16.0	5.8	2,420.3	0.0
English Sole	95.0	5.0	328.8	9,158.2	4.0	0.0	482.0	0.0	95.0	5.0	377.3	6,641.6	6.0	0.0	349.6	0.0
Lingcod (North Of 40 10)	45.0	55.0	176.7	1,148.3	15.0	582.1	1,403.5	41.0	45.0	55.0	253.6	1,098.4	23.0	501.3	1,342.4	37.0
Lingcod (South Of 40 10)	45.0	55.0	29.0	447.7	6.0	682.7	547.2	125.0	45.0	55.0	21.0	421.6	5.0	654.6	515.3	127.0
Longnose Skate	90.0	10.0	778.9	1,734.3	45.0	58.0	192.7	30.0	90.0	10.0	824.0	1,734.3	48.0	80.4	192.7	42.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	756.3	2,967.3	25.0	6.6	156.2	4.0	95.0	5.0	652.6	2,820.1	23.0	9.0	148.4	6.0
Other Flatfish	90.0	10.0	841.5	7,690.5	11.0	45.9	854.5	5.0	90.0	10.0	857.0	6,335.1	14.0	38.1	703.9	5.0
Pacific Cod	95.0	5.0	377.2	1,036.0	36.0	6.1	55.0	11.0	95.0	5.0	385.0	1,036.0	37.0	9.4	55.0	17.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	58.3	135.9	43.0	0.2	7.2	3.0	95.0	5.0	64.8	141.6	46.0	0.3	7.5	4.0
Petrale Sole	98.6	1.4	2,499.6	2,544.4	98.0	3.9	35.0	11.0	98.7	1.3	2,475.0	2,638.4	94.0	5.5	35.0	16.0
Sablefish (South Of 36)	42.0	58.0	161.5	719.9	22.0	446.4	994.1	45.0	42.0	58.0	194.7	787.5	25.0	416.5	1,087.5	38.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	33.9	1,127.0	3.0	16.9	745.0	2.0	60.2	39.8	38.4	1,132.0	3.0	16.5	748.0	2.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	9.3	192.0	5.0	534.4	1,383.0	39.0	12.2	87.8	4.5	192.0	2.0	421.9	1,384.0	30.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	736.3	1,601.5	46.0	48.6	84.3	58.0	95.0	5.0	757.0	1,583.4	48.0	49.6	83.3	60.0
Shortspine Thornyhead (South Of 34 27)	NA	NA	0.7	50.0	1.0	78.6	831.0	9.0	NA	NA	1.6	50.0	3.0	111.6	851.0	13.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	263.7	1,319.0	20.0	74.7	309.0	24.0	81.0	19.0	232.3	1,330.0	17.0	80.7	312.0	26.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	69.1	424.0	16.0	30.5	249.0	12.0	63.0	37.0	49.7	425.0	12.0	30.2	250.0	12.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	28.8	1,619.3	2.0	0.1	85.2	0.0	95.0	5.0	13.1	1,648.7	1.0	0.0	86.8	0.0
Starry Flounder	50.0	50.0	6.4	761.9	1.0	1.1	761.9	0.0	50.0	50.0	12.7	764.4	2.0	0.3	764.4	0.0
Widow Rockfish	91.0	9.0	849.9	1,710.6	50.0	7.8	169.2	5.0	91.0	9.0	984.8	1,710.6	58.0	3.7	169.2	2.0
Yelloweye Rockfish	8.2	91.8	0.0	1.0	0.0	11.3	11.2	101.0	8.3	91.7	0.0	1.1	0.0	8.6	12.1	71.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	1,531.3	4,893.2	31.0	52.2	667.2	8.0	88.0	12.0	1,187.7	4,676.7	25.0	47.2	637.7	7.0

Table 24: Annual Mortality, Allocation, and Attainment by Sector, 2017-2018

	2017								2018							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	1,385.3	11,120.6	12.0	36.0	585.3	6.0	95.0	5.0	1,066.9	11,062.6	10.0	48.6	582.2	8.0
Big Skate	95.0	5.0	230.5	414.8	56.0	6.5	21.8	30.0	95.0	5.0	148.5	414.8	36.0	8.9	21.8	41.0
Bocaccio Rockfish (South Of 40 10)	39.0	61.0	87.4	302.4	29.0	130.9	472.2	28.0	39.0	61.0	176.5	283.3	62.0	128.5	442.3	29.0
Canary Rockfish	72.3	27.7	248.2	1,060.1	23.0	130.0	406.5	32.0	72.3	27.7	448.9	1,060.1	42.0	121.8	406.5	30.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	105.9	1,920.8	6.0	3.7	640.3	1.0	75.0	25.0	280.0	1,845.8	15.0	4.7	615.3	1.0
Cowcod Rockfish (South Of 40 10)	36.0	64.0	0.4	1.4	28.0	0.8	2.6	31.0	36.0	64.0	0.4	1.4	28.0	2.0	2.6	78.0
Darkblotched Rockfish	95.0	5.0	224.0	535.6	42.0	5.6	28.2	20.0	95.0	5.0	332.9	547.0	61.0	4.3	28.8	15.0
Dover Sole	95.0	5.0	7,340.4	45,986.0	16.0	6.3	2,420.3	0.0	95.0	5.0	6,376.0	45,986.0	14.0	5.4	2,420.3	0.0
English Sole	95.0	5.0	243.9	9,263.6	3.0	0.0	487.6	0.0	95.0	5.0	209.3	6,958.0	3.0	0.1	366.2	0.0
Lingcod (North Of 40 10)	45.0	55.0	607.5	1,374.7	44.0	517.5	1,680.2	31.0	45.0	55.0	432.1	1,274.3	34.0	539.2	1,557.5	35.0
Lingcod (South Of 40 10)	45.0	55.0	22.6	558.9	4.0	515.0	683.1	75.0	45.0	55.0	48.8	510.8	10.0	400.6	624.2	64.0
Longnose Skate	90.0	10.0	772.8	1,667.7	46.0	108.0	185.3	58.0	90.0	10.0	677.5	1,667.7	41.0	82.0	185.3	44.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	806.6	2,704.8	30.0	7.5	142.4	5.0	95.0	5.0	364.6	2,565.2	14.0	3.9	135.0	3.0
Other Flatfish	90.0	10.0	738.5	7,475.4	10.0	45.1	830.6	5.0	90.0	10.0	646.1	6,369.3	10.0	48.0	707.7	7.0
Pacific Cod	95.0	5.0	43.3	1,036.4	4.0	2.8	54.5	5.0	95.0	5.0	6.4	1,036.4	1.0	1.4	54.5	3.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	120.7	220.0	55.0	0.2	11.6	2.0	95.0	5.0	144.8	220.0	66.0	0.4	11.6	3.0
Petrale Sole	95.0	5.0	2,735.2	2,750.3	99.0	8.0	144.8	6.0	95.0	5.0	2,645.0	2,633.5	100.0	9.2	138.6	7.0
Sablefish (South Of 36)	42.0	58.0	113.7	814.4	14.0	351.0	1,124.6	31.0	42.0	58.0	44.2	814.4	5.0	406.4	1,124.6	36.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	256.6	1,183.1	22.0	28.5	782.1	4.0	60.2	39.8	293.1	1,181.8	25.0	29.5	781.4	4.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	1.9	192.2	1.0	540.5	1,383.6	39.0	12.2	87.8	5.7	192.4	3.0	523.6	1,384.4	38.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	771.2	1,571.3	49.0	64.0	82.7	77.0	95.0	5.0	697.6	1,557.0	45.0	65.8	81.9	80.0
Shortspine Thornyhead (South Of 34 27)	NA	NA	0.0	50.0	0.0	145.8	813.7	18.0	NA	NA	0.0	50.0	0.0	110.1	805.7	14.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	288.9	1,368.8	21.0	99.2	321.1	31.0	81.0	19.0	499.3	1,368.0	36.0	75.9	320.9	24.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	58.4	432.7	13.0	32.7	254.1	13.0	63.0	37.0	73.3	433.9	17.0	24.5	254.9	10.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	12.5	1,661.8	1.0	0.0	87.5	0.0	95.0	5.0	35.3	1,662.8	2.0	0.0	87.5	0.0
Starry Flounder	50.0	50.0	9.6	635.9	2.0	3.6	635.9	1.0	50.0	50.0	1.6	635.9	0.0	0.8	635.9	0.0
Widow Rockfish	91.0	9.0	6,342.7	12,094.2	52.0	9.5	1,196.1	1.0	91.0	9.0	10,522.6	11,317.9	93.0	33.2	1,119.4	3.0
Yelloweye Rockfish	7.5	89.7	0.1	1.1	9.0	16.9	13.1	129.0	7.8	91.9	0.1	1.1	9.0	16.0	12.9	125.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	2,734.4	4,546.1	60.0	64.4	619.9	10.0	88.0	12.0	3,315.8	4,375.4	76.0	77.4	596.6	13.0

Table 25: Annual Mortality, Allocation, and Attainment by Sector, 2019-2020

	2019								2020							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	884.5	12,805.1	7.0	69.2	674.0	10.0	95.0	5.0	634.9	10,122.3	6.0	27.8	532.8	5.0
Big Skate	95.0	5.0	147.2	429.5	34.0	10.4	22.6	46.0	95.0	5.0	102.6	429.5	24.0	2.2	22.6	10.0
Bocaccio Rockfish (South Of 40 10)	39.0	61.0	301.5	800.7	38.0	164.5	1,250.2	13.0	39.0	61.0	247.6	767.1	32.0	79.8	1,197.8	7.0
Canary Rockfish	72.3	27.7	426.8	999.6	43.0	138.8	383.3	36.0	72.3	27.7	339.5	940.3	36.0	141.3	360.6	39.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	386.2	1,838.3	21.0	19.8	612.8	3.0	75.0	25.0	644.6	1,743.8	37.0	20.3	581.3	3.0
Cowcod Rockfish (South Of 40 10)	36.0	64.0	0.8	2.2	37.0	4.1	3.8	107.0	36.0	64.0	0.8	2.2	37.0	5.0	3.8	130.0
Darkblotched Rockfish	95.0	5.0	406.2	694.6	58.0	5.0	36.6	14.0	95.0	5.0	321.9	742.1	43.0	2.8	39.1	7.0
Dover Sole	95.0	5.0	5,751.3	45,984.2	13.0	5.1	2,420.2	0.0	95.0	5.0	4,816.1	45,984.2	10.0	5.2	2,420.2	0.0
English Sole	95.0	5.0	205.0	9,380.1	2.0	0.0	493.7	0.0	95.0	5.0	128.1	9,422.9	1.0	0.0	495.9	0.0
Lingcod (North Of 40 10)	45.0	55.0	429.8	2,066.8	21.0	518.8	2,526.2	21.0	45.0	55.0	342.0	1,918.4	18.0	446.1	2,344.7	19.0
Lingcod (South Of 40 10)	45.0	55.0	80.2	462.5	17.0	311.2	565.2	55.0	45.0	55.0	56.9	386.0	15.0	231.0	471.7	49.0
Longnose Skate	90.0	10.0	603.1	1,666.5	36.0	64.3	185.2	35.0	90.0	10.0	511.0	1,666.5	31.0	40.7	185.2	22.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	266.2	2,425.0	11.0	2.1	127.6	2.0	95.0	5.0	120.8	2,298.6	5.0	1.9	121.0	2.0
Other Flatfish	90.0	10.0	491.8	5,623.7	9.0	32.3	624.9	5.0	90.0	10.0	469.8	5,212.4	9.0	18.4	579.1	3.0
Pacific Cod	95.0	5.0	5.6	1,039.1	1.0	1.3	54.7	2.0	95.0	5.0	3.2	1,039.1	0.0	2.0	54.7	4.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	605.5	4,101.7	15.0	0.2	215.9	0.0	95.0	5.0	538.9	3,996.3	13.0	0.2	210.3	0.0
Petrale Sole	95.0	5.0	2,378.0	2,458.0	97.0	14.1	129.4	11.0	95.0	5.0	2,115.5	2,398.2	88.0	8.8	126.2	7.0
Sablefish (South Of 36)	42.0	58.0	84.8	834.0	10.0	362.6	1,151.8	31.0	42.0	58.0	61.9	851.7	7.0	264.7	1,176.1	23.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	610.9	1,189.6	51.0	36.5	786.5	5.0	60.2	39.8	570.2	1,186.6	48.0	27.5	784.5	4.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	16.7	188.6	9.0	739.1	1,357.3	54.0	12.2	87.8	21.8	188.6	12.0	361.8	1,357.3	27.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	608.7	1,536.8	40.0	50.3	80.9	62.0	95.0	5.0	374.4	1,523.5	25.0	33.5	80.2	42.0
Shortspine Thornyhead (South Of 34 27)	NA	NA	0.0	50.0	0.0	83.4	838.8	10.0	NA	NA	0.0	50.0	0.0	51.6	831.8	6.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	478.5	1,348.8	35.0	94.9	316.4	30.0	81.0	19.0	299.3	1,337.5	22.0	39.2	313.7	12.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	51.3	456.0	11.0	28.8	267.8	11.0	63.0	37.0	44.0	455.4	10.0	23.3	267.4	9.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	7.1	1,646.7	0.0	0.0	86.7	0.0	95.0	5.0	16.7	1,628.7	1.0	0.0	85.7	0.0
Starry Flounder	50.0	50.0	0.1	216.6	0.0	1.3	216.6	1.0	50.0	50.0	0.2	216.6	0.0	0.3	216.6	0.0
Widow Rockfish	91.0	9.0	9,523.2	10,540.2	90.0	29.3	1,042.4	3.0	91.0	9.0	8,418.6	9,965.0	84.0	9.8	985.6	1.0
Yelloweye Rockfish	8.0	92.0	0.5	3.4	15.0	19.3	38.6	50.0	8.0	92.0	0.4	3.4	12.0	12.7	39.5	32.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	3,506.1	4,605.8	76.0	84.2	628.1	13.0	88.0	12.0	3,555.8	4,348.0	82.0	101.8	592.9	17.0

Table 26: Annual Mortality, Allocation, and Attainment by Sector, 2021-2022

	2021								2022							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	746.1	7,446.0	10.0	28.1	391.9	7.0	95.0	5.0	776.0	6,044.8	13.0	26.2	318.1	8.0
Big Skate	95.0	5.0	189.1	1,348.7	14.0	2.7	71.0	4.0	95.0	5.0	125.0	1,265.1	10.0	5.8	66.6	9.0
Bocaccio Rockfish (South Of 40 10)	39.0	61.0	254.1	663.8	38.0	112.6	1,036.4	11.0	39.0	61.0	360.6	654.4	55.0	150.8	1,021.8	15.0
Canary Rockfish	72.3	27.7	374.0	917.0	41.0	179.9	351.6	51.0	72.3	27.7	498.1	894.6	56.0	187.0	343.1	55.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	710.9	1,695.2	42.0	32.3	565.1	6.0	75.0	25.0	766.4	1,621.0	47.0	44.2	540.3	8.0
Cowcod Rockfish (South Of 40 10)	36.0	64.0	1.9	18.0	11.0	10.6	32.0	33.0	36.0	64.0	0.8	18.0	4.0	0.9	32.0	3.0
Darkblotched Rockfish	95.0	5.0	299.3	819.8	37.0	4.1	43.1	10.0	95.0	5.0	336.4	771.3	44.0	4.1	40.6	10.0
Dover Sole	95.0	5.0	4,027.1	45,982.7	9.0	2.3	2,420.1	0.0	95.0	5.0	4,636.8	45,982.7	10.0	3.1	2,420.1	0.0
English Sole	95.0	5.0	231.7	8,478.2	3.0	0.1	446.2	0.0	95.0	5.0	309.3	8,407.9	4.0	0.0	442.5	0.0
Lingcod (North Of 40 10)	45.0	55.0	346.2	2,290.8	15.0	474.9	2,799.8	17.0	45.0	55.0	272.2	2,105.8	13.0	582.7	2,573.8	23.0
Lingcod (South Of 40 10)	40.0	60.0	43.6	435.6	10.0	266.0	653.4	41.0	40.0	60.0	50.6	463.6	11.0	268.6	695.4	39.0
Longnose Skate	90.0	10.0	573.3	1,414.4	41.0	39.2	157.2	25.0	90.0	10.0	554.5	1,358.6	41.0	32.6	151.0	22.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	73.0	2,451.3	3.0	2.1	129.0	2.0	95.0	5.0	74.5	2,278.4	3.0	2.3	119.9	2.0
Other Flatfish	90.0	10.0	455.6	4,123.0	11.0	19.4	458.1	4.0	90.0	10.0	441.5	4,155.4	11.0	38.3	461.7	8.0
Pacific Cod	95.0	5.0	1.4	1,039.2	0.0	2.3	54.7	4.0	95.0	5.0	18.4	1,039.2	2.0	2.8	54.7	5.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	494.2	3,637.7	14.0	0.1	191.5	0.0	95.0	5.0	399.2	3,501.9	11.0	0.1	184.3	0.0
Petrale Sole	NA	NA	2,816.6	3,697.9	76.0	8.1	30.0	27.0	NA	NA	2,997.2	3,242.5	92.0	11.8	30.0	39.0
Sablefish (South Of 36)	42.0	58.0	80.8	786.1	10.0	177.1	1,085.5	16.0	42.0	58.0	98.1	748.3	13.0	187.7	1,033.3	18.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	421.9	866.0	49.0	33.3	572.5	6.0	60.2	39.8	316.7	829.3	38.0	32.4	548.3	6.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	28.8	159.2	18.0	516.3	1,146.0	45.0	12.2	87.8	15.9	158.0	10.0	489.4	1,137.2	43.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	402.4	1,282.1	31.0	34.8	67.5	52.0	95.0	5.0	613.9	1,248.9	49.0	27.3	65.7	42.0
Shortspine Thornyhead (South Of 34 27)	0.1	99.9	0.0	0.5	0.0	40.6	748.8	5.0	0.1	99.9	0.0	50.0	0.0	32.6	680.3	5.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	459.8	1,238.6	37.0	47.7	290.5	16.0	81.0	19.0	431.2	1,216.7	35.0	41.7	285.4	15.0
Slope Rockfish South (South Of 40 10)	NA	NA	48.0	526.4	9.0	32.8	143.7	23.0	NA	NA	66.2	523.9	13.0	34.8	142.2	24.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	19.5	1,565.2	1.0	0.0	82.4	0.0	95.0	5.0	27.7	1,531.0	2.0	0.0	80.6	0.0
Starry Flounder	50.0	50.0	0.1	171.8	0.0	0.2	171.8	0.0	50.0	50.0	0.1	171.8	0.0	0.2	171.8	0.0
Widow Rockfish	NA	NA	10,869.3	14,076.7	77.0	11.7	400.0	3.0	NA	NA	12,119.5	13,139.7	92.0	21.1	400.0	5.0
Yelloweye Rockfish	8.0	92.0	0.4	3.3	12.0	13.4	37.9	35.0	8.0	92.0	0.7	3.4	21.0	26.1	38.8	67.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	2,778.1	4,411.1	63.0	99.3	601.5	17.0	88.0	12.0	2,957.1	4,218.2	70.0	129.3	575.2	22.0

Table 27: Annual Mortality, Allocation, and Attainment by Sector, 2023-2024

	2023								2024							
	Trawl	Non-Trawl	Trawl			Non-Trawl			Trawl	Non-Trawl	Trawl			Non-Trawl		
Species/Stock Complex	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain	Percent	Percent	Mort	Alloc	Attain	Mort	Alloc	Attain
Arrowtooth Flounder	95.0	5.0	843.6	15,710.2	5.0	24.6	826.9	3.0	95.0	5.0	754.9	11,478.9	7.0	35.7	604.2	6.0
Big Skate	95.0	5.0	92.2	1,197.2	8.0	8.0	63.0	13.0	95.0	5.0	68.0	1,146.8	6.0	29.1	60.4	48.0
Bocaccio Rockfish (South Of 40 10)	39.0	61.0	261.1	700.3	37.0	339.9	1,093.5	31.0	39.0	61.0	521.8	694.9	75.0	278.5	1,085.0	26.0
Canary Rockfish	72.3	27.7	534.4	917.6	58.0	181.9	351.6	52.0	72.3	27.7	417.3	887.4	47.0	148.3	340.0	44.0
Chilipepper Rockfish (South Of 40 10)	75.0	25.0	948.3	1,563.8	61.0	242.6	521.3	47.0	75.0	25.0	977.2	1,517.6	64.0	160.7	505.9	32.0
Cowcod Rockfish (South Of 40 10)	36.0	64.0	1.8	24.8	7.0	12.6	44.1	29.0	36.0	64.0	3.1	24.4	13.0	5.5	43.4	13.0
Darkblotched Rockfish	95.0	5.0	284.4	756.4	38.0	3.6	39.8	9.0	95.0	5.0	341.5	720.7	47.0	3.1	37.9	8.0
Dover Sole	95.0	5.0	3,776.9	45,982.7	8.0	2.1	2,420.1	0.0	95.0	5.0	3,081.2	45,982.7	7.0	2.8	2,420.1	0.0
English Sole	95.0	5.0	250.9	8,320.6	3.0	0.0	437.9	0.0	95.0	5.0	236.8	8,265.5	3.0	6.9	435.0	2.0
Lingcod (North Of 40 10)	45.0	55.0	392.4	1,844.3	21.0	578.0	2,254.1	26.0	45.0	55.0	430.2	1,608.5	27.0	577.0	1,965.9	29.0
Lingcod (South Of 40 10)	40.0	60.0	50.1	284.2	18.0	195.6	426.3	46.0	40.0	60.0	64.3	282.6	23.0	208.6	423.9	49.0
Longnose Skate	90.0	10.0	528.2	1,311.0	40.0	67.1	145.7	46.0	90.0	10.0	519.8	1,267.8	41.0	47.6	140.9	34.0
Longspine Thornyhead (North Of 34 27)	95.0	5.0	28.9	2,129.2	1.0	3.1	112.1	3.0	95.0	5.0	23.1	2,002.9	1.0	2.7	105.4	3.0
Other Flatfish	90.0	10.0	360.6	4,177.1	9.0	52.0	464.1	11.0	90.0	10.0	351.2	4,187.9	8.0	45.7	465.3	10.0
Pacific Cod	95.0	5.0	39.1	1,039.3	4.0	4.6	54.7	8.0	95.0	5.0	36.1	1,039.3	3.0	2.8	54.7	5.0
Pacific Ocean Perch (North Of 40 10)	95.0	5.0	309.0	3,256.1	9.0	0.1	171.4	0.0	95.0	5.0	355.4	3,132.6	11.0	0.1	164.9	0.0
Petrale Sole	NA	NA	2,781.1	3,068.8	91.0	30.3	30.0	101.0	NA	NA	2,512.9	2,868.8	88.0	27.1	30.0	90.0
Sablefish (South Of 36)	42.0	58.0	96.2	993.1	10.0	194.0	1,371.5	14.0	42.0	58.0	88.1	909.6	10.0	191.4	1,256.0	15.0
Shelf Rockfish North (North Of 40 10)	60.2	39.8	273.5	729.5	37.0	39.8	482.3	8.0	60.2	39.8	258.1	726.6	36.0	44.6	480.4	9.0
Shelf Rockfish South (South Of 40 10)	12.2	87.8	48.8	162.3	30.0	866.9	1,168.3	74.0	12.2	87.8	39.8	162.4	24.0	485.1	1,168.5	42.0
Shortspine Thornyhead (North Of 34 27)	95.0	5.0	367.1	1,216.7	30.0	33.8	64.0	53.0	95.0	5.0	505.6	1,187.2	43.0	38.7	62.5	62.0
Shortspine Thornyhead (South Of 34 27)	0.1	99.9	0.0	50.0	0.0	28.5	662.3	4.0	0.1	99.9	0.0	50.0	0.0	37.6	645.3	6.0
Slope Rockfish North (North Of 40 10)	81.0	19.0	320.7	1,194.4	27.0	44.7	280.2	16.0	81.0	19.0	327.3	1,175.0	28.0	39.9	275.6	14.0
Slope Rockfish South (South Of 40 10)	63.0	37.0	29.0	417.1	7.0	53.8	245.0	22.0	63.0	37.0	45.3	414.6	11.0	79.3	243.5	33.0
Splitnose Rockfish (South Of 40 10)	95.0	5.0	36.6	1,494.7	2.0	0.0	78.7	0.0	95.0	5.0	30.9	1,457.6	2.0	0.1	76.7	0.0
Starry Flounder	50.0	50.0	0.2	171.9	0.0	0.2	171.9	0.0	50.0	50.0	0.1	171.9	0.0	9.8	171.9	6.0
Widow Rockfish	NA	NA	10,995.2	11,985.7	92.0	28.0	400.0	7.0	NA	NA	9,712.0	10,843.7	90.0	27.5	400.0	7.0
Yelloweye Rockfish	8.0	92.0	0.4	3.3	12.0	25.7	38.3	67.0	8.0	92.0	0.6	3.4	17.0	21.6	39.2	55.0
Yellowtail Rockfish (North Of 40 10)	88.0	12.0	3,162.2	4,081.8	77.0	180.8	556.6	32.0	88.0	12.0	2,589.1	3,751.7	69.0	129.5	511.6	25.0

Annual Commercial Landings by Port Group

Table 28: Annual Commercial Landings by IOPAC Port Group and Sector, 2011-2015

	2011		2012		2013		2014		2015	
IOPAC Port Group	Non-Trawl[1]	Trawl[1]	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	C	C	C	C	23.3	C	17.0	C	23.9	C
NORTH WA COAST	19.9	0.0	28.3	0.0	24.8	0.0	15.9	0.0	17.3	0.0
SOUTH AND CENTRAL WA COAST	27.5	1,199.6	24.3	1,717.1	11.2	972.5	16.5	750.5	17.3	346.5
ASTORIA	3.5	6,392.8	5.3	6,211.6	4.9	7,380.4	C	6,657.5	2.0	7,621.1
TILLAMOOK	5.5	0.0	10.2	0.0	11.1	0.0	14.0	0.0	20.9	0.0
NEWPORT	22.0	884.3	32.0	1,045.5	25.3	1,627.9	14.2	1,624.0	29.5	2,405.8
COOS BAY	26.5	1,817.1	18.9	1,830.3	15.5	C	11.7	C	26.8	C
BROOKINGS	49.7	C	40.9	C	51.1	1,165.8	37.8	1,197.7	54.7	893.3
CRESCENT CITY	5.9	C	5.5	C	4.9	C	5.9	C	12.6	0.0
EUREKA	10.2	1,832.0	6.3	1,618.4	4.4	2,110.0	6.4	1,947.6	19.0	2,212.0
FORT BRAGG	15.4	1,155.6	22.8	1,055.2	14.9	1,325.9	17.8	1,240.0	24.2	1,341.3
BODEGA BAY	1.8	C	3.1	C	4.5	0.0	4.6	0.0	9.7	0.0
SAN FRANCISCO	8.2	313.8	7.7	242.3	6.9	553.7	11.6	262.6	16.8	C
MONTEREY	24.5	276.1	27.3	410.6	27.7	158.0	38.7	490.3	46.4	C
SANTA BARBARA	307.3	0.0	223.2	0.0	222.9	0.0	207.6	C	217.7	C
LOS ANGELES	146.9	0.0	118.8	0.0	87.6	0.0	89.1	0.0	63.0	0.0
SAN DIEGO	107.0	0.0	126.8	0.0	87.3	0.0	114.1	0.0	132.8	0.0
MORRO BAY	523.5	610.6	258.5	765.7	317.7	392.0	255.3	C	212.9	C

[1]Excludes lingcod N in average due to different management line in 2011-2012

Table 29: Annual Commercial Landings by IOPAC Port Group and Sector, 2016-2019

	2016		2017		2018		2019	
IOPAC Port Group	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	C	C	C	C	C	C	C	C
NORTH WA COAST	27.7	0.0	24.2	0.0	25.8	C	13.4	0.0
SOUTH AND CENTRAL WA COAST	20.3	264.3	17.6	879.7	12.0	C	12.5	2,620.4
ASTORIA	7.6	7,870.0	8.5	11,275.6	4.5	11,139.6	6.0	11,217.6
TILLAMOOK	13.9	0.0	21.8	0.0	18.1	0.0	17.2	0.0
NEWPORT	30.7	2,563.0	39.8	4,682.4	26.0	6,094.9	32.4	5,168.7
COOS BAY	20.4	C	29.7	C	21.9	C	24.3	C
BROOKINGS	49.4	C	58.2	C	73.1	C	74.9	C
CRESCENT CITY	9.5	C	13.0	C	10.3	C	12.6	0.0
EUREKA	15.8	2,139.8	14.7	C	24.5	2,943.3	19.5	2,720.3
FORT BRAGG	22.9	771.1	27.1	849.8	32.8	C	29.4	C
BODEGA BAY	8.3	0.0	6.8	0.0	9.5	0.0	9.0	0.0
SAN FRANCISCO	11.1	C	13.9	265.6	12.0	403.8	11.2	348.1
MONTEREY	29.4	C	38.8	17.2	34.7	C	51.2	0.0
SANTA BARBARA	291.5	0.0	316.8	0.0	355.4	0.0	322.2	0.0
LOS ANGELES	54.2	0.0	59.5	0.0	48.9	0.0	57.5	0.0
SAN DIEGO	102.5	0.0	86.5	0.0	65.4	0.0	70.8	0.0
MORRO BAY	163.7	C	150.9	C	162.0	80.4	96.7	C

Table 30: Annual Commercial Landings by IOPAC Port Group and Sector, 2020-2024

	2020		2021		2022		2023	
IOPAC Port Group	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	19.7	C	C	C	C	C	26.1	C
NORTH WA COAST	4.0	0.0	6.9	0.0	5.4	0.0	4.0	0.0
SOUTH AND CENTRAL WA COAST	17.2	C	12.7	C	9.0	C	15.6	C
ASTORIA	8.0	11,050.6	4.0	10,864.9	3.8	10,463.5	12.1	9,651.8
TILLAMOOK	13.0	0.0	12.2	0.0	13.6	0.0	15.7	0.0
NEWPORT	34.1	3,298.7	40.9	5,521.6	53.7	7,406.0	57.0	7,245.5
COOS BAY	10.6	C	17.1	C	31.0	C	26.6	C
BROOKINGS	62.6	C	66.6	420.1	93.4	C	68.3	C
CRESCENT CITY	16.3	0.0	24.1	C	31.6	C	14.8	0.0
EUREKA	31.0	C	36.8	C	35.8	C	30.5	1,894.0
FORT BRAGG	29.3	C	32.4	C	35.0	1,909.2	39.9	1,624.1
BODEGA BAY	12.1	0.0	11.8	0.0	38.0	0.0	61.9	0.0
SAN FRANCISCO	21.9	224.5	16.3	374.9	26.2	176.4	28.3	203.1
MONTEREY	61.0	C	77.9	C	61.7	C	81.2	C
SANTA BARBARA	219.7	0.0	175.2	0.0	179.9	0.0	185.7	0.0
LOS ANGELES	55.4	0.0	45.4	0.0	35.5	0.0	26.1	0.0
SAN DIEGO	64.9	0.0	44.4	0.0	40.9	0.0	60.9	0.0
MORRO BAY	73.5	C	81.4	C	108.4	C	131.0	C

Annual Commercial Revenues by Port Group

Table 31: Annual Commercial Revenue (1000s of 2024$) by IOPAC Port Group and Sector, 2011-2015

	2011		2012		2013		2014		2015	
IOPAC Port Group	Non-Trawl[1]	Trawl[1]	Non-Trawl[1]	Trawl[1]	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	C	C	C	C	$36	C	$28	C	$34	C
NORTH WA COAST	$37	$0	$61	$0	$46	$0	$29	$0	$34	$0
SOUTH AND CENTRAL WA COAST	$42	$1,317	$42	$2,112	$18	$1,456	$25	$1,216	$24	$423
ASTORIA	$7	$7,930	$12	$8,781	$9	$10,530	C	$9,630	$5	$11,643
TILLAMOOK	$40	$0	$71	$0	$75	$0	$100	$0	$153	$0
NEWPORT	$107	$1,240	$132	$1,469	$102	$2,433	$75	$2,282	$156	$3,328
COOS BAY	$73	$2,481	$66	$2,611	$71	C	$61	C	$155	C
BROOKINGS	$227	C	$230	C	$311	$1,620	$219	$1,735	$347	$1,339
CRESCENT CITY	$35	C	$30	C	$29	C	$37	C	$79	$0
EUREKA	$25	$2,535	$21	$2,362	$21	$3,323	$35	$3,143	$109	$3,528
FORT BRAGG	$70	$1,856	$93	$1,765	$82	$2,210	$111	$2,219	$130	$2,458
BODEGA BAY	$13	C	$27	C	$35	$0	$35	$0	$80	$0
SAN FRANCISCO	$75	$598	$69	$530	$68	$1,062	$106	$511	$150	C
MONTEREY	$159	$569	$160	$575	$204	$386	$284	$1,029	$382	C
SANTA BARBARA	$2,511	$0	$2,146	$0	$2,045	$0	$1,913	C	$2,192	C
LOS ANGELES	$1,387	$0	$1,091	$0	$800	$0	$801	$0	$536	$0
SAN DIEGO	$894	$0	$1,053	$0	$1,030	$0	$920	$0	$890	$0
MORRO BAY	$3,670	$3,481	$1,758	$2,352	$2,466	$1,352	$1,995	C	$1,625	C

[1]Excludes lingcod N in average due to different management line in 2011-2012

Table 32: Annual Commercial Revenue (1000s of 2024$) by IOPAC Port Group and Sector, 2016-2019

	2016		2017		2018		2019	
IOPAC Port Group	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	C	C	C	C	C	C	C	C
NORTH WA COAST	$58	$0	$40	$0	$42	C	$27	$0
SOUTH AND CENTRAL WA COAST	$35	$202	$29	$420	$24	C	$33	$1,434
ASTORIA	$19	$11,944	$20	$13,236	$16	$11,704	$18	$11,939
TILLAMOOK	$105	$0	$161	$0	$129	$0	$122	$0
NEWPORT	$167	$3,789	$192	$5,642	$158	$6,533	$208	$5,528
COOS BAY	$83	C	$138	C	$87	C	$102	C
BROOKINGS	$306	C	$392	C	$472	C	$507	C
CRESCENT CITY	$60	C	$85	C	$65	C	$73	$0
EUREKA	$80	$3,385	$74	C	$141	$4,495	$129	$4,168
FORT BRAGG	$154	$1,301	$165	$1,510	$238	C	$210	C
BODEGA BAY	$75	$0	$74	$0	$81	$0	$75	$0
SAN FRANCISCO	$102	C	$124	$440	$108	$595	$110	$503
MONTEREY	$258	C	$396	$71	$384	C	$474	$0
SANTA BARBARA	$3,396	$0	$4,158	$0	$3,959	$0	$3,351	$0
LOS ANGELES	$552	$0	$660	$0	$509	$0	$582	$0
SAN DIEGO	$720	$0	$833	$0	$601	$0	$670	$0
MORRO BAY	$1,219	C	$1,188	C	$1,201	$305	$762	C

Table 33: Annual Commercial Revenue (1000s of 2024$) by IOPAC Port Group and Sector, 2020-2024

	2020		2021		2022		2023		2024	
IOPAC Port Group	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl	Non-Trawl	Trawl
PUGET SOUND	$23	C	C	C	C	C	$49	C	C	C
NORTH WA COAST	$8	$0	$14	$0	$10	$0	$6	$0	$2	$0
SOUTH AND CENTRAL WA COAST	$36	C	$41	C	$18	C	$29	C	$27	C
ASTORIA	$21	$9,708	$6	$9,918	$5	$10,509	$20	$9,832	$24	$11,569
TILLAMOOK	$89	$0	$85	$0	$97	$0	$102	$0	$120	$0
NEWPORT	$207	$2,955	$255	$4,541	$325	$6,266	$327	$5,967	$289	C
COOS BAY	$68	C	$86	C	$153	C	$110	C	$65	C
BROOKINGS	$416	C	$422	$490	$583	C	$409	C	$297	C
CRESCENT CITY	$111	$0	$146	C	$187	C	$82	$0	$16	$0
EUREKA	$220	C	$232	C	$210	C	$153	$2,050	$199	C
FORT BRAGG	$194	C	$229	C	$274	$2,845	$258	$2,473	$157	$2,457
BODEGA BAY	$84	$0	$87	$0	$204	$0	$279	$0	$203	$0
SAN FRANCISCO	$125	$317	$194	$419	$297	$259	$248	$326	$90	$275
MONTEREY	$477	C	$506	C	$358	C	$390	C	$597	C
SANTA BARBARA	$2,093	$0	$1,680	$0	$1,733	$0	$1,741	$0	$1,967	$0
LOS ANGELES	$502	$0	$372	$0	$297	$0	$209	$0	$170	$0
SAN DIEGO	$586	$0	$399	$0	$361	$0	$560	$0	$568	$0
MORRO BAY	$517	C	$531	C	$692	C	$894	C	$1,129	C

Annual Recreational Landings by Port Group

Table 34: Annual Recreational Groundfish Landings by IOPAC Port Group, 2011-2015

RecFIN Port Name	2011	2012	2013	2014	2015
WASHINGTON					
SEKIU	0.0	0.0	0.0	0.0	0.0
NEAH BAY	63.9	54.3	74.8	81.3	49.6
LA PUSH	51.8	49.1	35.6	43.2	34.0
OCEAN SHORES	0.0	0.0	0.0	0.0	0.0
WESTPORT	240.5	179.7	161.9	228.0	190.4
TOKELAND	0.0	0.0	0.0	0.0	0.0
ILWACO	19.3	14.0	13.8	13.9	9.0
CHINOOK	1.0	1.0	0.3	0.2	0.2
COLUMBIA RIVER NORTH JETTY	0.1	0.0	0.0	0.1	0.0
OREGON					
ASTORIA	2.8	2.7	1.9	1.6	1.3
GARIBALDI	31.2	47.8	80.2	51.0	79.8
PACIFIC CITY	14.0	22.6	25.3	21.8	22.6
DEPOE BAY	43.2	62.3	81.6	68.4	87.3
NEWPORT	55.6	63.8	97.5	64.2	70.2
FLORENCE	0.1	0.0	0.0	0.0	0.0
WINCHESTER BAY	0.1	0.1	0.2	0.2	0.1
CHARLESTON	37.0	61.4	82.3	61.7	97.6
BANDON	10.6	19.0	19.8	12.7	18.4
PORT ORFORD	7.8	4.5	3.5	2.9	2.7
GOLD BEACH	12.6	23.2	25.9	27.0	34.3
BROOKINGS	31.7	31.7	60.2	59.5	107.6
CALIFORNIA					
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	85.2	100.4	113.1	139.3	232.0
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	67.1	85.5	102.7	109.1	225.4
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	168.8	196.1	302.3	373.6	593.9
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	333.2	386.1	494.3	594.7	747.9
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	319.7	361.8	422.7	310.0	422.4
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	454.2	497.3	611.4	335.4	400.1

Table 35: Annual Recreational Groundfish Landings by IOPAC Port Group, 2016-2019

RecFIN Port Name	2016	2017	2018	2019
WASHINGTON				
SEKIU	0.0	0.0	0.0	0.0
NEAH BAY	86.3	72.1	62.9	105.0
LA PUSH	52.7	45.0	45.2	73.9
OCEAN SHORES	0.0	0.0	0.0	0.0
WESTPORT	274.9	275.4	229.8	279.2
TOKELAND	0.0	0.0	0.0	0.0
ILWACO	17.5	22.2	25.2	20.0
CHINOOK	0.1	0.2	0.6	0.6
COLUMBIA RIVER NORTH JETTY	0.1	0.1	0.0	0.0
OREGON				
ASTORIA	1.9	4.0	2.0	1.8
GARIBALDI	47.4	56.7	121.8	95.3
PACIFIC CITY	18.2	29.5	27.0	19.6
DEPOE BAY	62.8	98.3	128.1	78.8
NEWPORT	63.3	85.9	108.4	87.6
FLORENCE	0.0	0.1	0.2	0.0
WINCHESTER BAY	0.3	0.2	12.4	15.9
CHARLESTON	47.8	76.3	94.1	87.6
BANDON	20.0	26.9	26.6	22.2
PORT ORFORD	1.5	1.6	1.9	2.1
GOLD BEACH	25.1	34.7	41.1	49.5
BROOKINGS	44.2	53.4	60.0	38.0
CALIFORNIA				
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	141.1	144.0	141.3	125.4
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	171.5	179.3	158.6	153.8
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	392.2	524.6	486.9	534.9
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	629.7	843.6	662.0	631.8
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	557.8	323.1	380.9	422.2
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	391.7	415.9	327.0	559.8

Table 36: Annual Recreational Groundfish Landings by IOPAC Port Group, 2020-2024

RecFIN Port Name	2020	2021	2022	2023	2024
WASHINGTON					
SEKIU	43.9	83.7	0.0	0.0	0.0
NEAH BAY	0.0	0.0	132.1	121.7	164.0
LA PUSH	0.6	35.1	93.3	73.3	66.1
OCEAN SHORES	0.0	0.5	0.0	0.0	0.0
WESTPORT	280.0	393.2	525.0	391.4	389.5
TOKELAND	0.0	0.0	0.0	0.0	0.0
ILWACO	44.7	44.6	47.1	40.3	61.1
CHINOOK	1.9	0.7	1.0	1.0	0.7
COLUMBIA RIVER NORTH JETTY	0.1	0.1	1.7	0.2	0.2
OREGON					
ASTORIA	7.0	2.5	5.4	14.2	11.1
GARIBALDI	89.9	79.4	75.6	103.1	79.5
PACIFIC CITY	26.1	22.5	24.7	33.5	37.3
DEPOE BAY	90.7	82.2	80.5	109.5	102.1
NEWPORT	69.0	69.9	112.7	128.0	136.5
FLORENCE	0.0	0.0	0.4	0.0	0.0
WINCHESTER BAY	59.6	23.8	69.7	101.5	91.6
CHARLESTON	112.5	84.6	148.4	116.1	61.3
BANDON	15.5	16.9	20.5	23.7	23.9
PORT ORFORD	1.5	2.0	3.2	2.3	2.0
GOLD BEACH	38.6	27.2	27.7	23.9	22.5
BROOKINGS	51.8	40.9	67.7	46.6	42.7
CALIFORNIA					
REDWOOD (HUMBOLDT COUNTY, EXCEPT SHELTER COVER AREA, AND DEL NORTE COUNTY)	107.7	77.0	135.4	103.1	91.3
WINE (MENDOCINO COUNTY AND SHELTER COVE AREA IN HUMBOLDT COUNTY)	131.3	196.4	251.7	201.4	128.0
BAY AREA (SONOMA, MARIN, SOLANO, NAPA, CONTRA COSTA, ALAMEDA, SANTA CLARA, SAN MATEO, SAN FRANCISCO COUNTIES)	280.4	492.9	528.9	671.1	359.3
CENTRAL (SAN LUIS OBISPO, MONTEREY AND SANTA CRUZ COUNTIES)	436.2	477.6	297.2	1,009.4	442.1
CHANNEL (VENTURA AND SANTA BARBARA COUNTIES)	84.7	168.5	240.4	385.9	308.2
SOUTH (SAN DIEGO, ORANGE AND LOS ANGELES COUNTIES)	138.9	230.6	228.0	613.4	475.6

Appendix B: FMP Goals and Objectives

The Council is committed to developing long-range plans for managing the Washington, Oregon, and California groundfish fisheries that will promote a stable planning environment for the seafood industry, including marine recreation interests, and will maintain the health of the resource and environment. In developing allocation and harvesting systems, the Council will give consideration to maximizing economic benefits to the United States, consistent with resource stewardship responsibilities for the continuing welfare of the living marine resources. Thus, management must be flexible enough to meet changing social and economic needs of the fishery as well as to address fluctuations in the marine resources supporting the fishery. The following goals have been established in order of priority for managing the west coast groundfish fisheries, to be considered in conjunction with the national standards of the Magnuson-Stevens Act.

Management Goals

Goal 1 - Conservation. Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.

Goal 2 - Economics. Maximize the value of the groundfish resource as a whole.

Goal 3 - Utilization. Within the constraints of overfished species rebuilding requirements, achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Objectives

To accomplish these management goals, a number of objectives will be considered and followed as closely as practicable:

Conservation

Objective 1. Maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.

Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group. Achieve a level of harvest capacity in the fishery that is appropriate for a sustainable harvest and low discard rates, and which results in a fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.

Objective 3. For species or species groups that are overfished, develop a plan to rebuild the stock as soon as possible, taking into account the status and biology of the stock, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem.

Objective 4. Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the bycatch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.

Objective 5. Describe and identify EFH, adverse impacts on EFH, and other actions to conserve and enhance EFH, and adopt management measures that minimize, to the extent practicable, adverse impacts from fishing on EFH.

Economics

Objective 6. Within the constraints of the conservation goals and objectives of the FMP, attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.

Objective 7. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities and establish management policies that extend those sectors fishing and marketing opportunities as long as practicable during the fishing year.

Objective 8. Gear restrictions to minimize the necessity for other management measures will be used whenever practicable. Encourage development of practicable gear restrictions intended to reduce regulatory and/or economic discards through gear research regulated by EFP.

Utilization

Objective 9. Develop management measures and policies that foster and encourage full utilization (harvesting and processing), in accordance with conservation goals, of the Pacific Coast groundfish resources by domestic fisheries.

Objective 10. Recognize the multispecies nature of the fishery and establish a concept of managing by species and gear or by groups of interrelated species.

Objective 11. Develop management programs that reduce regulations-induced discard and/or which reduce economic incentives to discard fish. Develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. Promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

Social Factors

Objective 12. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.

Objective 13. Minimize gear conflicts among resource users.

Objective 14. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures, and the environment.

Objective 15. Avoid unnecessary adverse impacts on small entities.

Objective 16. Consider the importance of groundfish resources to fishing communities, provide for the sustained participation of fishing communities, and minimize adverse economic impacts on fishing communities to the extent practicable.

Objective 17. Promote the safety of human life at sea.