Agenda Item E.6
Supplemental Attachment 7 (***Electronic Only)***
June 2027

Draft Socioeconomic Analyses for the 2027-28 Harvest Specifications and Management Measure

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Acronyms and Abbreviations

ABC	Acceptable biological catch
ACL	Annual catch limit
CA/OR/WA	California, Oregon, and Washington
CP	Catcher-processor
EA	Environmental Assessment
EDC	Economic Data Collection (Program)
EFP	Exempted fishing permit
EIS	Environmental Impact Statement
EFP	Fishery Management Plan
GMT	Groundfish Management Team
HCR	Harvest control rule
HG	Harvest guideline
IFQ	Individual fishing quota
IOPAC	Input-output model for Pacific Coast fisheries
LE	Limited entry
LEFG	Limited entry fixed gear
NMFS	National Marine Fisheries Service
NWFSC	Northwest Fisheries Science Center
OA	Open access
OFL	Overfishing Limit
PacFIN	Pacific Fisheries Information Network
PMFC	Pacific Fishery Management Council (used in references)
PR	Private/rental boats
RecFIN	Recreational Fisheries Information Network
SAFE	Stock Assessment and Fishery Evaluation
TAC	Total Allowable Catch

1. Socioeconomic Environment

This chapter reports commercial fishery revenues from 2021-25 as a foundation to gauge the projected impacts on the socio-economic environment from the harvest control (HCR) Alternatives and management measure options under consideration by the Council for the 2027-28 groundfish management biennium in Chapter 2. Commercial fisheries data in this chapter was retrieved via the Pacific Fisheries Information Network (PacFIN) and recreational effort data was retrieved from the Recreational Fisheries Information Network (PacFIN). All data in this section is publicly available. Data may be masked to ensure confidentiality requirements. Previous environmental impact statements (EIS), environmental assessments (EA), decision documents, section 3.2 in the 2015 EIS for the biennial harvest specifications and management measures, and the Groundfish SAFE (PFMC, in press) present detailed characterizations of the Pacific coast groundfish fishery. That information is incorporated by reference and updated here.

1.1 Groundfish Fishery Sectors

The commercial groundfish fishery comprises the following fishery sectors:

- **Pacific whiting fishery** comprises the at-sea and shoreside trawl fisheries (the latter of which is a segment of the IFQ fishery, described below). The at-sea sector is subdivided between mothership processing vessels, who accept fish from catcher boats, and catcher-processor vessels, who fish and process the catch. The shoreside fishery delivers to land-based processing plants; with Westport, Washington; and Astoria and Newport, Oregon being the principal ports receiving shoreside whiting landings.
- **Non-whiting trawl/shorebased IFQ** targets a variety of other species, although sablefish, midwater rockfish, and certain flatfish are the main revenue earners. This fishery is now usually referred to as "shorebased IFQ.." Some of these vessels participate in the 'gear switching' fishery, whereby permitted vessels use pot/longline gear to target sablefish. Gear switching is becoming an important part of the revenue earned by permitted vessels in this sector.
- **Fixed gear (longline and pot) fisheries** are divided into limited entry (LE) and open access (OA) portions from a regulatory standpoint. The LEFG and the non-nearshore OA portions of this fishery primarily targets sablefish, which accounts for the majority of revenues. Nearshore OA primarily targets rockfish, lingcod and other nearshore groundfish.

1.2 Revenue Trends for Commercially Important Groundfish

Although the Pacific Coast Groundfish Fishery Management Plan (FMP) includes many species, relatively few account for most of the revenue. Table1-1 shows the ex-vessel revenue and estimate percent of total revenue for all non-whiting groundfish. As note in this table, sablefish, widow rockfish, and petrale sole have accounted for nearly 60-70 percent of total ex-vessel revenue in the non-whiting groundfish fishery. On average, annual ex-vessel for these species combined is nearly $33 million. Rockfish, as a category, accounts for nearly nine percent of total ex-vessel revenue has remained a steady component of the fishery over the past five years; whereas, flatfish category appears to be losing value over time.

Table 1-1. Inflation adjusted average annual ex-vessel revenue in $1,000s and percentage of total landings for non-whiting groundfish stocks and stock categories for the years 2021-25. Stocks assessed for this biennium noted with an *(Source: PacFIN 03/25/26).

Stocks/categories	2021		2022		2023		2024		2025	
	Ex-vessel	% of total	Ex-vessel	% of total	Ex-vessel	% of total	Ex-vessel	% of total	Ex-vessel	% of total
Sablefish*	$15,289	37.0%	$22,112	41.4%	$17,303	37.1%	$13,451	32.6%	$30,209	50.3%
Chilipepper*	$642	1.6%	$922	1.7%	$1,318	2.8%	$1,425	3.5%	$1,444	2.4%
Rougheye/ Blackspotted Rf*	$60.90	0.15%	$48.90	0.1%	$46.70	0.1%	$42.10	0.1%	$41.10	0.1%
Widow Rf*	$5,635	13.6%	$7,421	13.9%	$6,415	13.8%	$5,144	12.5%	$5,636	9.4%
Yellowtail Rf North*	$1,440	3.5%	$1,900	3.6%	$1,747	3.7%	$1,549	3.8%	$1,269	2.1%
Yelloweye Rf*	$2	0.0%	$3	0.0%	$6	0.0%	$4	0.0%	$7	0.0%
Shortspine Thornyhead*	$1,378	3.3%	$1,424	2.7%	$1,426	3.1%	$1,922	4.7%	$2,736	4.6%
Lingcod	$1,799	4.4%	$2,135	4.0%	$2,129	4.6%	$1,818	4.4%	$2,429	4.0%
Petrale Sole*	$6,805	16.5%	$7,729	14.5%	$7,677	16.5%	$7,414	18.0%	$6,623	11.0%
Dover Sole	$3,470	8.4%	$4,092	7.7%	$3,539	7.6%	$3,026	7.3%	$3,474	5.8%
Rockfish a/	$3,619	8.8%	$4,240	7.9%	$3,809	8.2%	$4,326	10.5%	$5,175	8.6%
Flatfish b/	$436	1.1%	$402	0.8%	$364	0.8%	$336	0.8%	$329	0.5%
Roundfish c/	$712	1.7%	$966	1.8%	$818	1.8%	$804	1.9%	$712	1.2%

a/ excludes rockfish noted specifically in table
b/ excludes petrale and Dover soles
c/ excludes lingcod, Pacific hake, and sablefish

1.3 Landings and Revenue by Commercial Fishery Sector

1.3.1 Non-whiting Fishery Sectors

Table 1-2 reports ex-vessel revenue for the non-whiting fishery sectors for 2021-2025. Across the years, bottom trawl and the LEFG fisheries had the highest average annual ex-vessel revenue for the five main groundfish fisheries shown in Table 1-2, accounting for 36 percent and 26 percent of ex-vessel revenue annually. As shown in Table 1-2 bottom trawl and mid-water ex-vessel revenue was highest in 2022. Gear switching ex-vessel revenue was highest in 2025. LEFG fishery had its highest ex-vessel revenue in 2025; whereas, the OA sector had the highest ex-vessel revenue was in 2022.

Table 1-2. Non-whiting groundfish ex-vessel revenue (inflation-adjusted 2023 $1,000s), for non-whiting commercial fishery sectors, 2013-2025. 2025 data is preliminary (Source: PacFIN 03/25/26).

Year	Bottom Trawl	Midwater Rockfish	Gear Switching	LEFG	OA (incl. Nearshore)	Annual Total
2021	$18,506	$7,240	$2,428	$10,642	$7,433	$46,248
2022	$20,879	$8,797	$3,224	$12,933	$9,936	$55,770
2023	$18,270	$7,635	$2,280	$11,000	$8,364	$47,549
2024	$15,773	$6,232	$1,704	$9,809	$7,112	$40,630
2025	$15,629	$6,248	$7,482	$19,357	$8,571	$57,288
Average	$17,812	$7,231	$3,413	$12,758	$8,283	$49,497

Year	Bottom Trawl	Midwater Rockfish	Gear Switching	LEFG	OA (incl. Nearshore)	Annual Total
Sum	$89,058	$36,153	$17,119	$63,769	$41,415	$247,485
% of total	36.0%	14.6%	6.9%	25.8%	16.7%	-

1.3.2 Whiting Fishery Sectors

Table 1-3 reports Pacific whiting estimated ex-vessel revenue for non-tribal whiting sectors for 2021-253. Total non-Tribal whiting revenue was lowest during the period in 2025, followed closely by 2021. To ensure comparisons to the shoreside whiting fishery are based on similar metrics, catcher-processor and mothership revenues are estimated as they land product is landed as opposed to fish, which has different revenues. For product related information, please refer to the NWFSC website FISHEyE

Table 1-3. Pacific whiting ex-vessel value by whiting commercial fishery sectors, 2021-2025 in inflation adjusted thousands of dollars and rounded to nearest thousand.. (Source: PacFIN, 3/25/2026).

Year	Catcher-Processor	Mothership	Shoreside Whiting	Annual Total
2021	$26,757	$7,546	$27,839	$62,142
2022	$30,645	$13,955	$25,514	$70,114
2023	$20,930	$6,303	$19,751	$46,984
2024	$15,723	$5,130	$17,890	$38,743
2025 a/	$22,155	$12,985	$27,458	$62,598
Average	$23,242	$9,184	$23,690	$56,116
Sum of yrs	$116,210	$45,919	$118,452	$280,581
% of total	41.4%	16.4%	42.2%	-

a/ 2025 data is considered preliminary.

1.3.3 Tribal Fishery

Table 1-4 shows ex-vessel revenue in tribal fisheries using hook-and-line and trawl gear.. Several Pacific Northwest Indian tribes have treaty rights to fish for groundfish in their usual and accustomed fishing grounds. The Federal government has accommodated these fisheries through a regulatory process described at 50 CFR 660.50. Tribal fishery management is coordinated through the Council process so catches can be accounted for when developing management measures. West Coast treaty tribes in Washington State have formal allocations for sablefish and Pacific whiting. For other species without formal allocations, the tribes propose set-asides which the Council tries to accommodate while ensuring that catch limits are not exceeded. Whether or not they are formally allocated, tribal catches are accounted for through set-asides, which are deducted from the ACLs along with certain other sources of catch to determine the commercial fishery HG. Treaty tribes participate in whiting fisheries with both a mothership and shorebased component. Landings and revenue from this fishery cannot be reported due to data confidentiality restrictions.

Table 1-4. Estimated Treaty non-whiting groundfish ex-vessel revenue for all stocks caught in the hook-and-line and trawl gear fisheries 2013-25 (inflation-adjusted 2023 $1,000s). (Source: PacFIN 03/21/26).

Year	Fixed Gear	Trawl	Total
2021	$1,850	$767	$2,617
2022	$2,199	$453	$2,653
2023	$1,148	$297	$1,445
2024	$1,280	$1,143	$2,424
2025a/	$1,467	$903	$2,370
Average	$1,589	$713	$2,302

a/ 2025 data is considered preliminary.

1.3.4 Recreational Groundfish Fishery

Recreational groundfish fisheries in Federal waters are broadly subdivided between anglers fishing from private recreational boats (PR) and those fishing from commercial passenger fishing vessels or charter vessels (PC), commonly referred to as charter vessels. Private and charter effort targeting bottomfish+halibut in each state has been consistently steady over the past five years. (Figure 1). Recreational fisheries are an important part of fishery-related economic activity. However, it is more difficult to impute the economic value of these fisheries because recreational catch is not sold. Thus the 'currency' of recreational fisheries is effort, measured in estimated angler trips. Recreational groundfish effort can be intermixed with other targets. The recreational fishery survey's qualify trips by trip type. The majority of trip types where most groundfish are caught are categorized as bottomfish and halibut. Anglers, when sampled, may also report that they are fishing for "anything." The 'anything' trip type, in a general sense, are where recreational anglers may keep groundfish but are not targeting them specifically. Other trip types, e.g., salmon, highly migratory, etc., may have some, but generally, limited groundfish catch. Table 1-4 shows annual average numbers of bottomfish and Pacific halibut angler trips. Additionally the anything category is shown as well.

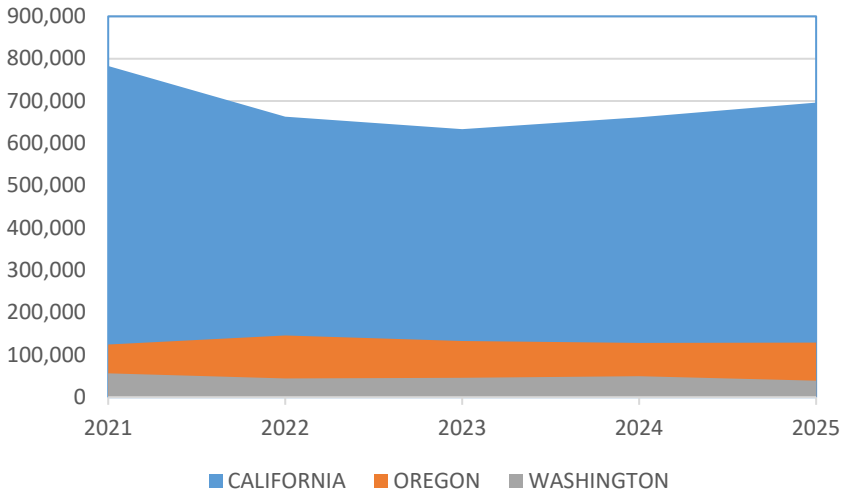

Figure 1. Total bottomfish plus Pacific halibut marine angler boat trips (private and charter) by state, 2021-25. (Source: RecFIN 3/03/2026).

Along the west coast, private and charter trips targeting bottomfish/Pacific halibut comprise, on average, over 800,000 angler trips annually (Table 1-5). As reference, all other trip types are shown. These trip types includes salmon, HMS, etc., and may account for some

Table 1-5. Annual estimated coastwide recreational angler trips by trip-type and mode for 2021-25, all states combined. (Source: RecFIN, 3/15/26).

	2021	2022	2023	2024	2025	Average
Bottomfish						
PC	527,973	455,555	473,817	483,332	508,584	489,852
PR	281,822	278,863	228,380	234,687	240,650	252,880
Pacific Halibut						
PC	6,137	5,815	6,463	7,035	5,933	6,277
PR	25,684	25,662	30,138	31,743	25,682	27,782
Anything						
PC	610	431	363	536	408	470
PR	121,025	86,998	72,790	81,720	83,231	89,153
All other a/						
PC	61,476	40,190	38,391	44,655	48,820	46,707
PR	235,639	199,714	186,806	197,861	221,973	208,398

a/ includes salmon, HMS, etc.

Table 1-6 shows the five-year effort average for bottomfish, Pacific halibut, and Anything trip types. PC/PR effort in Washington and Oregon are fairly similar for bottomfish trip type., though effort for Pacific halibut is three and seven times higher in the PR fishery in WA and OR, respectively, than in the PC fishery. Overall, Oregon PR effort is higher than PC effort. California bottomfish effort is highest in the PC fishery, noting that effort in the two southern California districts (i.e., Channel and South) is more than twice that of the northern and central districts combined . The recreational districts in Central California have similar effort levels for bottomfish and the northern California districts have an inverse of southern California in terms of effort, i.e., more PR than PC effort.

Table 1-6. 2021–25 annual private recreational (PR) and commercial passenger fishing/charter vessels (PC) average angler effort for bottomfish, Pacific halibut, and anything trip-type by reporting area for s. (Source: , RecFIN). * California includes the Pacific halibut tripe type in bottomfish trips types

	Bottomfish		Pacific Halibut		Anything	
State/Region	**PC**	**PR**	**PC**	**PR**	**PC**	**PR**
Washington Subtotal	**13,140**	**16,283**	**4,067**	**12818**	**0**	**827**
La Push-Neah Bay	588	2,449	671	8,746	0	827
Westport	10,159	4,122	2,625	3,211	0	0
Ilwaco-Chinook	2,393	9,712	771	861	0	0
Oregon Subtotal	**47,170**	**52,960**	**2,187**	**14,878**	**593**	**11,216**
Astoria	0	487	0	191	7	341
Depoe Bay	17,833	3,176	381	396	12	843
Garibaldi	6,550	4,484	140	532	28	1,141
Newport	13,055	11,137	1,546	8,406	421	4,520

	Bottomfish		Pacific Halibut		Anything	
State/Region	**PC**	**PR**	**PC**	**PR**	**PC**	**PR**
Charleston	2,047	9,608	8	1,437	0	1,318
Pacific City	1,343	4,839	29	1,295	116	311
Winchester Bay	0	2,612	0	767	0	1,215
Brookings/Gold Beach	6,342	16,617	83	1,854	9	1,527
California Subtotal	**429,057**	**180,846**	*		**0**	**77,326**
North: Humboldt and Del Norte Counties	4,310	21,005			0	155
Mendocino District	8,189	14,686			0	234
Bay Area: San Mateo through Sonoma Counties	30,107	31,449			0	4,068
Central: San Luis Obispo, Monterey, & Santa Cruz Counties	38,293	34,866			0	2,006
Channel: Ventura and Santa Barbara Counties	48,751	13,124			0	7,985
South : San Diego, Orange and LA Counties	299,407	65,716			0	62,878

1.4 Fishing Communities

As in other recent decision documents, involvement by fishing communities in commercial groundfish fisheries is described below in terms of landings and ex-vessel revenue by West Coast Fisheries (IOPAC) port group. [1]

Table 1-7 presents the five-year average for ex-vessel non-whiting groundfish revenue by IOPAC port groups, percentage of total state ex-vessel, and percentage of total coastwide ex-vessel revenue.. Fort Bragg, CA, Eureka, CA, Tillamook, WA and Astoria, OR account have the highest trawl related non-whiting groundfish ex-vessel revenue. Combined, they account for nearly $15 million dollars annual on average. Astoria ex-vessel revenue stands out from the other ports at approximately $12.7 million dollars per year on average, which is at least twice as much as the other high liner ports. Midwater rockfish trawl is highest in the Oregon ports of Astoria and Newport, with total ex-vessel revenue, on average, of $5.5 million dollars per year. The only other port with ex-vessel revenue for this fishery is Fort Bragg, CA, at $327 thousand dollars, on average, annually. The ports of Santa Barbara, CA, Morro Bay, CA, and Newport, OR have the highest LEFG total average ex-vessel revenue along the coast. When averaged, each of these three ports total LEFG ex-vessel revenues are, at minim, double that of any other port. Brookings, OR and Morro Bay, CA have the highest ex-vessel revenues for OA (which includes nearshore).

In terms of ranking, Oregon generates approximately 58 percent of total coast ex-vessel revenue, followed by California at nearly 39 percent and, then Washington at nearly four percent. The South/Central ports of WA, Coos Bay, OR, and Fort Bragg, CA are the ports with the highest ex-vessel revenue by state.

[1] See Table 9 in the NOAA Technical Memorandum NMFS-Northwest Fisheries Science Center (Leonard and Watson (2011)) for ports included in these port groups.

Table 1-7. Five-year (2021-25) average annual ex-vessel revenue (inflation-adjusted 2025 $1,000s) from all commercial groundfish landings by IOPAC port group and select fishery sector. The percent of ex-vessel is shown by state and by coastwide totals. Ports combined for confidentiality (GMT005, PacFIN 3/24/2026).

	Trawl		Non-Trawl				
Port Group	**Non-whiting IFQ**	**Midwater Rockfish**	**LEFG**	**OA (incl. Nearshore)**	**Annual Average total**	**% of State total**	**% of Coastwide Total**
WASHINGTON							
North WA Coast	$0	$0	$445	$113	$558	33.8%	3.7%
South & Central WA Coast	$407	$0	$613	$72	$1,092	66.2%	
State Total	$407	$0	$1,058	$185	$1,650	-	
OREGON							
Astoria	$8,637	$3,273	$791	$33	$12,734	49.9%	57.6%
Tillamook	$0	$0	$0	$160	$160	0.6%	
Newport	$3,730	$2,362	$2,007	$346	$8,445	33.1%	
Coos Bay	$815	$0	$921	$274	$2,010	7.9%	
Brookings	$459	$0	$326	$1,362	$2,147	8.4%	
State Total	$13,641	$5,635	$4,045	$2,175	$25,496	-	
CALIFORNIA							
Crescent City	$69	$0	$352	$269	$690	4.0%	38.6%
Eureka	$1,696	$327	$432	$365	$2,820	16.5%	
Fort Bragg	$2,495	$0	$696	$824	$4,015	23.5%	
Bodega Bay	$0	$0	$69	$285	$354	2.1%	
San Francisco	$362	$0	$148	$662	$1,172	6.9%	
Monterey	$615	$0	$643	$826	$2,084	12.2%	
Morro Bay	$256	$0	$1,220	$1,388	$2,864	16.8%	
Santa Barbara	$0	$0	$1,497	$426	$1,923	11.3%	
Los Angeles	$215	$0	$200	$105	$520	3.0%	
San Diego	$175	$0	$178	$290	$643	3.8%	
State Total	$5,883	$327	$5,435	$5,440	$17,085	-	

Table 1-8 shows the percent of ex-vessel revenue derived from stocks considered under alternative HCRs relative to total groundfish ex-vessel revenue. Notable stocks where ex-vessel revenue is a high proportion (>20 percent) of total groundfish ex-vessel revenue are chilipepper in Bodega Bay, CA (27 percent), widow rockfish in Astoria, OR (21 percent) and Newport, OR (22 percent), shortspine thornyhead in Santa Barbara, CA (37 percent), and petrale sole in in Columbia River ports (26 percent) and Newport, OR (22 percent).

Table 1-8. Five year (2021-25) average of the proportion of ex-vessel revenue for stocks where alternative harvest control rules are considered to total managed groundfish ex-vessel revenue by IOPAC port groups. Stocks where greater than 20 percent of ex-vessel revenue are shaded. Calculations excludes Pacific whiting. An * indicates where the percentage is less than 0.1 percent. CnR =canary rockfish, CpR = chilipepper, RbR =rougheye black spotted rockfish, WdR =widow rockfish, YtL N = yellowtail rockfish north of 40°10′ N. lat., YeR = yelloweye rockfish, StH =shortspine thornyhead, and PtS = petrale sole. (PacFIN Apex, GMT Rpt 005, accessed 2/10/2026)

	Stocks considered under Alternative HCRs							
IOPAC Port	**CnR**	**CpR**	**RbR**	**WdR**	**YtL N**	**YeR**	**SsT**	**PtS**
WASHINGTON								
North WA Coast	0.1%	0.0%	0.1%	*	0.3%	0.1%	0.3%	8.3%
Central & South Coast WA	0.8%	0.0%	0.4%	0.0%	23.3%	0.0%*	0.6%	13.1%
OREGON								
Astoria,	0.9%	*	0.1%	20.6%	7.6%	*	0.8%	26.0%
Tillamook	0.8%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%
Newport	0.8%	0.0%	0.1%	22.0%	0.7%	0.0%*	0.8%	13.2%
Coos Bay	0.4%	0.1%	0.0%*	0.2%	0.5%	0.0%	0.6%	10.7%
Brookings	0.3%	0.0%	0.1%*	*	0.1%	0.0%	0.4%	2.6%
CALIFORNIA								
Crescent City	0.8%	0.0%	0.0%	0.3%	1.3%	0.0%	0.0%	0.0%
Eureka	4.7%	1.5%	0.1%	13.2%	3.3%	0.0%	1.2%	7.0%
Fort Bragg	2.3%	14.4%	*	0.3%	0.5%	0.0%*	1.7%	22.3%
Bodega Bay	0.4%	26.8%	*	1.1%	*	0.0%	0.0%	0.0%
San Francisco	1.1%	7.0%	*	0.3%		0.0%	0.2%	13.6%
Monterey	0.6%	12.5%	*	0.1%		0.0%	11.2%	0.5%
Morro Bay	0.8%	0.6%	*	*		0.0%	13.6%	*
Santa Barbara	0.8%	0.3%	0.0%	0.0%*		0.0%	36.5%	*
Los Angeles	0.0%	0.4%	0.0%	0.9%		0.0%	13.4%	0.0%
San Diego	*	1.6%	0.0%	0.1%		0.0%	8.8%	0.0%

*these ports are below 40°10′ N. lat. and isolating any of the yellowtail rockfish north of 40°10′ ex-vessel revenue is not able to be discerned.

The ex-vessel revenues in Table 1-9 indicate that California has the highest average of ex-vessel revenue for canary rockfish, chilipepper, and shortspine thornyhead; whereas, Oregon has the highest for the remaining stocks considered under alternative HCRs, rougheye/blackspotted, widow, yellowtail north of 40°10′ N. lat, and yelloweye rockfishes, and petrale sole. In comparison, Oregon ex-vessel revenue is about double that of California and 11 times that of Washington.

Table 1-9. Five year (2021-25) average inflation adjusted ex-vessel revenue for stocks with alternative harvest control rules by IOPAC port groups and average annual total ex-vessel revenue by state. Values less than $100,000 dollars indicated by a <$0.1 CnR =canary rockfish, CpR = chilipepper, ReB =rougheye black spotted rockfish, WdR =widow rockfish, YtL N = yellowtail rockfish north of 40°10′ N. lat., YeR = yelloweye rockfish, SsT =shortspine thornyhead, and PtS = petrale sole. (GMT005, PacFIN 3/25/2026)

	Stocks considered under Alternative HCRs							
IOPAC Port Group	**CnR**	**CpR**	**ReB**	**WdR**	**YtL N**	**YeR**	**SsT**	**PtS**
WASHINGTON								
North WA Coast	$2.5	<$0.1	$7.1	$1.4	$15.4	$4.0	$8.2	$341.8
Central & South Coast WA	$27.7	$0.1	$6.7	$827.5	$332.8	$0.4	$7.4	$116.0
Total	**$30.2**	**$0.1**	**$13.8**	**$828.8**	**$348.2**	**$4.4**	**$15.6**	**$457.8**
OREGON								
Astoria,	$125.2	$2.0	$1.4	$2,892.8	$1,062.5	<$0.1	$115.1	$3,868.9
Tillamook	$1.5	$0.0	$0.1	$0.4	$2.1	<$0.1	$0.0	<$0.1
Newport	$73.0	$5.9	$11.5	$2,480.3	$77.0	$0.5	$73.8	$1,161.1
Coos Bay	$8.5	$3.4	$1.1	$4.2	$11.7	<$0.1	$14.6	$256.2
Brookings	$8.6	$0.3	$2.5	$1.0	$2.8	$0.1	$8.6	$64.9
Total	**$216.7**	**$11.5**	**$16.7**	**$5,378.7**	**$1,156.1**	**$0.6**	**$212.3**	**$5,351.1**
CALIFORNIA								
Crescent City	$6.4	$0.0	$0.0	$5.1	$9.6	$0.0	$1.3	$2.4
Eureka	$86.5	$37.0	$3.0	$235.8	$61.4	<$0.1	$54.5	$665.6
Fort Bragg	$89.9	$642.3	$2.2	$11.3	$26.3	$0.2	$72.7	$1,008.2
Bodega Bay	$1.5	$94.3	$0.0	$5.1		<$0.1	$0.1	$2.1
San Francisco	$15.0	$95.9	$0.3	$4.6		<$0.1	$4.7	$170.1
Monterey	$14.0	$298.8	$0.6	$4.2		<$0.1	$307.7	$245.5
Morro Bay	$18.0	$16.5	$0.6	$0.7	*	$0.1	$303.3	$0.7
Santa Barbara	$16.0	$7.3	$0.0	$0.7		<$0.1	$772.4	$0.4
Los Angeles	$0.2	$1.2	$0.0	$3.9		$0.0	$54.6	<$0.1
San Diego	$0.1	$7.2	$0.0	$0.4		$0.0	$73.2	<$0.1
Total	**$247.6**	**$1,200.5**	**$6.7**	**$271.8**	**$97.4**	**$0.4**	**$1,644.5**	**$2,095.0**

*these ports are below 40°10′ N. lat. and isolating any of the yellowtail rockfish north of 40°10′ N. lat. ex-vessel revenue from yellowtail rockfish south of 40°10′ N. .lat. is not able to be discerned.

Table 1-9 shows percent, by stock, of average total ex-vessel revenue for stocks under consideration for alternative HCRs. This table could be used to identify ports that would be most impacted by HCRs. As indicated in Table 1-10, 25 percent of canary rockfish, 45 percent of widow rockfish, 66 percent of yellowtail rockfish, and 49 percent of petrale sole of coastal ex-vessel revenue are derived from Astoria, OR. Approximately 73 percent of yelloweye rockfish total ex-vessel revenue is from the north Washington coast ports. Newport, OR has the highest percentage of total ex-vessel revenue, about 31 percent, for rougheye/blackspotted rockfish. 53 percent of total coastal ex-vessel revenue for chilipepper is from Fort Bragg, CA and 41 percent of total coastal ex-vessel revenue for shortspine thornyhead is from Santa Barbara, CA.

Table 1-10. Percentage of total ex-vessel revenue for stocks considered under alternative harvest control rules by IOPAC port group. Some ports combined for confidentiality. Stocks where ex-vessel revenues are the highest are noted with a gray background. CnR =canary rockfish, CpR = chilipepper, RbR =rougheye black spotted rockfish, WdR =widow rockfish, YtL N = yellowtail rockfish north of 40°10′ N. lat., YeR = yelloweye rockfish, SsT =shortspine thornyhead, and PtS = petrale sole. (PacFIN 3/25/2026)

	Stocks considered under Alternative HCRs							
IOPAC Port	**CnR**	**CpR**	**ReB**	**WdR**	**YtL N**	**YeR**	**SsT**	**PtS**
North WA Coast	0.5%	<0.0%	19.1%	0.0%	1.0%	73.4%	0.4%	4.3%
Central & South Coast WA	5.6%	<0.0%	18.0%	12.8%	20.8%	8.2%	0.4%	1.5%
Astoria,	25.3%	0.2%	3.8%	44.6%	66.3%	0.7%	6.1%	48.9%
Tillamook	0.3%	0.0%	0.3%	0.0%	0.1%	0.2%	0.0%	0.0%
Newport	14.8%	0.5%	30.9%	38.3%	4.8%	8.9%	3.9%	14.7%
Coos Bay	1.7%	0.3%	3.0%	0.1%	0.7%	0.4%	0.8%	3.2%
Brookings	1.7%	0.0%	6.8%	0.0%	0.2%	1.2%	0.5%	0.8%
Crescent City	1.3%	0.0%	0.0%	0.1%	0.6%	0.0%	0.1%	0.0%
Eureka	17.5%	3.1%	8.1%	3.6%	3.8%	0.4%	2.9%	8.4%
Fort Bragg	18.2%	53.0%	5.9%	0.2%	1.6%	3.8%	3.9%	12.8%
Bodega Bay	0.3%	7.8%	0.0%	0.1%		0.0%	0.0%	0.0%
San Francisco	3.0%	7.9%	0.7%	0.1%		0.1%	0.3%	2.2%
Monterey	2.8%	24.7%	1.5%	0.1%		0.6%	16.4%	3.1%
Morro Bay	3.6%	1.4%	1.7%	0.0%	*	1.5%	16.2%	0.0%
Santa Barbara	3.2%	0.6%	0.0%	0.0%		0.6%	41.3%	0.0%
Los Angeles	0.0%	0.1%	0.0%	0.1%		0.0%	2.9%	0.0%
San Diego	0.0%	0.6%	0.0%	0.0%		0.0%	3.9%	0.0%

*these ports are below 40°10′ N. lat. and isolating the percentage of yellowtail rockfish north of 40°10′ N. lat. total ex-vessel revenue from total ex-vessel revenue yellowtail rockfish south of 40°10′ N. .lat. is not able to be discerned.

Appendix A: Ex-Vessel Revenue Summary

Table A- 1 shows the annual (2021-25) total ex-vessel revenue and percent of total for each IOPAC port group. These data are for the three groundfish categories –flatfish, rockfish, and roundfish – for all commercial groundfish fisheries combined. Flatfish comprises all flatfish stocks in the groundfish FMP (i.e., excludes Pacific halibut); Rockfish comprises all rockfish stocks, California scorpionfish, and thornyheads; and Roundfish comprises cabezon, lingcod, kelp greenling, Pacific cod, shoreside Pacific whiting, and sablefish.

Table A- 1. Total inflation adjusted ex-vessel revenue (in $1,000s) and percent (%) of total by IOPAC port group by year. Ports combined for confidentiality. Amounts rounded to nearest whole dollar. (Source PacFIN 03/26/2026)

Port	2021	2022	2023	2024	2025	Ann. Avg	%
North WA Coast							
Flatfish	$21	$216	$234	$694	$575	$348	14.8%
Rockfish	$34	$47	$39	$70	$49	$48	2.0%
Roundfish	$2,000	$2,541	$1,414	$1,627	$2,234	$1,963	83.2%
Total	$2,055	$2,804	$1,688	$2,391	$2,858	$2,359	
Central & South WA Coast							
Flatfish	$648	$284	$34	$34	$124	$224,664	2.9%
Rockfish	$1,377	$1,475	$1,277	$1,167	$820	$1,223,314	15.8%
Roundfish	$8,626	$6,118	$5,336	$3,708	$7,723	$6,302,275	81.3%
Total	$10,650	$7,877	$6,648	$4,909	$8,667	$7,750,253	
Astoria							
Flatfish	$5,077	$5,536	$5,885	$6,319	$5,728	$5,709,016	20.9%
Rockfish	$4,610	$4,647	$3,358	$4,763	$4,922	$4,459,771	16.3%
Roundfish	$14,800	$16,907	$14,990	$16,391	$22,525	$17,122,425	62.7%
Total	$24,486	$27,090	$24,233	$27,473	$33,174	$27,291,212	
Tillamook							
Flatfish	*	*	*	0	0	*	0.0%
Rockfish	$66	$70	$76	$41	$46	$59,737	33.8%
Roundfish	$127	$124	$98	$127	$108	$116,752	66.1%
Total	$192	$194	$174	$168	$154	$177,000	
Newport							
Flatfish	$2,011	$2,429	$2,008	$1,148	$1,325	$1,784	12.3%
Rockfish	$2,863	$4,287	$4,142	$1,669	$1,514	$2,895	20.0%
Roundfish	$11,982	$12,852	$8,776	$4,137	$11,095	$9,769	67.6%
Total	$16,856	$19,568	$14,925	$6,954	$13,935	$14,447	
Coos Bay							
Flatfish	$671	$559	$479	$398	$180	$457,537	19.8%
Rockfish	$146	$130	$162	$116	$137	$138,093	6.0%
Roundfish	$1,563	$2,581	$1,118	$727	$2,571	$1,711,913	74.2%
Total	$2,379	$3,270	$1,759	$1,241	$2,888	$2,307,543	
Brookings							

Port	2021	2022	2023	2024	2025	Ann. Avg	%
Flatfish	$456	$267	$18	$14	$2	$151,324	6.4%
Rockfish	$685	$772	$647	$540	$535	$635,918	26.9%
Roundfish	$1,359	$2,117	$1,228	$832	$2,332	$1,573,607	66.7%
Total	$2,500	$3,156	$1,893	$1,385	$2,869	$2,360,848	
Crescent City							
Flatfish	$4	$58	*	$0	*	$12,434	1.8%
Rockfish	$249	$334	$189	$117	$100	$197,882	28.7%
Roundfish	$260	$461	$381	$451	$849	$480,339	69.5%
Total	$513	$853	$570	$569	$950	$690,655	
Eureka							
Flatfish	$2,187	$2,128	$1,323	$613	$506	$1,351	45.7%
Rockfish	$653	$1,051	$833	$462	$411	$682	23.1%
Roundfish	$1,486	$1,442	$809	$329	$551	$924	31.2%
Total	$4,326	$4,621	$2,964	$1,405	$1,468	$2,957	
Fort Bragg							
Flatfish	$908	$1,588	$1,345	$1,116	$1,248	$908	28.9%
Rockfish	$1,144	$1,784	$1,631	$1,680	$1,445	$1,144	35.7%
Roundfish	$1,315	$1,996	$1,535	$1,163	$1,605	$1,315	35.4%
Total	$3,367	$5,368	$4,511	$3,958	$4,298	$3,367	
Bodega Bay							
Flatfish	$0	$0	$1	$8	$1	$0	0.6%
Rockfish	$72	$182	$279	$228	$272	$72	55.3%
Roundfish	$176	$118	$162	$124	$245	$176	44.1%
Total	$248	$300	$442	$360	$518	$248	
San Francisco							
Flatfish	$259	$195	$282	$217	$211	$259	17.7%
Rockfish	$480	$517	$410	$250	$365	$480	30.8%
Roundfish	$564	$722	$694	$560	$846	$564	51.5%
Total	$1,303	$1,434	$1,386	$1,026	$1,422	$1,303	
Monterey							
Flatfish	$53	$49	$506	$465	$440	$303	10.8%
Rockfish	$756	$664	$827	$1,301	$1,749	$1,060	37.9%
Roundfish	$1,340	$1,309	$1,486	$1,382	$1,647	$1,433	51.3%
Total	$2,149	$2,022	$2,819	$3,149	$3,836	$2,795	
Morro Bay							
Flatfish	$4	$5	$4	$3	$8	$5	0.2%
Rockfish	$1,167	$1,272	$1,149	$1,474	$2,089	$1,430	58.9%
Roundfish	$821	$983	$952	$1,014	$1,187	$992	40.9%
Total	$1,992	$2,260	$2,104	$2,491	$3,284	$2,426	
Santa Barabara							
Flatfish	$21	$15	$12	$13	$13	$15	0.7%
Rockfish	$1,310	$1,313	$1,301	$1,510	$1,785	$1,444	67.5%
Roundfish	$807	$751	$645	$605	$598	$681	31.8%
Total	$2,138	$2,079	$1,959	$2,128	$2,396	$2,140	
Los Angeles							

Port	2021	2022	2023	2024	2025	Ann. Avg	%
Flatfish	$29	$35	$48	$19	$39	$34	10.2%
Rockfish	$250	$180	$197	$225	$238	$218	66.1%
Roundfish	$142	$128	$67	$13	$41	$78	23.7%
Total	$420	$343	$312	$256	$318	$330	
San Diego							
Flatfish	$22	$21	$30	$27	$29	$26	5.1%
Rockfish	$207	$247	$465	$552	$384	$371	73.6%
Roundfish	$205	$138	$95	$51	$46	$107	21.3%
Total	$435	$406	$590	$630	$459	$504	

2. Impacts of the Alternatives on the Socioeconomic environment

2.1 Overview

This Chapter evaluates the estimated socioeconomic impacts of the harvest control rules (HCR)for widow rockfish considered under the Alternative 2 on fishery participants and fishing communities. At the April 2026 Council meeting, the Pacific Fishery Management Council (Council) adopted interim FPA harvest specifications (i.e., HCRs) for all stocks and stock complexes with the exception of widow rockfish. The widow rockfish alternative HCR sub-options are considered under two sub-option. The Council Analytical Document (Agenda Item E.6, Attachment 2, June 2026) details and provides the fishery analysis for these two sub-options and is incorporated by reference. In brief, sub-option 2b HCR is a constant catch ACL of 6,720 mt for 2027 and 2028 based on a 20 percent decrease from forecasted 2026 catch (Agenda item D.4,a Supplemental GMT Report 1, March 2026, Agenda Item D.4, Attachment 3, March 2026, Agenda Item C.3, Attachment 1, April 2026). and sub-option 2d is a constant catch ACL of 6,238 mt for 2027-28, which is one mt lower than the overfishing limit (OFL). In the following analyses, the HCRs adopted under the iFPA are considered in conjunction with the specified sub-option, i.e., the only difference in the analyses is the sub-option.

Additionally, the following analysis examines the difference between No Action and the sub-options as a reference point of comparison. This statement is made as unlike other Council actions, No Action in the groundfish harvest specifications and management measure process is an untenable choice as it does not represent the best scientific information available (BSIA). However, the comparison of No Action to the sub-options provides a 'real-world' comparison of the economic situation in 2025 and aids the public in understanding of how changes made in this process to HCRs can affect socioeconomics of the groundfish fishery, which follows the standard practice of the analyses in the harvest specifications and management measures (see Agenda Item E.6 Attachment 2, June 2026).

As reference, the socioeconomic impacts considered under the Range of Alternatives is available as Agenda Item C.7, Supplemental Revised Attachment 5, April 2026. Additionally, while the following information is arranged to focus on the iFPA, Appendix B provides a wider scope of analysis which examines the differences between, No Action, the Action Alternatives, and the sub-options

Terminology

- The **No Action** scenario characterizes values for catch, ex-vessel revenues, and fishing effort under 2025 harvest specifications. These values are only provided as a frame of reference for the Council, industry, and advisory bodies as a means to understand the past conditions relative to the potential impacts of the Alternatives. The No Action Alternative is not a viable selection as it does not represent the BSIA.

- **Sub-Option 2b** characterizes catch, ex-vessel revenues, and fishing effort under the interim final preferred alternative for all stocks and stock complexes and widow rockfish sub-option 2b
- **Sub-Option 2d** characterizes catch, ex-vessel revenues, and fishing effort under the interim final alternative for all stocks and stock complexes and widow rockfish sub-option 2d

2.2 Modeling and Analyses

Socioeconomic impacts to fishing communities engaged in groundfish fisheries are evaluated based on changes in personal income (dollar income impacts) and employment (number of jobs) under the alternative scenarios. These effects are functions of the projected changes in commercial landings and recreational effort described above. For simplification and ease of comparing impacts from commercial and recreational fishing activities, some commercial fisheries port groups are combined so as to be consistent with the recreational reporting regions.

Projected changes in commercial ex-vessel revenues and recreational angler trips were converted into income and employment effects using results from the NWFSC IOPAC input-output model. Impacts include combined direct, indirect, and induced economic effects resulting from projected changes in recreational angling, commercial fishing, fish processing, and associated input supply and industry support activities.

Community impacts from commercial and recreational fishing are displayed separately. Impacts are calculated by applying income and employment multipliers generated using IOPAC regional impact models to the projected levels of local expenditures by commercial harvesters, seafood processors, and recreational anglers under No Action and the action alternative scenarios.

As above in the document text, for simplicity, combined commercial-recreational economic impacts described below are displayed for 2027, the first year of the two-year management cycle, only. Although projected effects, where available, may be somewhat different in some cases during the second year of the management cycle (2028), the relative distribution of economic effects and inferences regarding rankings of the alternatives would be very similar to those projected for 2027.The No Action scenario characterize “current” or “status quo” catch, ex-vessel revenue, and recreational fishing effort using the GMT catch projection methods

To incorporate consistent estimates of activity in the Pacific whiting fisheries that do not vary across the modelled economic scenarios, this analysis assumes the situation in place in late 2025, where a reapportionment of unused tribal fishery quota to the non-tribal commercial fishery occurred. The No Action and Action alternative scenarios all assume post-reapportionment 2025 whiting allocations and catch levels. In this analysis the reapportionment of whiting quota is assumed to affect catch and revenue only in the at-sea tribal sector, at-sea non-tribal mothership, and catcher-processor sectors. Since impacts to the tribal and at-sea whiting sectors are not traced through to communities in this analysis, any projected effects of whiting quota reapportionment do not extend to the estimated community income or employment impacts. That being said, presumably most of the income and employment impacts associated with at-sea whiting fisheries would likely accrue in the Seattle region and Washington and Oregon coastal communities; while impacts of shorebased tribal groundfish (whiting and non-whiting) fisheries most likely accrue in certain Washington Coast communities.

Income and employment impacts from Tribal fisheries and from at-sea Pacific whiting catcher-processor and mothership sectors are not included in the community impact totals for the following reasons:

1. Tribal groundfish harvesting and processing are not included in any of the cost-revenue data collected by NWFSC.
2. While overall estimators of income and employment impacts derived from the at-sea whiting fishery (tribal and non-tribal CPs and motherships) have been developed, the detail required to attribute these impacts to particular port groups have not.

Alternatives were constructed to illustrate the range of economic effects projected under the range of harvest specifications observed under default HCRs and compliant management measures illustrated under the Action Alternatives and management measures for certain stocks under the action alternatives and associated options. Within each modelled alternative there may be multiple options available corresponding to alternative assumptions about regulation of the certain commercial fisheries and the California recreational fishery.

In brief, the relevant projection models include:

- GMT catch projection models for the various sectors of the commercial groundfish fishery.
- GMT fishing effort (angler trips) projections for the recreational groundfish fishery in each state.
- The landings distribution model (LDM), which is used to assign where commercial landings are likely to occur and the resulting port-level ex-vessel revenues.
- The IOPAC economic impact model used to evaluate the effects of the alternatives on coastal communities (ports where commercial groundfish landings and recreational groundfish effort occur) in terms of personal income generated ("income impacts") and associated "employment impacts."
- Net revenue in commercial fishery operations based on projected sector landings and vessel cost-earnings surveys.

The following sections assess socioeconomic impacts in terms of:

- Changes in commercial ex-vessel revenue by fishery sector,
- Change in recreational angler trips by community,
- Change in net revenue by fishery,
  Change in income and employment impacts by community resulting from changes in commercial landings revenue and recreational effort.

Further, as reference, a list of components by fisheries sector that were used in the modeled economic scenarios is shown in Appendix B. Documentation of the models may be found in Groundfish SAFE document (PFMC 2026, *updates in proce*ss) and are summarized in Appendix B.

A number of caveats apply to modeling commercial fishery impacts. First, effort displaced by management measures is assumed not to switch readily into other fishery sectors or geographic regions. Second, landings projection models and economic impact models like IOPAC are

calibrated to represent a "snapshot" of the economy at a particular point in time. Consequently, these models are best able to address impacts of scenarios that are not too far removed from what has occurred in the recent past. Third, catch projections in the IFQ fishery may not reflect the leveraging effect of changes in ACLs for constraining stocks (those with low ACLs/allocations). A higher or lower allocation of a particularly constraining species may generate more or less actual revenue than is forecast using the current catch projection models. At the same time, market limitations may constrain the extent to which commercial fisheries are able to take advantage of increased allocations. Finally, stock recruitment variability and catch monitoring uncertainty will contribute to the divergence between the projections and actual catches. Although actual ACL attainment may differ from projections, inseason management measures are routinely applied to prevent ACLs from being exceeded.

2.3 Commercial Fisheries

The projected ex-revenue based on No Action and the two sub-options (2b and 2d), and comparisons, are shown in Table 2-1. The modeling assumed 100 percent attainment for stocks and stock complexes; however, in reality, most stocks and stock complexes are not projected to exceed 50 percent attainment of the anticipated allocations in 2027 and 2028, which is similar to 2025 (see Chapters 12 and 13 of Agenda Item C.7, Attachment 2, April 2026 for detailed information). Revenue estimates are based on projected landings estimates from the GMT models and LDM. All projections assume average ex-vessel prices observed in 2025. Impacts are presented by groundfish fishery sector.

Table 2-1. Estimated ex-vessel revenues by groundfish harvest sector impacts under No Action (NA) and the sub-options (SO) 2b and 2d, showing the difference between No Action and the Sub-options, and the percent increase or decrease of ex-vessel revenues by community group ($millions). No Action 2025 values provided for comparison only.

	$millions			Difference in $millions			% increase/decrease		
	NA 2025	SO 2b	SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d
Shoreside Sectors:									
Whiting	$27.5	$27.5	$27.5	$0.0	$0.0	$0.0	0.0%	0.0%	0.0%
IFQ	$30.9	$22.3	$22.0	-$8.6	-$8.9	-$0.3	-27.8%	-28.8%	-1.3%
LEFG	$20.9	$21.5	$21.5	+$0.6	+$0.6	$0.0	+2.9%	+2.9%	0.0%
Nearshore OA	$4.1	$4.1	$4.1	$0.0	$0.0	$0.0	0.0%	0.0%	0.0%
Non-nearshore OA	$4.0	$8.6	$8.6	+$4.6	+$4.6	$0.0	+115.0%	+115.0%	0.0%
Tribal (incl. whiting)	$2.7	$5.3	$5.3	+$2.6	+$2.6	$0.0	+96.3%	+96.3%	0.0%
Shoreside sectors' Totals	**$88.2**	**$89.9**	**$89.6**	**-$0.8**	**-$1.1**	**-$0.3**	**-0.9%**	**-1.2%**	**-0.3%**
At-sea Sectors:									
Non-Tribal Whiting	*$55.5*	$55.5	$55.5	$0.0	$0.0	$0.0	0.0%	0.0%	0.0%
Tribal Whiting	*$17.5*	$17.5	$17.5	$0.0	$0.0	$0.0	0.0%	0.0%	0.0%
At-sea sectors' Totals	***$73.0***	$73.0	$73.0	$0.0	$0.0	$0.0	0.0%	0.0%	0.0%
TOTAL Groundfish Revenue	***$163.8***	**$162.9**	**$162.7**	**-0.8**	**-1.1**	**-0.3**	**-0.9%**	**-1.2%**	**-0.3%**

Table 2-1 shows that both sub-options (2b and 2d) result in only modest coastwide changes to total groundfish ex-vessel revenue compared to No Action, with total revenue declining from $163.8 million under No Action to $162.9 million (-0.9%) under 2b and $162.7 million (-1.2%) under 2d,

indicating minimal aggregate economic disruption . The most substantial sector-level losses occur in the Non-whiting Trawl + Non-trawl IFQ sector, which declines by roughly 28% under both sub-options, while these reductions are largely offset by significant gains in Non-nearshore Open Access (+115%) and Tribal fisheries (+96.3%), suggesting redistribution of economic opportunity among harvest sectors. Limited Entry Fixed Gear experiences modest gains, while whiting sectors remain unchanged. The at-sea whiting sector is expected to remain the same across No Action and the sub-options. .

2.3.1 Commercial Fishery Community Income Impacts

Table 2-2 presents estimates of community personal income impacts by region due to projected commercial groundfish fishing activity under the sub-options and also compares commercial groundfish fishery impact estimates. In total, commercial fishery community income impacts under the sub-options are between $204 and 203.5 million). However, all ports north of Crescent City/Eureka show a reduction in community income relative to No Action. All ports south of those communities show an increase in community income relative to No Action. Table 2-2 indicates that both sub-options produce a coastwide decline in commercial fishery-related income, reducing total income from $223.1 million under No Action to $204.0 million (-8.6%) under 2b and $203.5 million (-8.8%) under 2d . Economic losses are concentrated in northern fishing-dependent communities such as Astoria–Tillamook (-11.6% to -12.0%), Puget Sound (-29.8%), and Coos Bay–Brookings (-20.9%). In contrast, several California communities benefit, with particularly large gains in Southern California (+111.4%) and notable increases in the San Francisco Area (+22.2%), indicating a strong geographic redistribution of income southward.

Table 2-2. Projected commercial fishery community income impacts under No Action (NA) and the Sub-options (SO) 2b and 2d, showing the difference between No Action and the Sub-options, and the percent increase or decrease of ex-vessel revenues by community group ($millions). No Action 2025 data is provided for reference only

	$ millions			Difference in $ millions			% increase/decrease		
Community	NA (2025)	SO 2b	SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d
Puget Sound	$16.8	$11.8	$11.8	-$5.0	-$5.0	$0.0	-29.8%	-29.8%	0.0%
Washington Coast	$36.9	$34.6	$34.5	-$2.3	-$2.4	-$0.1	-6.2%	-6.5%	-0.3%
Astoria-Tillamook	$88.7	$78.4	$78.1	-$10.3	-$10.6	-$0.3	-11.6%	-12.0%	-0.4%
Newport	$42.9	$38.9	$38.8	-$4.0	-$4.1	-$0.1	-9.3%	-9.6%	-0.3%
Coos Bay-Brookings	$11.0	$8.7	$8.7	-$2.3	-$2.3	$0.0	-20.9%	-20.9%	0.0%
Crescent City-Eureka	$5.1	$4.2	$4.2	-$0.9	-$0.9	$0.0	-17.6%	-17.6%	0.0%
Fort Bragg – Bodega Bay	$7.8	$7.9	$7.9	+$0.1	+$0.1	$0.0	+1.3%	+1.3%	0.0%
San Francisco Area	$3.6	$4.4	$4.4	+$0.8	+$0.8	$0.0	+22.2%	+22.2%	0.0%
Central: SC – Mo – MB*	$5.9	$5.9	$5.9	+$0.0	+$0.0	$0.0	0.0%	0.0%	0.0%
Southern: SB – LA – SD*	$4.4	$9.3	$9.3	$4.9	+$4.9	$0.0	+111.4%	+111.4%	0.0%
Coastwide	**$223.1**	**$204.0**	**$203.5**	**-$19.1**	**-$19.6**	**-$0.5**	**-8.6%**	**-8.8%**	**-0.2%**

* SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

2.3.2 Commercial Fishery Community Employment Impacts

Table 2-3 shows projected employment impacts due to commercial groundfish fishery activity under No Action and the sub-options. The employment impacts closely mirror the income

distribution shifts, with coastwide commercial fishery employment declining from 5,659 jobs under No Action to 5,320 jobs (-6.0%) under sub-option 2b and 5,307 jobs (-6.2%) under sub-options 2d, representing a moderate net contraction in sector employment . The largest absolute job losses occur in Astoria–Tillamook (-280 to -289 jobs), with additional notable reductions in Puget Sound, Newport, and Coos Bay–Brookings, highlighting concentrated impacts in Pacific Northwest commercial fishing communities. Offsetting gains are observed in California, particularly Southern California (+159 jobs, +96.4%) and the San Francisco Area (+18.7%), reflecting substantial employment redistribution toward southern ports. As with the other tables, the difference between 2b and 2d is marginal, with 2d producing only slightly greater coastwide job losses.

Table 2-3. Estimated commercial fishery employment impacts (# of jobs) under No Action (NA) and the Sub-options (SO) 2b and 2d, showing the difference between No Action and the Sub-options, and the percent increase or decrease of ex-vessel revenues by community group/

	#jobs			Difference in #jobs			% increase/decrease		
Community	NA (2025)	SO 2b	SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d	NA to SO 2b	NA to SO 2b	SO 2b to SO 2d
Puget Sound	217	152	152	-65	-65	0	-30.0%	-30.0%	0.0%
Washington Coast	670	636	635	-34	-35	-1	-5.1%	-5.2%	-0.2%
Astoria-Tillamook	2,779	2,499	2,490	-280	-289	-9	-10.1%	-10.4%	-0.4%
Newport	1,034	947	946	-87	-88	-1	-8.4%	-8.5%	-0.1%
Coos Bay-Brookings	281	235	235	-46	-46	0	-16.4%	-16.4%	0.0%
Crescent City-Eureka	80	72	72	-8	-8	0	-10.0%	-10.0%	0.0%
Fort Bragg – Bodega Bay	158	165	165	+7	+7	0	+4.4%	+4.4%	0.0%
San Francisco Area	75	89	89	+14	+14	0	+18.7%	+18.7%	0.0%
Central: SC – Mo – MB*	200	202	201	+2	+1	-1	+1.0%	+0.5%	-0.5%
Southern: SB – LA – SD*	165	324	324	+159	+159	0	+96.4%	+96.4%	0.0%
Coastwide	**5,659**	**5,320**	**5,307**	**-339**	**-352**	**-13**	**-6.0%**	**-6.2%**	**-0.2%**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

2.4 At-sea Whiting Fishery

2.4.1 At-sea Whiting Fishery Income and Employment Impacts

Economic impacts contributed by the at-sea whiting fishery are not assigned to coastal communities. That being said, presumably most of the income and employment impacts associated with non-Tribal and Tribal at-sea whiting fisheries would likely accrue in the Seattle region and also in certain Washington and Oregon coastal communities as 1) the fishery occurs north of California and 2) the primary ports of landing are in those states. Impacts shown in Table 2-4 under all alternatives assume 2025 Pacific whiting allocations after reapportionment of the unused Tribal portion to the non-Tribal whiting sectors. For that reason, there is no projected variation in estimated income or employment impacts between the action alternative scenarios.

Table 2-4. Estimated total ex-vessel revenue equivalent, income and employment impacts between No Action and sub-options for At-sea whiting sectors: Non-Tribal (Motherships, Catcher vessels and Catcher-Processors) and Tribal (Motherships and Catcher vessels).

	No Action 2025	Su-option 2b	Sub-option 2d
Ex-vessel Revenue Equivalent ($mil)			
Non-Tribal Whiting	*$42.4*	$42.4	$42.4
Tribal Whiting	*$1.4*	$1.4	$1.4
Income Impacts ($mil)			
Non-Tribal Whiting	*$138.0*	$138.0	$138.0
Tribal Whiting	*$5.0*	$5.0	$5.0
Employment Impacts (jobs)			
Non-Tribal Whiting	*5,276*	5,276	5,276
Tribal Whiting	*327*	327	327

2.5 Recreational Fisheries

Scenarios for recreational fisheries sectors were constructed based on effort projections for a No Action alternative, plus four alternative options for the California recreational sector (Options 1-4). Initially, four options were need to reflect the California recreational fishery management options (Options 1-4 for season structure in 2027-28 four which could be selected under any of alternative, as detailed in Agenda Item C.7 Attachment 2, April 2026 Chapter 16.). A single option scenario for the Oregon recreational sector and a single option scenario for the Washington recreational sector. The impacts to Oregon and Washington recreational fisheries are independent of impacts to California recreational fisheries, thus under any California Option, the Oregon and Washington impacts remain the same. In April 2026, the Council adopted California Option 4 was adopted as the PPA for California recreational fisheries. As the impacts for Oregon and Washington do not change under any of the California options, the following tables use the term "CA Option 4" for identification.

2.5.1 Recreational Fishery Effort

The PPA scenarios assumed that recreational fisheries experienced the same overall PR/PC effort levels projected under the relevant recreational fishery action alternatives for each area. Results are shown in Table 2-5 by coastal regions that are aggregated from statistical reporting regions. Table 2-5 indicates that under PPA CA Option 4, projected recreational fishing effort declines slightly coastwide from 704.4 thousand to 691.6 thousand angler trips, a reduction of 12.8 thousand trips (-1.8%), suggesting a modest overall contraction in recreational participation relative to the No Action. Regional effects are mixed, with the most substantial absolute decline occurring in Southern California (SB–LA–SD) at -12 thousand trips (-3.0%), while the Washington Coast experiences the largest proportional reduction (-13.0%). In contrast, several northern and central California ports benefit from increased effort, most notably the San Francisco Area, which gains 9 thousand trips (+20.1%), followed by smaller increases in Fort Bragg–Bodega Bay (+4.4%) and Crescent City–Eureka (+2.9%).

Table 2-5. Estimated Recreational Effort (bottomfish+halibut boat trips) impacts under No Action and PPA California Option 4 showing the relative increase and decrease, in number and percentage (%), relative to No Action by community groups in thousands of trips/ No Action for comparative purposes only.

Community Groups	No Action (thousands)	PPA CA Option 4 (thousands)	# trips increase/decrease (thousands)	% increase/decrease
Washington Coast	43.8	38.1	-6	-13.0%
Astoria-Tillamook	6.0	5.9	0	-1.7%
Newport	55.5	54.0	-2	-2.7%
Coos Bay-Brookings	42.8	40.4	-2	-5.6%
Crescent City-Eureka	24.3	25.0	+1	+2.9%
Fort Bragg - Bodega Bay	18.2	19.0	+1	+4.4%
San Francisco Area	43.7	52.5	+9	+20.1%
Central: SC – Mo – MB*	64.4	63.4	-1	-1.6%
Southern: SB – LA – SD*	405.5	393.2	-12	-3.0%
Coastwide Total	**704.4**	**691.6**	**-13**	**-1.8%**

*SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

2.5.2 Recreational Fishery Community Income Impacts

Recreational income impacts are derived from changes in recreational fishing effort (angler trips) and associated expenditures. Table 2-6 shows that under CA Option 4, projected coastwide community group revenues decline modestly from the 2023–2025 average baseline of $243.8 million to $240.8 million, representing an overall $3.0 million (1.2%) reduction . Impacts are unevenly distributed across regions: the largest absolute decrease occurs in the Southern California (SB–LA–SD) group, which drops $4.6 million (-2.9%), while Washington Coast and Coos Bay–Brookings also experience smaller declines. Most other areas remain essentially unchanged, including Astoria–Tillamook, Newport, and Crescent City–Eureka, suggesting relative stability in those communities. Notably, San Francisco Area sees the largest proportional gain at +19.2% (+$2.4 million), with Fort Bragg–Bodega Bay also posting a modest increase of 5.1%, indicating that Option 4 redistributes economic benefits toward select central California ports while slightly reducing aggregate coastwide revenue

Table 2-6. Recreational fishery income impacts ($ millions) under No Action and PPA California Option 4 showing the relative increase and decrease, in number and percentage (%), relative to No Action by community group. No Action provided as reference only

Community Groups	No Action ($ millions)	PPA CA Option 4 ($ millions)	Difference No Action to CA Option 4 ($ millions)	% increase/ decrease No Action to CA Option 4
Washington Coast	$14.0	$13.4	-$0.6	-4.3%
Astoria-Tillamook	$2.8	$2.8	$0.0	0.0%
Newport	$20.7	$20.7	$0.0	0.0%
Coos Bay-Brookings	$9.8	$9.5	-$0.3	-3.1%
Crescent City-Eureka	$3.7	$3.7	$0.0	0.0%
Fort Bragg - Bodega Bay	$3.9	$4.1	+$0.2	+5.1%
San Francisco Area	$12.5	$14.9	+$2.4	+19.2%

Community Groups	No Action ($ millions)	PPA CA Option 4 ($ millions)	Difference No Action to CA Option 4 ($ millions)	% increase/ decrease No Action to CA Option 4
Central: SC – Mo – MB*	$17.6	$17.4	-$0.2	-1.1%
Southern: SB – LA – SD*	$158.9	$154.3	-$4.6	-2.9%
Coastwide Total	**$243.8**	**$240.8**	**-$3.0**	**-1.2%**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

2.5.3 Recreational Fishery Community Employment Impacts

Table 2-7 shows that CA Option 4 produces a modest coastwide decline in recreational fishery-related jobs, reducing total employment from 3,492 to 3,450 jobs, a net loss of 42 jobs (-1.2%) compared to No Action . The largest employment loss occurs in Southern California, which declines by 59 jobs (-2.8%), accounting for more than the coastwide net reduction, while smaller losses are observed in the Washington Coast (-7 jobs) and Coos Bay–Brookings (-4 jobs). Offsetting these declines are gains in select California communities, particularly the San Francisco Area, which sees a significant increase of 28 jobs (+19.4%), along with smaller gains in Fort Bragg–Bodega Bay (+2 jobs) and Newport (+1 job). Overall, the employment impacts indicates that Option 4 shifts economic opportunity toward certain California ports while generating relatively minor coastwide job losses.

Table 2-7 . Recreational fishery employment (number of jobs) impacts under No Action and PPA California Option 4 showing the relative increase and decrease, in number and percentage (%), relative to No Action . No Action is for reference only.

Community Groups	No Action (# jobs)	PPA CA Option 4 (# jobs)	Difference No Action to CA Option 4 (#jobs)	% increase/ decrease No Action to CA Option 4
Washington Coast	247	240	-7	-2.8%
Astoria-Tillamook	58	58	0	0.0%
Newport	429	430	+1	+0.2%
Coos Bay-Brookings	186	182	-4	-2.2%
Crescent City-Eureka	50	50	0	0.0%
Fort Bragg - Bodega Bay	53	55	+2	+3.8%
San Francisco Area	144	172	+28	+19.4%
Central: SC – Mo – MB*	240	237	-3	-1.3%
Southern: SB – LA – SD*	2,087	2,028	-59	-2.8%
Coastwide Total	**3,492**	**3,450**	**-42**	**-1.2%**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Appendix B

Forward

The following is the unabridged socioeconomic report for the 2027-28 groundfish harvest specifications and management measure process in regard to the interim final preferred alternative. This analyses examines all alternatives and scenarios, including the two widow rockfish HCR sub-options, the high/low commercial fishery scenarios, and the four California recreational fishery season structure options. The reason why this was not included verbatim in the document above is for brevity and to focus the discussion on the socio-economic impacts of the interim final preferred alternative sans the statistical noise. This information is useful for those who wish to examine the entire suite of scenarios under the alternative HCRs and the recreational fishery as reference material. For clarity, the relevant information from the following regarding the interim final preferred alternative has been transferred to Chapter 2 above.

B.1 Socioeconomic Environment

B.1.1 Estimated Commercial Ex-Vessel Revenue and Recreational Effort Impacts of the Integrated Alternatives

This section evaluates the effects of the alternatives on fishery participants and fishing communities. The No Action scenario characterizes "current" or "status quo" catch, ex-vessel revenue, and recreational fishing effort using the GMT catch projection methods that are consistent with those applied under the alternatives.

The No Action reports landings and revenue totals and associated income and employment impact projections based on regulations that were in place towards the end of 2025. In order to incorporate consistent estimates of activity in the Pacific whiting fisheries that do not vary across the modelled economic scenarios, this analysis assumes the situation in place in late 2025, where a reapportionment of unused tribal fishery quota to the non-tribal commercial fishery occurred. In years when reapportionment has of tribal fishery quota has occurred, unused whiting quota and potential catch were shifted from the tribal sector to the non-tribal sector. Since such shifts generally have occurred late in the year, catch in the shorebased IFQ sector has been only slightly affected if at all. In this analysis the reapportionment of whiting quota is assumed to affect catch and revenue only in the at-sea tribal sector and at-sea non-tribal mothership and catcher-processor sectors. Since impacts to the tribal and at-sea whiting sectors are not traced through to communities in this analysis, any projected effects of whiting quota reapportionment do not extend to the estimated community income or employment impacts.

The No Action and Action alternative scenarios all assume post-reapportionment 2025 whiting allocations and catch levels. Again, effects of the reapportionment do not affect the distribution of estimated community income and employment impacts described below.

Alternatives were constructed to illustrate the range of economic effects projected under the range of harvest specifications observed in the No Action under default HCRs and compliant management measures illustrated in the No Action Alternative, and under varying ACLs and management measures for certain stocks under the action alternatives and associated options.

Within each modelled alternative there may be multiple options available corresponding to alternative assumptions about regulation of the certain commercial fisheries and the California recreational fishery.

For simplicity, the broad range of potential impacts under the range of alternatives and associated options for commercial and recreational groundfish fisheries has been distilled into a set of modeled economic scenarios. Scenarios for the commercial fisheries sectors were constructed based on landings projections under three alternatives (No Action, Alternative 1 and Alternative 2) plus two sub-alternatives ("High" and "Low") for the shoreside IFQ sectors; a No Action alternative and single action alternative (Alternative 1) for the non-nearshore fixed gear sectors and Tribal fishery sectors. Status quo 2025 landings were assumed for the nearshore fixed gear sectors under all alternative scenarios. Two sub-option scenarios (Alternative 2B and Alternative 2D) were constructed by incorporating catch modeling of the non-whiting IFQ sectors, action Alternative 1 for the non-nearshore fixed gear and Tribal fishery sectors, and status quo 2025 landings for the nearshore fixed gear sectors.

Scenarios for recreational fisheries sectors were constructed based on effort projections for a No Action alternative, plus four alternative options for the California recreational sector (Options 1-4); a single option (No Action = Alternative 1) scenario for the Oregon recreational sector; and a single option (No Action = Alternative 1) scenario for the Washington recreational sector. The Sub-option scenarios assumed that recreational fisheries experienced the same overall effort levels projected under the relevant recreational fishery action alternatives for each area. These include a single action scenario for Washington and Oregon recreational fisheries, and four action options (three of which are modeled) for California recreational fisheries. A list of components by fisheries sector that were used in each modeled economic scenario is shown in Table B- 1

Also, for simplicity, combined commercial-recreational economic impacts described below are displayed for 2027, the first year of the two-year management cycle, only. Although projected effects, where available, may be somewhat different in some cases during the second year of the management cycle (2028), the relative distribution of economic effects and inferences regarding rankings of the alternatives would be very similar to those projected for 2027.

Table B- 1. Relationship between the modelled economic scenarios/alternatives for 2027 and the underlying individual fisheries sectors' alternatives and options.

Modeled Economic Scenario / Alternative	Shoreside IFQ Sectors [a/]	Non-nearshore Fixed gear Sectors [b/]	Nearshore Fixed gear Sectors [c/]	Tribal Sector [d/]	California Recreational Sector [e/]	Oregon Recreational Sector [f/]	Washington Recreational Sector [g/]
No Action	No Action	No Action	2025	2023-2025 average	2023-2025 average	2023-2025 average	2023-2025 average
Alternative 1 High A	Alternative 1 High	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action
Alternative 1 High B	Alternative 1 High	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
Alternative 1 High C	Alternative 1 High	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action
Alternative 1 Low A	Alternative 1 Low	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action

Modeled Economic Scenario / Alternative	Shoreside IFQ Sectors [a/]	Non-nearshore Fixed gear Sectors [b/]	Nearshore Fixed gear Sectors [c/]	Tribal Sector [d/]	California Recreational Sector [e/]	Oregon Recreational Sector [f/]	Washington Recreational Sector [g/]
Alternative 1 Low B	Alternative 1 Low	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
Alternative 1 Low C	Alternative 1 Low	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action
Alternative 2 High A	Alternative 2 High	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action
Alternative 2 High B	Alternative 2 High	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
Alternative 2 High C	Alternative 2 High	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action
Alternative 2 Low A	Alternative 2 Low	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action
Alternative 2 Low B	Alternative 2 Low	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
Alternative 2 Low C	Alternative 2 Low	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action
Sub-option (SO) Scenarios:							
SO 2B-A	Alternative 2B	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action
SO 2B-B	Alternative 2B	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
SO 2B-C	Alternative 2B	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action
SO 2D-A	Alternative 2D	Alternative 1	2025	Alternative 1	Option 4	No Action	No Action
SO 2D-B	Alternative 2D	Alternative 1	2025	Alternative 1	Option 2	No Action	No Action
SO 2D-C	Alternative 2D	Alternative 1	2025	Alternative 1	Option 1	No Action	No Action

a/ For the Shoreside IFQ sectors there are two action alternatives (Alternative 1 and Alternative 2) with High and Low sub-alternatives under each action alternative. The IFQ whiting sector is modeled under a single scenario based on 2025 reapportioned allocations and observed landings.

b/ The Non-nearshore fixed gear sectors are modeled under a No Action alternative and a single option available as an action alternative.

c/ The Nearshore fixed gear sectors are not modeled and assumed to be the same as observed in 2025.

d/ Tribal commercial fisheries are modeled under No Action and a single action alternative scenario.

e/ There are four California Recreational sector options any of which could be selected under the action alternatives, including PPA. Option 4 is similar to 2025. Option 2 is year-round fishing open at all depths. Option 1 is a closure to boat-based fishing. Since the effects of Option 3 cannot currently be quantified it has been omitted from the description of economic impacts in this section.

f/ There is only a single action alternative under consideration for Oregon recreational fisheries.

g/ There is only a single action alternative under consideration for Washington recreational fisheries.

The 2015 EIS included detailed descriptions of the models and data used to project socioeconomic impacts. Updated documentation of the models may be found in SAFE (PFMC, 2026 updates in process). The relevant projection models include:

- GMT catch projection models for the various sectors of the commercial groundfish fishery.
- GMT fishing effort (angler trips) projections for the recreational groundfish fishery in each state.

- The landings distribution model (LDM), which is used to assign where commercial landings are likely to occur and the resulting port-level ex-vessel revenues.
- The IOPAC economic impact model used to evaluate the effects of the alternatives on coastal communities (ports where commercial groundfish landings and recreational groundfish effort occur) in terms of personal income generated ("income impacts") and associated "employment impacts".
- Net revenue in commercial fishery operations based on projected sector landings and vessel cost-earnings surveys.

The following sections assess socioeconomic impacts in terms of:

- Changes in commercial ex-vessel revenue by fishery sector,
- Change in recreational angler trips by community,
- Change in net revenue by fishery,
- Change in income and employment impacts by community resulting from changes in commercial landings revenue and recreational effort.

B.1.2. Commercial Fisheries

Revenue estimates are based on projected landings estimates from the GMT models and LDM referenced above. Table B- 1, Table B- 2, and Table B- 3**.** compare ex-vessel revenue estimates under the alternative scenarios to No Action. All projections assume average ex-vessel prices observed in 2025. Effects are presented by groundfish fishery sector, which are described in Section 1.1.

A number of caveats apply to modeling commercial fishery impacts. First, effort displaced by management measures is assumed not to switch readily into other fishery sectors or geographic regions. Second, landings projection models and economic impact models like IOPAC are calibrated to represent a "snapshot" of the economy at a particular point in time. Consequently, these models are best able to address impacts of scenarios that are not too far removed from what has occurred in the recent past. Third, catch projections in the IFQ fishery may not reflect the leveraging effect of changes in ACLs for certain "choke" species (those with low ACLs/allocations). A higher or lower allocation of a particularly constraining species may generate more or less actual revenue than is forecast using the current catch projection models. At the same time, market limitations may constrain the extent to which commercial fisheries are able to take advantage of increased allocations. Finally, stock recruitment variability and catch monitoring uncertainty will contribute to the divergence between the projections and actual catches. Although actual ACL attainment may differ from projections, inseason management measures are routinely applied to prevent ACLs from being exceeded.

As noted above, the Pacific whiting TAC is determined annually, consistent with the Agreement with Canada on Pacific Hake/Whiting where 73.88 percent of the TAC is allocated to U.S. fisheries, of which 17.5 percent is allocated to the Tribal sector. Since the TAC and resulting allocation is not determined during the groundfish harvest specifications process, a historical TAC (2025) is used to estimate socioeconomic impacts. The actual TACs for 2027 and 2028 could be higher or lower than the assumed value.

As shown in Table B- 1, the modeled commercial fisheries economic scenarios are constructed as follows:

- No Action includes the No Action alternatives for Shoreside IFQ, Non-nearshore fixed gear sablefish, and Tribal sectors. Nearshore fixed gear sectors are set equal to 2025 landings.
- Alternative 1 High includes Shoreside IFQ Alternative 1 High, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.
- Alternative 1 Low includes Shoreside IFQ Alternative 1 Low, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.
- Alternative 2 High includes Shoreside IFQ Alternative 2 High, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.
- Alternative 2 Low includes Shoreside IFQ Alternative 2 Low, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.
- Sub-Option 2B includes Shoreside IFQ 2B, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.
- Sub-Option 2D includes Shoreside IFQ 2D, plus Alternative 1 scenarios for Non-nearshore fixed gear sablefish and Tribal sectors, and 2025 landings for the Nearshore fixed gear sectors.

Table B- 2. Estimated ex-vessel revenues by groundfish harvest sector under No Action and the 2027 economic alternative scenarios ($million) and the sub-options (SO).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Shoreside Sectors:							
Whiting	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Non-whiting Trawl+Non-trawl IFQ	30.9	21.2	20.9	23.7	23.4	22.3	22.0
Limited Entry Fixed Gear	20.9	21.5	21.5	21.5	21.5	21.5	21.5
Nearshore Open Access	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Non-nearshore Open Access	4.0	8.6	8.6	8.6	8.6	8.6	8.6
Incidental Open Access, EFPs and Misc.	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Tribal (incl. whiting)	2.7	5.3	5.3	5.3	5.3	5.3	5.3
Shoreside sectors' Totals	**90.7**	**88.8**	**88.5**	**91.3**	**91.0**	**89.9**	**89.6**
At-sea Sectors:							
Non-Tribal Whiting	55.5	55.5	55.5	55.5	55.5	55.5	55.5
Tribal Whiting	17.5	17.5	17.5	17.5	17.5	17.5	17.5
At-sea sectors' Totals	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**
TOTAL Groundfish Revenue	**163.8**	**161.9**	**161.6**	**164.3**	**164.1**	**162.9**	**162.7**

Under the alternative scenarios, average annual coastwide commercial groundfish ex-vessel revenue, including the at-sea sectors, is projected t to range between $0.6 million above No Action under Alternative 2 Hi to $2.2 million below Action under Alternative 1 Low among the action alternatives. Total coastwide ex-vessel revenue under the action alternative scenarios ranges from $164.3 million under Alternative 2 Hi to $161.6 million under Alternative 1 Low. The difference of $2.7 million in projected overall ex-vessel revenue among the 2027 action alternative scenarios is likely within the margin of error for these estimates. All of the differences between the commercial fishery action alternatives are due to projected landings in the Non-whiting IFQ sector. Revenue impacts under the two Sub-options are within the range analyzed, specifically $0.9 million below No Action under Sub-option 2B and $1.1 million below No Action under Sub-option 2D.

Key points regarding estimated ex-vessel revenue impacts by fishery sector are as follows:

- The TAC for Pacific whiting is set annually outside of this harvest specifications process. In this analysis the 2027-2028 TAC and allocations are assumed to be the same as 2025: the No Action and Action alternative scenarios all assume post-reapportionment 2025 whiting allocations and catch levels.
    - Projections for the **shorebased non-tribal whiting IFQ** fishery do not vary under the No Action and Action Alternatives. Ex-vessel revenue from shoreside non-tribal whiting landings is estimated to be $27.5 million under the No Action and all alternative scenarios.
    - Ex-vessel revenue equivalents in the **at-sea non-Tribal and Tribal whiting** fisheries, are projected to be $55.5 million and $17.5 million, respectively, under the No Action and all alternatives.
- Estimated ex-vessel revenue in the **shoreside non-whiting trawl+nontrawl IFQ** fishery sectors relative to No Action ($30.9 million) ranges from a reduction of $7.2 million under Alternative 2 High to a reduction of $10 million under Alternative 1 Low.
- The **limited entry fixed gear (LEFG) and non-nearshore open access (OA)** sectors target sablefish, with sablefish landings accounting for approximately 74 percent of the two sectors' No Action ex-vessel revenues. Compared with No Action, both sectors show increased ex-vessel revenue under 2027 action alternatives. In the LEFG sector, estimated increases from No Action ($20.9 million) are $0.6 million under the action alternatives. Revenues in the non-nearshore OA sector are projected to be $4.6 million greater than No Action under the action alternatives.
- The **nearshore OA** sector primarily targets rockfish, cabezon, and lingcod with black rockfish accounting for the largest share of any single species (see Groundfish SAFE Table 9b). Annual ex-vessel revenues relative to the No Action ($4.1 million) are not projected to change under 2027 No Action and the action alternatives. While the nearshore sector contributes a relatively small portion of coastwide shoreside revenue, it is especially important in Southern Oregon, Northern California and Central California fishing communities.
- **Shoreside Tribal** sector revenues (including whiting) are projected to increase relative to the No Action ($2.7 million) by $2.6 million under the action alternatives.

Table B- 3. Change in groundfish ex-vessel revenues from No Action by groundfish harvest sector under the 2027 economic alternative scenarios ($million).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Shoreside Sectors:							
Whiting	*27.5*	0	0	0	0	0	0
Non-whiting Trawl+Non-trawl IFQ	*30.9*	-9.7	-10.0	-7.2	-7.5	-8.7	-8.9
Limited Entry Fixed Gear	*20.9*	+0.6	+0.6	+0.6	+0.6	+0.6	+0.6
Nearshore Open Access	*4.1*	0	0	0	0	0	0
Non-nearshore Open Access	*4.0*	+4.6	+4.6	+4.6	+4.6	+4.6	+4.6
Incidental Open Access, EFPs and Misc.	*0.6*	0	0	0	0	0	0
Tribal (incl. whiting)	*2.7*	+2.6	+2.6	+2.6	+2.6	+2.6	+2.6
Shoreside sectors' Totals	***90.7***	**-1.9**	**-2.2**	**+0.6**	**+0.3**	**-0.8**	**-1.1**
At-sea Sectors:							
Non-Tribal Whiting	*55.5*	0	0	0	0	0	0
Tribal Whiting	*17.5*	0	0	0	0	0	0
At-sea sectors' Totals	***73.0***	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL Groundfish Revenue	***163.8***	**-1.9**	**-2.2**	**+0.6**	**+0.3**	**-0.8**	**-1.1**

Table B- 4. Change in groundfish ex-vessel revenues from No Action by groundfish harvest sector under the 2027 economic alternative scenarios (percent).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Shoreside Sectors:							
Whiting	*27.5*	0%	0%	0%	0%	0%	0%
Non-whiting Trawl+Non-trawl IFQ	*30.9*	-31.3%	-32.3%	-23.4%	-24.3%	-28.0%	-28.8%
Limited Entry Fixed Gear	*20.9*	+2.7%	+2.7%	+2.7%	+2.7%	+2.7%	+2.7%
Nearshore Open Access	*4.1*	0%	0%	0%	0%	0%	0%
Non-nearshore Open Access	*4.0*	+115.1%	+115.1 %	+115.1 %	+115.1 %	+115.1 %	+115.1 %
Incidental Open Access, EFPs and Misc.	*0.6*	0%	0%	0%	0%	0%	0%
Tribal (incl. whiting)	*2.7*	+97.9%	+97.9%	+97.9%	+97.9%	+97.9%	+97.9 %
Shoreside sectors' Totals	***90.7***	**-2.1%**	**-2.4%**	**+0.6%**	**+0.3%**	**-0.9%**	**-1.2%**
At-sea Sectors:							
Non-Tribal Whiting	*55.5*	0%	0%	0%	0%	0%	0%
Tribal Whiting	*17.5*	0%	0%	0%	0%	0%	0%
At-sea sectors' Totals	***73.0***	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
TOTAL Groundfish Revenue	***163.8***	**-1.2%**	**-1.3%**	**+0.3%**	**+0.2%**	**-0.5%**	**-0.7%**

B.1.2.3 Recreational Fisheries

For recreational fisheries, projected marine area angler boat trips taken in groundfish plus Pacific halibut recreational fisheries are compared to No Action fishing effort under the proposed management alternative scenarios. Table B- 5, Table B- 6, and Table B- 7 compare projected recreational angler trips under the No Action and action alternatives to No Action angler effort. Results are shown by coastal regions that consist of aggregated statistical reporting regions.[2]

To produce a tractable number of economic impact projections that cover the range of possible outcomes for recreational groundfish fisheries, a No Action and three action alternative scenarios were constructed from the range of management options proposed for each state. Proposed management regimes for Washington's recreational fisheries do not vary between No Action and the action alternatives. Likewise, proposed management regimes for Oregon's recreational fisheries do not vary between No Action and the action alternatives. For the California recreational fishery, a No Action and three action alternative scenarios were constructed from the four California recreational fishery management options (Options 1-4) which could be selected under any alternative. The action alternative, "Alternative 1" (and both PPA scenarios) are associated with three California recreational options: Option 4, Option 2 (year-round all-depth fishing in California), and Option 1 (closure to boat-based fishing in California). Since effort under California Option 3 cannot currently be quantified, projected effects only under California Options 1, 2 and 4 are analyzed under the set of alternative recreational scenarios.[3]

For more information about the proposed recreational management options see Appendix A of Agenda Item E.6, Attachment 2, June 2026.

Key points regarding estimated recreational effort impacts by coastal region are as follows:

- Coastwide recreational effort is projected to decrease from No Action by 12,800 trips under No Action: California Option 4 and under Alternative 1: California Option 4, increase by 227,800 trips under Alternative 1: California Option 2, and decrease by 565,900 trips under Alternative 1: California Option 1 due to assumed closure of the boat-based recreational fishery in California.
- Recreational fishing effort on the Washington Coast is projected to decrease from No Action under all alternatives by 5,700 trips. Washington Coast ports accounted for 6.2 percent of coastwide No Action fishing effort.
- Recreational fishing effort in Oregon is projected to decrease from No Action under all alternatives by 3,900 trips, with reductions projected in all three Oregon port areas (although the numbers of charter trips are projected to increase slightly in all three Oregon port areas[4]). The three combined Oregon coastal regions account for 14.8 percent of coastwide No Action fishing effort.

[2] The Puget Sound region is not shown in these tables because Council managed recreational fisheries do not occur in that region.

[3] While it is expected that decreases in groundfish effort would occur in all management areas under Option 3 relative to the No Action the amount cannot be quantified as estimates of angler trips cannot be parsed into depth bins. Additionally, depending upon which RCA line is chosen under Option 3, effort levels could be similar to No Action or closer to complete fishery closure.

[4] The underlying distribution of charter and private angler trips in each community group is not shown in the summary impact tables.

- California recreational fishing effort is projected to: California Option 4 and Alternative 1: California Option 4, increase by 237,400 trips under Alternative 1: California Option 2, and decrease by 556,200 trips under Alternative 1: California Option 1 due to assumed closure of the boat-based recreational fishery in California. The five California regions combined account for 79.0 percent of coastwide No Action fishing effort. The Santa Barbara to San Diego region alone accounts for more than half (57.6 percent) of coastwide No Action recreational angler effort, and this region also shows the largest absolute and percentage changes in angler trips under the alternatives.

Table B- 5. Estimated Recreational Effort (bottomfish+halibut boat trips) under No Action and the 2027 economic alternative scenarios (thousands of angler trips).

Community Groups	No Action: (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Options 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	43.8	38.1	38.1	38.1	38.1
Astoria-Tillamook	6.0	5.9	5.9	5.9	5.9
Newport	55.5	54.0	54.0	54.0	54.0
Coos Bay-Brookings	42.8	40.4	40.4	40.4	40.4
Crescent City-Eureka	24.3	25.0	25.0	27.6	0.0
Fort Bragg - Bodega Bay	18.2	19.0	19.0	20.9	0.0
San Francisco Area	43.7	52.5	52.5	64.4	0.0
SC – Mo – MB*	64.4	63.4	63.4	77.8	0.0
SB – LA – SD*	405.5	393.2	393.2	602.8	0.0
Coastwide Total	**704.4**	**691.6**	**691.6**	**932.1**	**138.5**

*SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

Table B- 6. Estimated change from No Action Recreational Effort (bottomfish+halibut boat trips) under the 2027 economic alternative scenarios (thousands of angler trips).

Community Groups	No Action: (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Options 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*43.8*	-5.7	-5.7	-5.7	-5.7
Astoria-Tillamook	*6.0*	-0.1	-0.1	-0.1	-0.1
Newport	*55.5*	-1.5	-1.5	-1.5	-1.5
Coos Bay-Brookings	*42.8*	-2.4	-2.4	-2.4	-2.4
Crescent City-Eureka	*24.3*	+0.7	+0.7	+3.3	-24.3
Fort Bragg - Bodega Bay	*18.2*	+0.7	+0.7	+2.7	-18.2
San Francisco Area	*43.7*	+8.8	+8.8	+20.7	-43.7
SC – Mo – MB*	*64.4*	-1.0	-1.0	+13.4	-64.4
SB – LA – SD*	*405.5*	-12.3	-12.3	+197.3	-405.5
Coastwide Total	***704.4***	-12.8	-12.8	+227.8	-565.9

*SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

Table B- 7 Estimated change from No Action Recreational Effort (bottomfish+halibut boat trips) under the 2027 economic alternative scenarios (percent).

Community Groups	No Action: (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Options 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*43.8*	-13.1%	-13.1%	-13.1%	-13.1%

Community Groups	No Action: (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Options 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Astoria-Tillamook	*6.0*	-1.0%	-1.0%	-1.0%	-1.0%
Newport	*55.5*	-2.7%	-2.7%	-2.7%	-2.7%
Coos Bay-Brookings	*42.8*	-5.6%	-5.6%	-5.6%	-5.6%
Crescent City-Eureka	*24.3*	+2.8%	+2.8%	+13.5%	-100.0%
Fort Bragg - Bodega Bay	*18.2*	+3.9%	+3.9%	+14.7%	-100.0%
San Francisco Area	*43.7*	+20.1%	+20.1%	+47.3%	-100.0%
SC – Mo – MB*	*64.4*	-1.5%	-1.5%	+20.8%	-100.0%
SB – LA – SD*	*405.5*	-3.0%	-3.0%	+48.7%	-100.0%
Coastwide Total	***704.4***	-1.8%	-1.8%	+32.3%	-80.3%

*SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

B.2 Estimated Change in Income and Employment Impacts by Community

Socioeconomic impacts to fishing communities engaged in groundfish fisheries are evaluated based on changes in personal income (dollar income impacts) and employment (number of jobs) under the alternative scenarios. These effects are functions of the projected changes in commercial landings and recreational effort described above. Comparisons are presented with respect to No Action and modeled action alternative scenarios. For simplification and ease of comparing impacts from commercial and recreational fishing activities, some commercial fisheries port groups are combined so as to be consistent with the recreational reporting regions. For a description of the counties included in these regions see page 378 in the 2015 EIS.

Projected changes in commercial ex-vessel revenues and recreational angler trips were converted into income and employment effects using results from the NWFSC IOPAC input-output model. Impacts include combined direct, indirect, and induced economic effects resulting from projected changes in recreational angling, commercial fishing, fish processing, and associated input supply and industry support activities.

Community impacts from commercial and recreational fishing are displayed separately. Impacts are calculated by applying income and employment multipliers generated using IOPAC regional impact models to the projected levels of local expenditures by commercial harvesters, seafood processors, and recreational anglers under No Action and the action alternative scenarios.

Income and employment impacts from Tribal fisheries and from at-sea Pacific whiting catcher-processor and mothership sectors are not included in the community impact totals for the following reasons:

3. Tribal groundfish harvesting and processing are not included in any of the cost-revenue data collected by NWFSC.
4. While overall estimators of income and employment impacts derived from the at-sea whiting fishery (tribal and non-tribal CPs and motherships) have been developed, the detail required to attribute these impacts to particular port groups have not.

That being said, presumably most of the income and employment impacts associated with at-sea whiting fisheries would likely accrue in the Seattle region and Washington and Oregon coastal

communities; while impacts of shorebased tribal groundfish (whiting and non-whiting) fisheries most likely accrue in certain Washington Coast communities.

Economic impact models like IOPAC are calibrated to represent a "snapshot" of the economy at a particular point in time. Consequently, these models are best able to address impacts of scenarios that are within the range of what may have occurred over the recent past. Analysis of scenarios that represent particularly large departures from the No Action may, therefore, result in disproportionately biased impact estimates.

B.2.1. Commercial Fishery Community Income Impacts

Table B- 1 presents estimates of community personal income impacts by region due to projected commercial groundfish fishing activity under the range of alternatives. Table B- 8, Table B- 9, and Table B- 10 compare commercial groundfish fishery impact estimates under the alternative scenarios against No Action. Table B- 11 presents estimated income impacts resulting from recreational groundfish fisheries, with Table B- 12 and Table B- 13 comparing the recreational estimates relative to the No Action.

As noted in Table B- 1, scenarios for the commercial fisheries sectors were constructed based on landings projections under three alternatives (No Action, Alternative 1 and Alternative 2) plus two sub-alternatives ("High" and "Low") for the shoreside IFQ sectors and single action alternative (Alternative 1) for the non-nearshore fixed gear sectors and Tribal fishery sectors. Status quo 2025 landings were assumed for the nearshore fixed gear sectors under all alternative scenarios. Sub-options 2B and 2D were constructed by incorporating catch modeling of the non-whiting IFQ sectors, action Alternative 1 for the non-nearshore fixed gear and Tribal fishery sectors, and status quo 2025 landings for the nearshore fixed gear sectors.

Key points regarding estimated 2027 income impacts from commercial groundfish fisheries by coastal region are as follows:

- Coastwide estimated personal income impacts from commercial groundfish fishing are estimated to be $223.1 million under the No Action and to range between approximately $201.1 million (Alternative 1 Low) and $207.3 million (Alternative 2 High) under the action alternative scenarios, a range of $6.2 million. Note that the differences between impact projections under the action alternatives are likely within the margin of error of the economic modeling. Income impacts under the two Sub-options are within the range analyzed. Sub-Option 2b is approximately $19.1 million below No Action and Sub-option 2B is $20.1 million below No Action
- Relative to No Action, Puget Sound ports show decreases of approximately $5 million under the action alternatives. Puget Sound ports account for 7.6 percent of estimated coastwide No Action personal income impacts from commercial groundfish fishing.
- Washington Coast port areas show personal income changes ranging from of an increase of $4.9 million under No Action to a decrease of $2.6 million under Alternative 1 High and Alternative 1 Low. Washington Coast ports account for 16.5 percent of estimated coastwide No Action personal income impacts from commercial groundfish fishing.
- Oregon port areas show personal income decreasing from No Action under the alternatives. Combined, Oregon port areas account for nearly 63.9 percent of estimated coastwide personal income impacts from commercial groundfish fishing.

- All California port groups show variable results, with, in general, deceases in ports north of Bodega Bay and with increases projected for the San Francisco and Santa Barbara-San Diego port areas under all action alternative scenarios. The combined California ports account for 12 percent of estimated coastwide No Action personal income impacts from commercial groundfish fishing.

Table B- 8. Commercial fishery income impacts under No Action and the 2027 economic alternative scenarios by community group ($million).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	16.8	11.8	11.8	11.8	11.8	11.8	11.8
Washington Coast	36.9	34.3	34.2	35.1	35.1	34.6	34.5
Astoria-Tillamook	88.7	76.7	76.4	80.2	79.9	78.4	78.1
Newport	42.9	38.9	38.8	39.8	39.7	38.9	38.8
Coos Bay-Brookings	11.0	8.6	8.5	8.8	8.8	8.7	8.7
Crescent City-Eureka	5.1	4.2	4.2	4.3	4.3	4.2	4.2
Fort Bragg – Bodega Bay	7.8	7.8	7.8	7.8	7.7	7.9	7.9
San Francisco Area	3.6	4.3	4.3	4.3	4.3	4.4	4.4
SC – Mo – MB*	5.9	5.9	5.8	5.9	5.9	5.9	5.9
SB – LA – SD*	4.4	9.3	9.3	9.3	9.3	9.3	9.3
Coastwide Total	223.1	201.72	201.09	207.29	206.72	204.0	203.5

* SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

Table B- 9. Change in commercial fishery income impacts (from No Action) under the 2027 economic alternative scenarios by community group ($million).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	*16.8*	-5.0	-5.1	-5.0	-5.1	-5.0	-5.0
Washington Coast	*36.9*	-2.6	-2.6	-1.8	-1.8	-2.3	-2.3
Astoria-Tillamook	*88.7*	-12.0	-12.3	-8.5	-8.8	-10.3	-10.6
Newport	*42.9*	-4.1	-4.2	-3.1	-3.2	-4.0	-4.1
Coos Bay-Brookings	*11.0*	-2.4	-2.4	-2.1	-2.2	-2.3	-2.3
Crescent City-Eureka	*5.1*	-0.9	-0.9	-0.8	-0.8	-0.9	-0.9
Fort Bragg – Bodega Bay	*7.8*	+0.0	-0.0	-0.0	-0.1	+0.1	+0.1
San Francisco Area	*3.6*	+0.8	+0.8	+0.8	+0.8	+0.8	+0.8
SC – Mo – MB*	*5.9*	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0
SB – LA – SD*	*4.4*	+4.9	+4.9	+4.9	+4.9	+4.9	+4.9
Coastwide Total	*223.1*	-21.4	-22.0	-15.8	-16.4	-19.0	-19.6

* SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

Table B- 10. Change in commercial fishery income impacts (from No Action) under the 2027 economic alternative scenarios by community group (percent).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	*16.8*	-30.0%	-30.1%	-29.9%	-30.0%	-29.8%	-29.8%
Washington Coast	*36.9*	-6.9%	-7.1%	-4.8%	-4.9%	-6.1%	-6.3%
Astoria-Tillamook	*88.7*	-13.5%	-13.9%	-9.6%	-9.9%	-11.6%	-12.0%

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Newport	*42.9*	-9.5%	-9.7%	-7.3%	-7.5%	-9.4%	-9.6%
Coos Bay-Brookings	*11.0*	-21.9%	-22.2%	-19.6%	-19.9%	-20.8%	-21.0%
Crescent City-Eureka	*5.1*	-17.2%	-17.5%	-16.0%	-16.4%	-18.1%	-18.2%
Fort Bragg – Bodega Bay	*7.8*	+0.5%	-0.1%	-0.1%	-0.7%	+1.2%	+1.2%
San Francisco Area	*3.6*	+22.2%	+21.8%	+21.9%	+21.5%	+22.4%	+22.4%
SC – Mo – MB*	*5.9*	-1.4%	-1.7%	-0.5%	-0.7%	-0.4%	-0.7%
SB – LA – SD*	*4.4*	+111.6%	+111.6%	+111.6%	+111.6%	+111.6%	+111.6%
Coastwide Total	*223.1*	-9.6%	-9.9%	-7.1%	-7.3%	-8.5%	-8.8%

* SC – Mo – MB = Santa Cruz, Monterey and Morro Bay; SB – LA – SD = Santa Barbara, Los Angeles and San Diego.

B.2.2 Recreational Fishery Community Income Impacts

Recreational income impacts are derived from changes in recreational fishing effort (angler trips) and associated expenditures. See Recreational Fisheries section, above, for discussion regarding change in projected fishing effort due to management changes. Table B- 11 shows estimated recreational income impacts under No Action and the alternative scenarios; Table B- 12 shows the incremental change with respect to the No Action; Table B- 13 shows the percentage change.

Proposed management regimes for Washington's recreational fisheries do not vary between No Action and the action alternatives. Proposed management regimes for Oregon's recreational fisheries also do not vary between No Action and the action alternatives. For the California recreational fishery, a No Action and three action alternative scenarios were constructed from the four California recreational fishery management options (Options 1-4), any of which could be selected under any of the alternatives. Projected effort under California Option 4 is most similar to the No Action. The action alternative, "Alternative 2", is variously associated with California Option 4, Option 2 (year-round all-depth fishing in California), and Option 1 (closure to boat-based fishing in California). Since effort under California Option 3 cannot currently be quantified, only projected effects under California Options 1, 2 and 4 are analyzed under the set of alternative recreational scenarios.

Key points regarding estimated income impacts from recreational groundfish fisheries by coastal region are as follows:

- **Coastwide** recreational fishing income impacts are projected to decrease from No Action by approximately $3 million under Alternative 1: California Option 4 and Alternative 2: California Option 4, increase by $87.4 million) under Alternative 2: California Option 2, and decrease by approximately $197.4 million) under Alternative 2: California Option 1.
- The Washington Coast shows a decrease in estimated recreational fishing income impacts relative to the No Action of approximately $0.6 million under No Action and all action alternative scenarios. Washington Coast ports account for six percent of No Action recreational fishing income impacts.
- Recreational fishing income impacts overall in Oregon are projected to decrease from No Action by $0.2 million under all alternatives, largely due to the projected reduction of $0.25 million in the Coos Bay-Brookings region. Although this level of detail is not shown in the summary impact tables, slight increases shown for Astoria-Tillamook and Newport are the result of projected increases in the numbers of charter trips, which have relatively larger

income and employment impacts than private trips. Combined Oregon Coast ports account for 14 percent of No Action recreational fishing income impacts.

- Recreational fishing income impacts in California are projected to decrease from No Action overall under Alternative 1: California Option 4 and under Alternative 2: California Option 4, largely due to a projected decrease of $4.6 million in the Santa Barbara-San Diego region; and to increase by $88.2 million under Alternative 2: California Option 2, with increases projected in all California port areas. Recreational fishing income impacts are projected to decrease from No Action overall by $196.6 million under Alternative 2: California Option 1, with reductions in all California port areas due to closure of boat-based fishing. Combined California Coast ports account for 81 percent of No Action recreational fishing income impacts.

Table B- 11. Recreational fishery income impacts under No Action and the 2027 economic alternative scenarios by community group ($million).

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	14.0	13.4	13.4	13.4	13.4
Astoria-Tillamook	2.8	2.8	2.8	2.8	2.8
Newport	20.7	20.7	20.7	20.7	20.7
Coos Bay-Brookings	9.8	9.5	9.5	9.5	9.5
Crescent City-Eureka	3.7	3.7	3.7	4.1	0.0
Fort Bragg - Bodega Bay	3.9	4.1	4.1	4.5	0.0
San Francisco Area	12.5	14.9	14.9	18.3	0.0
SC – Mo – MB*	17.6	17.4	17.4	21.3	0.0
SB – LA – SD*	158.9	154.3	154.3	236.5	0.0
Coastwide Total	**243.8**	**240.8**	**240.8**	**331.2**	**46.4**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 12. Change in recreational fishery income impacts from No Action under the 2027 economic alternative scenarios by community group ($million)

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*14.0*	-0.57	-0.57	-0.57	-0.57
Astoria-Tillamook	*2.8*	+0.01	+0.01	+0.01	+0.01
Newport	*20.7*	+0.00	+0.00	+0.00	+0.00
Coos Bay-Brookings	*9.8*	-0.25	-0.25	-0.25	-0.25
Crescent City-Eureka	*3.7*	+0.02	+0.02	+0.41	-3.70
Fort Bragg - Bodega Bay	*3.9*	+0.16	+0.16	+0.59	-3.92
San Francisco Area	*12.5*	+2.43	+2.43	+5.82	-12.50
SC – Mo – MB*	*17.6*	-0.22	-0.22	+3.73	-17.61
SB – LA – SD*	*158.9*	-4.59	-4.59	+77.66	-158.86
Coastwide Total	***243.8***	**-3.01**	**-3.01**	**+87.40**	**-197.40**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 13. Change in recreational fishery income impacts from No Action under the 2027 economic alternative scenarios by community group (percent).

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*14.0*	-4.1%	-4.1%	-4.1%	-4.1%
Astoria-Tillamook	*2.8*	+0.5%	+0.5%	+0.5%	+0.5%
Newport	*20.7*	+0.0%	+0.0%	+0.0%	+0.0%
Coos Bay-Brookings	*9.8*	-2.6%	-2.6%	-2.6%	-2.6%
Crescent City-Eureka	*3.7*	+0.5%	+1%	+11.1%	-100%
Fort Bragg - Bodega Bay	*3.9*	+4.0%	+4%	+14.9%	-100%
San Francisco Area	*12.5*	+19.4%	+19%	+46.5%	-100%
SC – Mo – MB*	*17.6*	-1.2%	-1%	+21.2%	-100%
SB – LA – SD*	*158.9*	-2.9%	-3%	+48.9%	-100%
Coastwide Total	*243.8*	-1.2%	-1.2%	+35.8%	-81.0%

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

B.2.3 Commercial Fishery Community Employment Impacts

Table B- 14 shows projected employment impacts due to commercial groundfish fishery activity under No Action and the alternative scenarios; Table B- 15 and Table B- 16 show the change in commercial fishery employment impacts relative to No Action in terms of dollars and percentage, respectively.

As noted in Table B-1, scenarios for the commercial fisheries sectors were constructed based on landings projections under three alternatives (No Action, Alternative 1 and Alternative 2) plus two sub-alternatives ("High" and "Low") for the shoreside IFQ sectors; a No Action alternative and single action alternative (Alternative 1) for the non-nearshore fixed gear sectors and Tribal fishery sectors. Status quo 2025 landings were assumed for the nearshore fixed gear sectors under all alternative scenarios. Sub-option 2B and 2D were constructed by incorporating catch modeling of the non-whiting IFQ sectors, action Alternative 1 for the non-nearshore fixed gear and Tribal fishery sectors, and status quo 2025 landings for the nearshore fixed gear sectors.

Key points regarding estimated employment impacts from commercial groundfish fisheries by coastal region are as follows:

- Estimated coastwide employment impacts from commercial groundfish fishing are 5,659 jobs under the No Action. Coastwide employment impact levels under the action alternatives are projected to range from 5,247 jobs under Alternative 1 Low to 5,399 jobs under Alternative 2 High, a range of 152 jobs. Employment impacts under the two Sub-options are within the range analyzed, specifically 339 below No Action under Sub-option 2B and 352 below No Action under Sub-option 2D.
- Puget Sound ports show projected decreases in employment when compared to No Action. Puget Sound ports account for 3.8 percent of estimated coastwide No Action employment impacts from commercial groundfish fishing.
- Washington Coast port areas under the Alternatives show decreases in employment impacts for the Washington when compared to No Actions. Washington Coast ports

account for 11.8 percent of estimated coastwide No Action employment impacts from commercial groundfish fishing.

- Oregon port areas show decreases in employment impacts for Oregon port areas under the action alternatives range when compared to No Action. Combined Oregon ports account for 72.3 percent of estimated coastwide No Action employment impacts from commercial groundfish fishing.
- Except for Crescent City-Eureka port groups, all other California port groups are projected to see increases in commercial fisheries employment impacts from relative to No Action., California ports account for 12 percent of estimated coastwide Crescent City-Eureka employment impacts from commercial groundfish fishing.

Table B- 14. Commercial fishery employment impacts under No Action and the 2027 economic alternative scenarios by community group (number of jobs).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	*217*	152	151	152	152	152	152
Washington Coast	*670*	631	630	644	643	636	635
Astoria-Tillamook	*2,779*	2,451	2,442	2,547	2,540	2,499	2,490
Newport	*1,034*	946	945	966	965	947	946
Coos Bay-Brookings	*281*	232	231	240	239	235	235
Crescent City-Eureka	*80*	72	72	73	73	72	72
Fort Bragg – Bodega Bay	*158*	164	164	163	163	165	165
San Francisco Area	*75*	89	88	88	88	89	89
SC – Mo – MB*	*200*	200	200	202	201	202	201
SB – LA – SD*	*165*	324	324	324	324	324	324
Coastwide Total	***5,659***	**5,261**	**5,247**	**5,399**	**5,386**	**5,320**	**5,307**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 15. Change in commercial fishery employment impacts from No Action under the 2027 economic alternative scenarios by community group (number of jobs).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	*217*	-65	-66	-65	-65	-65	-65
Washington Coast	*670*	-39	-41	-27	-28	-35	-36
Astoria-Tillamook	*2,779*	-328	-337	-232	-239	-280	-289
Newport	*1,034*	-88	-90	-68	-69	-87	-89
Coos Bay-Brookings	*281*	-49	-50	-41	-42	-45	-46
Crescent City-Eureka	*80*	-8	-8	-7	-7	-8	-8
Fort Bragg – Bodega Bay	*158*	+6	+6	+6	+5	+7	+7
San Francisco Area	*75*	+14	+13	+14	+13	+14	+14
SC – Mo – MB*	*200*	+0.5	+0.1	+2	+2	+2	+2
SB – LA – SD*	*165*	+159	+159	+159	+159	+159	+159
Coastwide Total	***5,659***	**-398**	**-413**	**-260**	**-273**	**-339**	**-352**

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 16. Change in commercial fishery employment impacts from No Action under the 2027 economic alternative scenarios by community group (percent).

	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Puget Sound	*217*	-30.1%	-30.2%	-30.0%	-30.1%	-30.0%	-30.0%
Washington Coast	*670*	-5.9%	-6.1%	-4.0%	-4.1%	-5.2%	-5.3%
Astoria-Tillamook	*2,779*	-11.8%	-12.1%	-8.3%	-8.6%	-10.1%	-10.4%
Newport	*1,034*	-8.5%	-8.7%	-6.6%	-6.7%	-8.4%	-8.6%
Coos Bay-Brookings	*281*	-17.4%	-17.7%	-14.7%	-14.9%	-16.2%	-16.4%
Crescent City-Eureka	*80*	-9.8%	-10.0%	-9.1%	-9.3%	-10.4%	-10.4%
Fort Bragg – Bodega Bay	*158*	+4.0%	+3.6%	+3.5%	+3.2%	+4.4%	+4.4%
San Francisco Area	*75*	+18.2%	+17.8%	+18.0%	+17.7%	+18.2%	+18.2%
SC – Mo – MB*	*200*	+0.2%	+0.1%	+0.9%	+0.8%	+1.0%	+0.8%
SB – LA – SD*	*165*	+96.0%	+96.0%	+96.0%	+96.0%	+96.0%	+96.0%
Coastwide Total	*5,659*	-7.0%	-7.3%	-4.6%	-4.8%	-6.0%	-6.2%

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

B.2.4 Recreational Fishery Community Employment Impacts

Table B- 17 shows projected employment impacts from recreational groundfish fishing under No Action and the alternatives; Table B- 18 and Table B- 19 show the change in recreational fishery employment impacts relative to the No Action in terms of dollars and percentage, respectively.

Proposed management regimes for Washington's recreational fisheries do not vary between No Action and the action alternatives. Proposed management regimes for Oregon's recreational fisheries also do not vary between No Action and the action alternatives. For the California recreational fishery, a No Action and three action alternative scenarios were constructed from the four California recreational fishery management options (Options 1-4), any of which could be selected under any of the alternatives. Projected effort under California Option 4 is most similar to the No Action. The action alternative, "Alternative 2", is variously associated with California Option 4, Option 2 (year-round all-depth fishing in California), and Option 1 (closure to boat-based fishing in California). Since effort under California Option 3 cannot currently be quantified, only projected effects under California Options 1, 2 and 4 are analyzed under the set of alternative recreational scenarios.

Key points regarding estimated employment impacts from recreational groundfish fisheries by coastal region are as follows:

- Coastwide recreational fishing employment impacts are projected to decrease from No Action by 42 jobs under Alternative 1: California Option 4 and also under Alternative 2: California Option 4; increase by 1,142 jobs under Alternative 2: California Option 2; and decrease by 2,583 jobs under Alternative 2: California Option 1.
- The Washington Coast shows a decrease in estimated recreational fishing employment impacts relative to No Action under the action alternative scenarios. Washington Coast accounts for 7.1 percent of coastwide No Action recreational fishing employment impacts.
- Recreational fishing employment impacts overall in Oregon are projected to decrease from No Action under the action alternative scenarios, largely due to a projected reduction of four jobs in the Coos Bay-Brookings region. Although this level of detail is not shown in

the summary impact tables, slight increases shown for Astoria-Tillamook and Newport are the result of projected increases in the numbers of charter trips, which have relatively larger income and employment impacts than private trips. Combined Oregon ports account for 19.3 percent of No Action recreational fishing employment impacts.

- Recreational fishing employment impacts are variable California. Combined California Coast port areas account for 73.7 percent of No Action recreational fishing employment impacts.

Table B- 17. Recreational fishery employment impacts under No Action and the 2027 economic alternative scenarios by community group (number of jobs).

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	247	240	240	240	240
Astoria-Tillamook	58	58	58	58	58
Newport	429	430	430	430	430
Coos Bay-Brookings	186	182	182	182	182
Crescent City-Eureka	50	50	50	55	0
Fort Bragg - Bodega Bay	53	55	55	60	0
San Francisco Area	144	172	172	211	0
SC – Mo – MB*	240	237	237	291	0
SB – LA – SD*	2,087	2,028	2,028	3,109	0
Coastwide Total	3,492	3,450	3,450	4,635	909

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 18. Change in recreational fishery employment impacts from No Action under the 2027 economic alternative scenarios by community group (number of jobs).

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*247*	-7	-7	-7	-7
Astoria-Tillamook	*58*	+0	+0	+0	+0
Newport	*429*	+1	+1	+1	+1
Coos Bay-Brookings	*186*	-4	-4	-4	-4
Crescent City-Eureka	*50*	+0	+0	+5	-50
Fort Bragg - Bodega Bay	*53*	+2	+2	+8	-53
San Francisco Area	*144*	+28	+28	+67	-144
SC – Mo – MB*	*240*	-3	-3	+51	-240
SB – LA – SD*	*2,087*	-59	-59	+1,022	-2,087
Coastwide Total	*3,492*	-42	-42	+1,142	-2,583

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

Table B- 19. Change in recreational fishery employment impacts from No Action under the 2027 economic alternative scenarios by community group (percent).

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Washington Coast	*247*	-3.0%	-3.0%	-3.0%	-3.0%

Community Groups	No Action (ave. 2023-25)	Alt 1: CA Option 4	Alt 2: CA Option 4	Alt 2: CA Option 2	Alt 2: CA Option 1
Astoria-Tillamook	*58*	+0.7%	+0.7%	+0.7%	+0.7%
Newport	*429*	+0.2%	+0.2%	+0.2%	+0.2%
Coos Bay-Brookings	*186*	-2.0%	-2.0%	-2.0%	-2.0%
Crescent City-Eureka	*50*	+0.2%	+0.2%	+10.7%	-100.0%
Fort Bragg - Bodega Bay	*53*	+4.1%	+4.1%	+15.0%	-100.0%
San Francisco Area	*144*	+19.1%	+19.1%	+46.2%	-100.0%
SC – Mo – MB*	*240*	-1.2%	-1.2%	+21.2%	-100.0%
SB – LA – SD*	*2,087*	-2.8%	-2.8%	+49.0%	-100.0%
Coastwide Total	*3,492*	-1.2%	-1.2%	+32.7%	-74.0%

* SC – Mo –MB: Santa Cruz – Monterey – Morro Bay; SB – LA – SD: Santa Barbara – Los Angeles – San Diego.

B.2.5 At-sea Whiting Fishery Income and Employment Impacts

Economic impacts contributed by the at-sea whiting fishery are not assigned to coastal communities. That being said, presumably most of the income and employment impacts associated with non-Tribal and Tribal at-sea whiting fisheries would likely accrue in the Seattle region and also in certain Washington and Oregon coastal communities. Impacts shown in Table B- 20 under the No Action and for all alternatives assume 2025 Pacific whiting allocations after reapportionment of the unused Tribal portion to the non-Tribal whiting sectors. For that reason, there is no projected variation in estimated income or employment impacts from No Action or the action alternative scenarios.

Table B- 20. Estimated total ex-vessel revenue equivalent, income and employment impacts under No Action and the 2027 economic alternative scenarios for At-sea whiting sectors: Non-Tribal (Motherships, Catcher vessels and Catcher-Processors) and Tribal (Motherships and Catcher vessels).

At-sea Whiting Sectors	No Action	Alt 1 High	Alt 1 Low	Alt 2 High	Alt 2 Low	SO 2B	SO 2D
Ex-vessel Revenue Equivalent ($mil)							
Non-Tribal Whiting	42.4	42.4	42.4	42.4	42.4	42.4	42.4
Tribal Whiting	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Income Impacts ($mil)							
Non-Tribal Whiting	138.0	138.0	138.0	138.0	138.0	138.0	138.0
Tribal Whiting	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Employment Impacts (jobs)							
Non-Tribal Whiting	5,276	5,276	5,276	5,276	5,276	5,276	5,276
Tribal Whiting	327	327	327	327	327	327	327

B.3 Combined Commercial and Recreational Fisheries Community Income Impacts

The following set of tables (Table B- 21 through Table B- 40) displays projected income impacts from commercial and recreational groundfish fisheries activities by West Coast port area / community group under the complete set of 2027 alternative management scenarios listed in Table B- 1. The tables also show the relative split of total income impacts between commercial, and recreational fisheries sectors in each port area / community group. Note that each action alternative

scenario includes association with all three modeled California recreational fisheries management options: Options 3-4, Option 2, and Option 1, denoted by suffixes A, B and C, respectively.

Table B- 21. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under projected No Action scenario.

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$16.8	100%	-	0%	$16.8
Washington Coast	$36.9	73%	$14.0	27%	$50.8
Astoria-Tillamook	$88.7	97%	$2.8	3%	$91.5
Newport	$42.9	67%	$20.7	33%	$63.7
Coos Bay-Brookings	$11.0	53%	$9.8	47%	$20.7
Crescent City-Eureka	$5.1	58%	$3.7	42%	$8.8
Ft. Bragg - Bodega Bay	$7.8	66%	$3.9	34%	$11.7
San Francisco Area	$3.6	22%	$12.5	78%	$16.1
SC – Mo – MB*	$5.9	25%	$17.6	75%	$23.6
SB – LA – SD*	$4.4	3%	$158.9	97%	$163.3
Coastwide Total	$223.1	48%	$243.8	52%	$466.9

Table B- 22. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under the 2027 No Action Alternative [Com No Action and Rec No Action - CA Ops 3 and 4].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$27.50	100%	-	0%	$27.5
Washington Coast	$41.78	76%	$13.4	24%	$55.2
Astoria-Tillamook	$91.98	97%	$2.8	3%	$94.8
Newport	$49.54	71%	$20.7	29%	$70.2
Coos Bay-Brookings	$15.07	61%	$9.5	39%	$24.6
Crescent City-Eureka	$7.55	67%	$3.7	33%	$11.3
Ft. Bragg - Bodega Bay	$11.82	74%	$4.1	26%	$15.9
San Francisco Area	$9.68	39%	$14.9	61%	$24.6
SC – Mo – MB*	$8.66	33%	$17.4	67%	$26.1
SB – LA – SD*	$17.82	10%	$154.3	90%	$172.1
Coastwide Total	$281.40	54%	$240.8	46%	$522.2

Table B- 23. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Hi A [Com Alt 1 Hi and Rec Alt 1 - CA Ops 3 and 4].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.80	100%	-	0%	$11.8

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Washington Coast	$34.32	72%	$13.4	28%	$47.7
Astoria-Tillamook	$76.68	96%	$2.8	4%	$79.5
Newport	$38.85	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.55	47%	$9.5	53%	$18.1
Crescent City-Eureka	$4.21	53%	$3.7	47%	$7.9
Ft. Bragg - Bodega Bay	$7.82	66%	$4.1	34%	$11.9
San Francisco Area	$4.34	23%	$14.9	77%	$19.3
SC – Mo – MB*	$5.86	25%	$17.4	75%	$23.2
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$201.72	46%	$240.8	54%	$442.6

Table B- 24. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Hi B [Com Alt 1 Hi and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.80	100%	-	0%	$11.8
Washington Coast	$34.32	72%	$13.4	28%	$47.7
Astoria-Tillamook	$76.68	96%	$2.8	4%	$79.5
Newport	$38.85	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.55	47%	$9.5	53%	$18.1
Crescent City-Eureka	$4.21	51%	$4.1	49%	$8.3
Ft. Bragg - Bodega Bay	$7.82	63%	$4.5	37%	$12.3
San Francisco Area	$4.34	19%	$18.3	81%	$22.7
SC – Mo – MB*	$5.86	22%	$21.3	78%	$27.2
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$201.72	38%	$331.2	62%	$533.0

Table B- 25. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Hi C [Com Alt 1 Hi and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.80	100%	-	0%	$11.8
Washington Coast	$34.32	72%	$13.4	28%	$47.7
Astoria-Tillamook	$76.68	96%	$2.8	4%	$79.5

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Newport	$38.85	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.55	47%	$9.5	53%	$18.1
Crescent City-Eureka	$4.21	100%	$0.0	0%	$4.2
Ft. Bragg - Bodega Bay	$7.82	100%	$0.0	0%	$7.8
San Francisco Area	$4.34	100%	$0.0	0%	$4.3
SC – Mo – MB*	$5.86	100%	$0.0	0%	$5.9
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3
Coastwide Total	$201.72	81%	$46.4	19%	$248.2

Table B- 26. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Low A [Com Alt 1 Low and Rec Alt 1 CA Ops 3 and 4)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.78	100%	-	0%	$11.8
Washington Coast	$34.25	72%	$13.4	28%	$47.6
Astoria-Tillamook	$76.35	96%	$2.8	4%	$79.2
Newport	$38.77	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.52	47%	$9.5	53%	$18.0
Crescent City-Eureka	$4.20	53%	$3.7	47%	$7.9
Ft. Bragg - Bodega Bay	$7.77	66%	$4.1	34%	$11.8
San Francisco Area	$4.33	22%	$14.9	78%	$19.3
SC – Mo – MB*	$5.84	25%	$17.4	75%	$23.2
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$201.09	46%	$240.8	54%	$441.9

Table B- 27. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Low B [Com Alt 1 Low and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.78	100%	-	0%	$11.8
Washington Coast	$34.25	72%	$13.4	28%	$47.6
Astoria-Tillamook	$76.35	96%	$2.8	4%	$79.2
Newport	$38.77	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.52	47%	$9.5	53%	$18.0

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Crescent City-Eureka	$4.20	50%	$4.1	50%	$8.3
Ft. Bragg - Bodega Bay	$7.77	63%	$4.5	37%	$12.3
San Francisco Area	$4.33	19%	$18.3	81%	$22.7
SC – Mo – MB*	$5.84	21%	$21.3	79%	$27.2
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$201.09	38%	$331.2	62%	$532.3

Table B- 28. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 1 Low C [Com Alt 1 Low and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.78	100%	-	0%	$11.8
Washington Coast	$34.25	72%	$13.4	28%	$47.6
Astoria-Tillamook	$76.35	96%	$2.8	4%	$79.2
Newport	$38.77	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.52	47%	$9.5	53%	$18.0
Crescent City-Eureka	$4.20	100%	$0.0	0%	$4.2
Ft. Bragg - Bodega Bay	$7.77	100%	$0.0	0%	$7.8
San Francisco Area	$4.33	100%	$0.0	0%	$4.3
SC – Mo – MB*	$5.84	100%	$0.0	0%	$5.8
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3
Coastwide Total	$201.09	81%	$46.4	19%	$247.5

Table B- 29. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Hi A [Com Alt 2 Hi and Rec Alt 1 - CA Ops 3 and 4].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$35.11	72%	$13.4	28%	$48.5
Astoria-Tillamook	$80.17	97%	$2.8	3%	$83.0
Newport	$39.81	66%	$20.7	34%	$60.5
Coos Bay-Brookings	$8.81	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.27	53%	$3.7	47%	$8.0
Ft. Bragg - Bodega Bay	$7.77	66%	$4.1	34%	$11.8
San Francisco Area	$4.33	22%	$14.9	78%	$19.3

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
SC – Mo – MB*	$5.91	25%	$17.4	75%	$23.3
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$207.29	46%	$240.8	54%	$448.1

Table B- 30. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Hi B [Com Alt 2 Hi and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$35.11	72%	$13.4	28%	$48.5
Astoria-Tillamook	$80.17	97%	$2.8	3%	$83.0
Newport	$39.81	66%	$20.7	34%	$60.5
Coos Bay-Brookings	$8.81	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.27	51%	$4.1	49%	$8.4
Ft. Bragg - Bodega Bay	$7.77	63%	$4.5	37%	$12.3
San Francisco Area	$4.33	19%	$18.3	81%	$22.7
SC – Mo – MB*	$5.91	22%	$21.3	78%	$27.3
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$207.29	38%	$331.2	62%	$538.5

Table B- 31. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Hi C [Com Alt 2 Hi and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$35.11	72%	$13.4	28%	$48.5
Astoria-Tillamook	$80.17	97%	$2.8	3%	$83.0
Newport	$39.81	66%	$20.7	34%	$60.5
Coos Bay-Brookings	$8.81	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.27	100%	$0.0	0%	$4.3
Ft. Bragg - Bodega Bay	$7.77	100%	$0.0	0%	$7.8
San Francisco Area	$4.33	100%	$0.0	0%	$4.3
SC – Mo – MB*	$5.91	100%	$0.0	0%	$5.9
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3

Coastwide Total	$207.29	82%	$46.4	18%	$253.7

Table B- 32. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Low A [Com Alt 2 Low and Rec Alt 1 CA Ops 3 and 4)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.79	100%	-	0%	$11.8
Washington Coast	$35.05	72%	$13.4	28%	$48.4
Astoria-Tillamook	$79.88	97%	$2.8	3%	$82.7
Newport	$39.73	66%	$20.7	34%	$60.4
Coos Bay-Brookings	$8.78	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.25	53%	$3.7	47%	$8.0
Ft. Bragg - Bodega Bay	$7.72	65%	$4.1	35%	$11.8
San Francisco Area	$4.32	22%	$14.9	78%	$19.3
SC – Mo – MB*	$5.90	25%	$17.4	75%	$23.3
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$206.72	46%	$240.8	54%	$447.6

Table B- 33. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Low B [Com Alt 2 Low and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.79	100%	-	0%	$11.8
Washington Coast	$35.05	72%	$13.4	28%	$48.4
Astoria-Tillamook	$79.88	97%	$2.8	3%	$82.7
Newport	$39.73	66%	$20.7	34%	$60.4
Coos Bay-Brookings	$8.78	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.25	51%	$4.1	49%	$8.4
Ft. Bragg - Bodega Bay	$7.72	63%	$4.5	37%	$12.2
San Francisco Area	$4.32	19%	$18.3	81%	$22.6
SC – Mo – MB*	$5.90	22%	$21.3	78%	$27.2
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$206.72	38%	$331.2	62%	$538.0

Table B- 34. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Alternative 2 Low C [Com Alt 2 Low and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.79	100%	-	0%	$11.8
Washington Coast	$35.05	72%	$13.4	28%	$48.4
Astoria-Tillamook	$79.88	97%	$2.8	3%	$82.7
Newport	$39.73	66%	$20.7	34%	$60.4
Coos Bay-Brookings	$8.78	48%	$9.5	52%	$18.3
Crescent City-Eureka	$4.25	100%	$0.0	0%	$4.3
Ft. Bragg - Bodega Bay	$7.72	100%	$0.0	0%	$7.7
San Francisco Area	$4.32	100%	$0.0	0%	$4.3
SC – Mo – MB*	$5.90	100%	$0.0	0%	$5.9
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3
Coastwide Total	$206.72	82%	$46.4	18%	$253.2

Table B- 35. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2B-A [Com Sub-option Alt 2B and Rec Alt 1 CA Ops 3 and 4)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$34.62	72%	$13.4	28%	$48.0
Astoria-Tillamook	$78.43	97%	$2.8	3%	$81.3
Newport	$38.90	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.68	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.17	53%	$3.7	47%	$7.9
Ft. Bragg - Bodega Bay	$7.87	66%	$4.1	34%	$12.0
San Francisco Area	$4.35	23%	$14.9	77%	$19.3
SC – Mo – MB*	$5.91	25%	$17.4	75%	$23.3
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$204.04	46%	$240.8	54%	$444.9

Table B- 36. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2B-B [Com Sub-option Alt 2B and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$34.62	72%	$13.4	28%	$48.0
Astoria-Tillamook	$78.43	97%	$2.8	3%	$81.3
Newport	$38.90	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.68	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.17	50%	$4.1	50%	$8.3
Ft. Bragg - Bodega Bay	$7.87	64%	$4.5	36%	$12.4
San Francisco Area	$4.35	19%	$18.3	81%	$22.7
SC – Mo – MB*	$5.91	22%	$21.3	78%	$27.3
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$204.04	38%	$331.2	62%	$535.3

Table B- 37. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2B-C [Com Sub-option Alt 2B and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$34.62	72%	$13.4	28%	$48.0
Astoria-Tillamook	$78.43	97%	$2.8	3%	$81.3
Newport	$38.90	65%	$20.7	35%	$59.6
Coos Bay-Brookings	$8.68	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.17	100%	$0.0	0%	$4.2
Ft. Bragg - Bodega Bay	$7.87	100%	$0.0	0%	$7.9
San Francisco Area	$4.35	100%	$0.0	0%	$4.4
SC – Mo – MB*	$5.91	100%	$0.0	0%	$5.9
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3
Coastwide Total	$204.04	81%	$46.4	19%	$250.5

Table B- 38 Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2D-A [Com Sub-option Alt 2D and Rec Alt 1 CA Ops 3 and 4)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$34.54	72%	$13.4	28%	$47.9
Astoria-Tillamook	$78.08	96%	$2.8	4%	$80.9
Newport	$38.83	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.66	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.16	53%	$3.7	47%	$7.9
Ft. Bragg - Bodega Bay	$7.87	66%	$4.1	34%	$11.9
San Francisco Area	$4.35	23%	$14.9	77%	$19.3
SC – Mo – MB*	$5.90	25%	$17.4	75%	$23.3
SB – LA – SD*	$9.29	6%	$154.3	94%	$163.6
Coastwide Total	$203.51	46%	$240.8	54%	$444.3

Table B- 39. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2D-B [Com Sub-option Alt 2D and Rec Alt 1 Op 2 (CA open all depths year-round)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8
Washington Coast	$34.54	72%	$13.4	28%	$47.9
Astoria-Tillamook	$78.08	96%	$2.8	4%	$80.9
Newport	$38.83	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.66	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.16	50%	$4.1	50%	$8.3
Ft. Bragg - Bodega Bay	$7.87	64%	$4.5	36%	$12.4
San Francisco Area	$4.35	19%	$18.3	81%	$22.7
SC – Mo – MB*	$5.90	22%	$21.3	78%	$27.2
SB – LA – SD*	$9.29	4%	$236.5	96%	$245.8
Coastwide Total	$203.51	38%	$331.2	62%	$534.7

Table B- 40. Comparison of projected personal income impacts from recreational and commercial groundfish fisheries by community group under 2027 Sub-option 2D-C [Com Sub-option Alt 2D and Rec Alt 1 Op 1 (CA boat-based fishing closure)].

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Puget Sound	$11.82	100%	-	0%	$11.8

Community Group	Commercial		Recreational		Combined
	Income ($million)	Income Share	Income ($million)	Income Share	Income ($million)
Washington Coast	$34.54	72%	$13.4	28%	$47.9
Astoria-Tillamook	$78.08	96%	$2.8	4%	$80.9
Newport	$38.83	65%	$20.7	35%	$59.5
Coos Bay-Brookings	$8.66	48%	$9.5	52%	$18.2
Crescent City-Eureka	$4.16	100%	$0.0	0%	$4.2
Ft. Bragg - Bodega Bay	$7.87	100%	$0.0	0%	$7.9
San Francisco Area	$4.35	100%	$0.0	0%	$4.4
SC – Mo – MB*	$5.90	100%	$0.0	0%	$5.9
SB – LA – SD*	$9.29	100%	$0.0	0%	$9.3
Coastwide Total	$203.51	81%	$46.4	19%	$249.9