

**Whiting Mothership Cooperative**

An Amendment 20 Mothership Catcher Vessel Cooperative

Annual Report on the 2022 Pacific Whiting Fishery

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## **Introduction**

In March of 2011, the owners of the 37 trawl limited entry catcher vessel permits (MS/CV LEPs) endorsed for operation in the Mothership sector of the Pacific whiting fishery formed a fishing cooperative to coordinate harvesting efforts. This cooperative is the Whiting Mothership Cooperative (WMC). Following transfers of MSCV catch history assignments (CHAs), there are currently 34 endorsed permits, three of which carry two MSCV CHAs. The owners of all of the current MS/CV LEPs remained members in good standing for the 2022 fishing year.

The WMC receives an allocation of whiting based on the cumulative catch histories of the members of the cooperative. The WMC operates under the WMC Membership Agreement contract which allocates whiting to members proportionate to the contribution to the cooperative's allocation made by NMFS on the basis of the whiting catch history assigned to the Cooperative by the members.

One of the primary purposes of the WMC cooperative is the management of bycatch of constraining rockfish species and Chinook salmon. To that end the members of the WMC have all signed a WMC Bycatch Agreement that sets out the rules for modification of fishing behavior with which members are obligated to comply.

## **Purpose of Report**

This report is intended to disclose all information required or identified in Federal Regulations at 50 CFR 660.113(d)(3). The catch data in this report is for the 2022 fishing year beginning May 15th and ending December 31st. The catch data was provided by Sea State, Inc. and was obtained from the NMFS – At-Sea Hake Observer Program.

## **Reporting Requirements**

The required Annual Report elements (i-v) are found in the 50 CFR 660.113(d)(3)

*(3) Annual coop report. The designated coop manager for the mothership coop must submit an annual report to NMFS and the Council by March 17 each year, before a coop permit is issued for that year. The annual coop report will contain information about the previous year's fishery, including:*

*(i) The mothership sector's annual allocation of Pacific whiting and the permitted mothership coop allocation;*

*(ii) The mothership coop's actual retained and discarded catch of Pacific whiting, salmon, Pacific halibut, rockfish, groundfish, and other species on a vessel-by- vessel basis;*

*(iii) A description of the method used by the mothership coop to monitor performance of coop vessels that participated in the fishery;*

*(iv) A description of any actions taken by the mothership coop in response to any vessels that exceed their allowed catch and bycatch; and*

*(v) Plans for the current year's mothership coop fishery, including the companies participating in the cooperative, the harvest agreement, and catch monitoring and reporting requirements.*

### **(i) Annual allocation of Pacific whiting to the WMC coop**

The Mothership sector of the Pacific Whiting fishery was initially allocated 79,544 tons of whiting, followed by a re-apportionment on September 20th of 9,600 tons, for a total of 89,144 tons. 100% of the Mothership sector whiting was allocated to the Whiting Mothership Cooperative.

### **(ii) The Mothership coop's actual retained and discarded catch of Pacific whiting, salmon, Pacific halibut, rockfish, groundfish, and other species on a vessel-by-vessel basis**

All 34 of the current MS/CV endorsed trawl limited entry permit holders joined the Whiting Mothership Cooperative (WMC). As of December 31st, 2022, twenty MS/CVs had fished in the MS sector of the 2022 whiting fishery, harvesting 59,157 tons of whiting. Data on the catch of Whiting, Salmon, Halibut, Rockfish, Groundfish and Other Species, as of December 31, 2022, is shown in tables 1-5 (Attachment 1). In interpreting the tables a cell with "0.00 mt" indicates at least a trace amount of this species was caught; a blank cell indicates no amount of that species was caught.

Note: Some species were not included in the table because there was no catch reported in the data. Salmon are reported in numbers. Halibut, Dungeness crab and eulachon data are reported in metric tons, as the data on numbers of fish was not available.

### **(iii) A description of the method used by the mothership coop to monitor performance of coop vessels that participated in the fishery**

The WMC retains Sea State, Inc. as the Monitoring Agent for the coop. All WMC members provide confidentiality waivers to allow Sea State, Inc. to access NMFS Observer data and location data from VMS providers in real time.

The WMC provided Sea State, Inc. with a harvest schedule of each MS/CVs share of whiting and pro-rata portion of the allocated bycatch species. Sea State, Inc. queries the NORPAC observer database to obtain the Mothership observer reports on a daily basis. Sea State, Inc. uses this data to produce daily reports which are distributed by email to all WMC members, the Coop manager, and to the Mothership processors.

The Sea State, Inc. daily report shows several tables of information, including:

- daily catch and bycatch amounts for the fleet as a whole for most recent 10 days,
- the overall YTD rates and percent of whiting quota and bycatch harvested for the fleet in aggregate,
- the YTD bycatch rates for each Mothership's fleet,
- the YTD bycatch rates and amounts for each vessel,
- the percent and amounts of whiting quota and bycatch allocations harvested by each seasonal pool,
- the balance of whiting available in each seasonal pool by vessel.

As MS/CV observers are debriefed, their data is incorporated into NORPAC and Sea State, Inc. updates its accounting accordingly. On the basis of the Sea State, Inc. data, the Coop manger audits vessel harvest amounts relative to the individual members' share of the quota and transfers between members to see that the coop's allocations are not exceeded.

In addition to the email distribution of the daily report, Sea State maintains a website for the Coop where members can access this information. The website also provides GIS mapping of VMS tracks of any hauls where bycatch rates exceed a base rate. These high bycatch maps are shared with the shorebased and catcher-processor cooperatives and provide members access to historic and current hotspots with high resolution mapping.

A copy of a Sea State daily report from the last week of the fishery is included as Attachment 2.

**(iv) A description of any actions taken by the mothership coop in response to any vessels that exceed their allowed catch and bycatch**

No vessels exceeded their allowed whiting catch amounts under the Coop Agreement. The Coop makes vessel specific whiting allocations; however, the bycatch allocations are managed as a common pool resource. This is not to say that vessels are not subject to individual accountability for bycatch performance.

The Coop agreement includes a variety of measures that serve to mitigate against the possibility of exceeding allowed catch and bycatch limits. These include:

- Precautionary closures of past bycatch hotspots
- Night fishing restrictions
- Fleet relocation triggers and fleet to fleet reporting
- Required test tows upon relocation to new fishing area
- In season “hot spot” closure authority
- Seasonal apportionments (“pools”) of whiting and bycatch allowances
- Sanctions against vessels that have exceeded a bycatch rate within a seasonal pool.

Precautionary Closures of Past Bycatch Hotspots

Prior to the beginning of the 2011 whiting fishery, the WMC created a “Bycatch Committee” which met several times to develop proposed closures that would apply seasonally. The committee reviewed GIS analysis of 10 years of at-sea observer data overlaid on fine scale bathymetry. The analysis included bycatch rates and amounts as well as amounts of whiting. VMS track-lines of high bycatch tows were also incorporated in the review. Additionally, the committee reviewed logbook information from individual captains’ historic directed rockfish experience, which provided insight into habitat associations for rockfish species.

The committee ended up recommending closure of 9 areas, totaling nearly 2000 km<sup>2</sup> which were adopted by the WMC board. The board also identified several other “cautionary” areas.

For the 2022 fishing season, the bycatch committee recommended two minor changes to the bycatch closures. The modifications served to increase functionality and efficiency of fishing operations while retaining the integrity of the closures. The recommendations were adopted by the board.

Night Fishing

Based on the recommendations of the bycatch committee, the board retained the following night fishing restriction: From the annual opening date of the MS sector of the Pacific whiting fishery through August 31 of such fishing year, no vessel harvesting Pacific whiting from the MS sector allocation shall fish between 10:00 pm and 5:30 am Pacific time *except outside 200 fathoms*. From September 1 through December 31 of such fishing year, no vessel harvesting Pacific whiting from the MS sector allocation shall fish between 10:00 pm and 5:30 am Pacific time, *except outside 100 fathoms*.

#### Fleet Relocation and Real Time Fleet to Fleet Reporting

The Coop established Base Rates which were based on the pro-rata amounts of bycatch allocations relative to whiting allocations to the MS sector. Each Mothership processor maintains a spreadsheet reporting its fleet performance, measured against the Base Rates. The spreadsheet reports are shared each day between all the processing ships.

Each fleet's performance relative to the Base Rates constitutes a trigger requiring the fleet to relocate if they encounter a bycatch "hotspot". Relocation is required in the event of any of the following situations:

- If a fleet's three day rolling average rate exceeds the Base Rate for any bycatch species, and that Fleet's cumulative year to date bycatch rate exceeds half of the Base Rate for that species,
- If a fleet's three day rolling average rate exceeds 125% of the Base Rate for a bycatch species
- If a fleet's bycatch rate during any single day exceeds 200% the Base Rate for a bycatch species,

This real time mechanism for response to bycatch encounters coupled with a requirement for test tows upon entering a new area, have served to limit bycatch.

#### In-season Hot Spot Closures

The WMC board delegated authority to Sea State, Inc. to impose "In-season Hot Spot Closures" if they perceive a problem. This authority was used during the 2018 season to respond to high Chinook encounters. In response to Shortbelly rockfish encounters in 2019, the WMC provided authority to the Coop manager to also implement and remove hotspot closures as necessary to avoid bycatch events. In 2022, the Coop manager utilized this authority in response to Sablefish bycatch to implement a Sablefish hotspot closure.

#### Seasonal Pools

The Coop agreement provides for dividing the whiting allocation into five pools with various start dates. Each pool received a share of the bycatch allocations pro-rata to whiting. The Coop Agreement provides that if a pool reaches its share of the bycatch prior to harvesting its whiting allocation, the members of the pool must cease fishing.

#### Sanctions Against Member Vessels

In the event that a pool closes because of bycatch, if a member of that pool has a cumulative bycatch amount exceeding their pro-rata share by 25%, that vessel is restricted from harvesting additional whiting in a subsequent seasonal pool.

#### Closure of At-Sea Sectors

The WMC suspended fishing October 3, 2022. There were no violations of the WMC Bycatch Agreement.

**(v) Plans for the next year's mothership coop fishery, including the companies participating in the cooperative, the harvest agreement, and catch monitoring and reporting requirements.**

The WMC provides that membership in the Coop continues in the following year unless a member provides notice of intent to withdraw before November 1st. No members filed notice of intent to withdraw. The ownership of member permits is shown in Exhibit A of the WMC Membership Agreement (Attachment 3 & Exhibits) filed with the MS cooperative permit application NMFS for the 2023 season.

The WMC Membership Agreement was updated for 2023 to include an earlier season start date of May 1 and removed the processor obligation, as is consistent with the recent federal regulation rulings. The amendment also provides the Board of the Directors with the authority to combine the seasonal pools any time after September 15, as opposed to the previous date of October 15, thus increasing the Cooperative's flexibility to respond to in-season events.

**Attachments:**

- 1-** WMC's actual retained and discarded catch of Pacific whiting, salmon, Pacific halibut, rockfish, groundfish, and other species on a vessel-by- vessel basis
- 2-** Sea State daily report from the last week of the fishery
- 3-** WMC Membership Agreement, with Exhibits
  - a)** Exhibit A – Membership List
  - b)** Exhibit B – Harvest Schedule of Allocation Percentages
  - c)** Exhibit C – Whiting Bycatch Agreement
  - d)** Exhibit D – Signature Pages – Whiting Membership Agreement
- 4-** 2022 Addendum to WMC Membership Agreement
- 5-** 2022 Amendment to the WMC Membership Agreement
- 6-** Whiting Mothership Cooperative Salmon Mitigation Plan Postseason Report

**Attachment 1**

WMC’s actual retained and discarded catch of Pacific whiting, salmon, Pacific halibut, rockfish, groundfish, and other species on a vessel-by- vessel basis.

Table 1. Retained and discarded catch of Pacific whiting (mt) by vessel.

	Arctic Fury	Leslie Lee	Lisa Melinda	Marathon	Mark I	Miss Berdie	Miss Sarah	Muir Milach	Nordic Fury	Nordic Star	Pacific Challenger	Pacific Fury	Pegasus	Predator	Raven	Sea Storm	Seadawn	Seeker	Traveler	Vanguard	Total
Retained	2,118	2,019	4,145	2,882	4,684	3,032	1,878	4,511	2,569	4,725	5,727	1,581	498.0	2,748	1,674	5,532	1,567	2,616	1,945.	1,888	58,340
Discarded	39.55	54.54	9.44	180.3	61.72	77.83	84.15	18.42	11.29	12.69	63.21	52.29	6.69	31.26	54.62	32.39	3.78	15.77	6.41	1.38	818

Table 2. Retained Salmonids by vessel (# fish)

	Arctic Fury	Leslie Lee	Lisa Melinda	Marathon	Mark I	Miss Berdie	Miss Sarah	Muir Milach	Nordic Fury	Nordic Star	Pacific Challenger	Pacific Fury	Pegasus	Predator	Raven	Sea Storm	Seadawn	Seeker	Traveler	Vanguard	
<b>Coho Salmon</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Chinook Salmon</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0	0	8	0	0	0

Table 3. Discarded Salmonids by vessel (# fish).

	Arctic Fury	Leslie Lee	Lisa Melinda	Marathon	Mark I	Miss Berdie	Miss Sarah	Muir Milach	Nordic Fury	Nordic Star	Pacific Challenger	Pacific Fury	Pegasus	Predator	Raven	Sea Storm	Seadawn	Seeker	Traveler	Vanguard	
<b>Coho Salmon</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Chinook Salmon</b>	2	0	98	2	171	8	2	52	92	41	140	0	4	25	4	31	0	10	4	0	0

Table 4. Retained Non-whiting and non-salmonid catch by vessel (mt).

Species	Arctic Fury	Leslie Lee	Lisa Melinda	Marathon	Mark I	Miss Berdie	Miss Sarah	Muir Mlach	Nordic Fury	Nordic Star	Pacific Challenger	Pacific Fury	Pegasus	Predator	Raven	Sea Storm	Seadawn	Seeker	Traveler	Vanguard	Total
American Shad		0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.01	0.00	0.05	0.00	0.01	0.00		0.09
Arrowtooth Flounder	0.00	0.59	1.82	0.01	0.00	0.00	0.00	1.31	0.00	1.86	2.17	0.00	0.00	0.01	0.00	0.19	0.21	0.13	0.06	0.00	8.36
Ascidian - Sea Squirt - Tunicate Unident.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aurora Rockfish		0.00	0.01		0.00		0.00	0.10	0.00	0.03	0.00			0.00			0.00		0.00	0.00	0.15
Bank Rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.00		0.00		0.01	0.00	0.00	0.00	0.00	0.02
Barracudina Unidentified	0.00								0.00												0.00
Big Skate			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00		0.00		0.00
Blackgill Rockfish				0.00		0.00			0.00	0.01				0.00							0.01
Blue Shark			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		0.00		0.00	0.00		0.00
Bocaccio		0.03	0.01	0.00	0.00		0.00		0.00	0.00				0.00	0.00	0.00	0.02	0.01			0.08
Brown Cat Shark	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.05	0.00	0.00	0.33
California Skate			0.00																		0.00
Canary Rockfish	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.02	0.00	0.03		0.00	0.00	0.00	0.13
Chilipepper Rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.04
Chum Salmon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cutlassfish Unidentified					0.00																0.00
Dark Blotched Rockfish	0.00	0.37	0.33	0.01	0.50	0.00	0.00	0.45	0.00	0.46	0.86	0.00	0.03	0.05	0.00	0.28	0.62	0.25	0.62	0.25	5.05
Dover Sole	0.00	0.01	0.07		0.00	0.00	0.00	0.04	0.00	0.11	0.11	0.00		0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.36
Dragonfish Unidentified	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00
Duckbill Barracudina						0.00				0.00	0.00										0.00
Dungeness Crab							0.00														0.00
Eelpout Unidentified	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00	0.00	0.00	0.00
English Sole	0.00		0.00	0.00	0.00			0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.01
Eulachon	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Fish Unidentified					0.00	0.00	0.00					0.00							0.00	0.00	0.00
Flatfish Unidentified	0.00				0.00						0.00										0.00
Flathead Sole			0.00								0.00										0.00
Greenstriped Rockfish						0.00										0.00					0.00



Poacher Unidentified			0.00																		0.00
Pollock													0.00								0.00
Ragfish	0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		0.06		0.00	0.00	0.00	0.00	0.06
Rainbow Smelt									0.00												0.00
Red Banded Rockfish					0.00		0.00	0.01	0.00				0.00		0.00						0.01
Redstripe Rockfish		0.00		0.00	0.00				0.00	0.00	0.01			0.00	0.00	0.00					0.01
Rex Sole	0.00	0.33	0.88	0.00	0.00	0.00	0.00	1.05	0.00	1.46	1.95	0.00	0.00	0.00	0.00	0.09	0.12	0.26	0.00	0.00	6.14
Ribbonfish Unidentified				0.00		0.00	0.00			0.02	0.00			0.00		0.00		0.00			0.02
Rock Sole					0.00																0.00
Rockfish Unidentified										0.00											0.00
Rougheye Rockfish	0.25	0.08	0.38	0.00	0.37	0.00	0.00	0.58	0.00	0.53	1.51	0.00	0.10	0.01	0.00	0.03	0.08	0.07	0.38	0.40	4.77
Roundfish Unidentified	0.00		0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00			0.02		0.00				0.02
Sablefish	0.06	1.38	0.12	10.85	0.52	0.00	0.00	0.11	0.00	0.10	24.77	0.06	0.93	8.43	0.00	9.83	1.69	2.58	7.81	1.15	70.37
Salmon Shark	0.00	0.00		0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Sandpaper Skate		0.00								0.00	0.00										0.00
Sea Anemone Unidentified													0.00								0.00
Sea Devil Unidentified					0.00			0.00												0.00	0.00
Shark Unidentified					0.00				0.00												0.00
Sharpchin Rockfish					0.00			0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00					0.00
Shortbelly Rockfish	0.00		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	28.27	0.00	1.96	0.06	0.00	0.05		0.00	0.00		30.36
Shortraker Rockfish									0.00						0.00				0.00		0.00
Shortspine Thornyhead	0.00	2.41	3.43	0.01	0.20	0.00	0.00	4.47	0.00	6.45	5.66	0.00	0.02	0.02	0.00	1.20	0.93	0.90	0.00	0.01	25.72
Shrimp Unidentified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Silvergray Rockfish	0.00						0.00			0.00		0.00		0.01	0.00	0.00		0.00	0.00		0.02
Slender Barracudina								0.00													0.00
Slender Sole	0.00			0.00	0.00	0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00	0.00
Smelt Unidentified													0.00								0.00
Snailfish Unidentified	0.00	0.00	0.00					0.00	0.00	0.00	0.00				0.00	0.00					0.00
Snipe Eel Unidentified		0.00																			0.00
Snow Crab, Opilio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Soupin Shark	0.00				0.00		0.00	0.00	0.00			0.00	0.00	0.00		0.00		0.00	0.00		0.00
Spiny Dogfish Shark	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.16
Splitnose Rockfish	0.00	0.35	2.85	0.02	0.01	0.00	0.00	2.43	0.00	2.00	1.25	0.00	0.00	0.03	0.00	0.14	0.43	0.89	0.08	0.01	10.49
Spotted Ratfish							0.00														0.00
Squid Unidentified	0.00	1.10	0.00	0.53	0.11	0.00	0.00	0.00	0.00	0.41	0.07	0.00	0.00	0.74	0.00	1.87	0.95	1.39	0.07	0.05	7.28

Stripetail Rockfish						0.00															0.00
Thornyhead Rockfish Unidentified					0.00				0.00						0.00				0.00		0.00
Thresher Shark																0.00					0.00
Tubeshoulder Unidentified	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00
Unidentified Petrel																				0.00	0.00
Viperfish Unidentified	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00
White Barracudina	0.00		0.00								0.00									0.00	0.00
Widow Rockfish	0.00	0.64	0.88	0.52	0.39	0.00	0.00	0.75	0.00	1.22	2.73	0.00	0.05	0.15	0.00	2.79	0.79	0.43	0.05	0.05	11.45
Wrymouth Unidentified														0.00							0.00
Yellowtail Rockfish	0.00	0.16	0.01	0.00	0.26	0.00	0.00	0.02	0.00	0.01	0.81	0.00		0.03	0.00	0.15	0.04	0.06	0.02	0.08	1.66



Jack Mackerel	0.11	0.07	5.66	0.06	90.59	51.08	0.17	5.67	36.46	9.38	24.59	0.02		11.84	10.01	63.84	0.00	32.23	0.00	0.00	341.77
Jellyfish	0.02	0.01	0.05	0.01	0.07	0.02	0.01	0.05	0.03	0.05	0.05	0.06	0.01	0.01	0.00	0.03	0.01	0.01	0.07	0.02	0.57
King-of-the-Salmon	0.05	0.02	0.17	0.03	0.08	0.09		0.04	0.03	0.12	0.05	0.01		0.00	0.02	0.01	0.00	0.00	0.03	0.02	0.77
Lamprey Unidentified	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.02	0.01	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.08
Lanternfish Unidentified	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.04
Lingcod	0.01	0.00	0.00	0.00	0.04	0.02		0.00	0.03	0.00	0.01	0.06		0.15	0.09	0.14	0.00	0.00		0.00	0.55
Longnose Lancetfish	0.03				0.02				0.01		0.03	0.02				0.01			0.01	0.01	0.13
Longnose Skate		0.03	0.04		0.21	0.06	0.08	0.15	0.09	0.03	0.14	0.03	0.02	0.08	0.04	0.08	0.04	0.02			1.14
Longspine Thornyhead Rockfish					0.00			0.00	0.00												0.00
Loosejaws Unidentified	0.00		0.00				0.00	0.00		0.00	0.00	0.00								0.00	0.00
Manefish																				0.00	0.00
Medusafish	0.03		0.00	0.00	0.02	0.00		0.00	0.00	0.00	0.01	0.01		0.00		0.00	0.00		0.01	0.01	0.09
Miscellaneous Unidentified	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.05
Ocean Sunfish					0.00				0.02							0.00					0.02
Octopus Unidentified			0.02	0.07	0.03	0.06	0.00	0.00	0.02	0.00	0.04	0.00	0.00								0.24
Pacific Cod														0.01	0.01	0.01					0.03
Pacific Electric Ray					0.01	0.03					0.01				0.01						0.06
Pacific Halibut	0.02	0.00	0.08	0.06	0.00	0.02	0.00	0.03	0.00	0.02	0.07	0.00	0.01	0.00	0.00	0.07	0.00	0.06	0.00	0.00	0.45
Pacific Herring	0.01	0.02	0.00	0.01	0.08	0.25	0.00	0.00	0.02	0.00	0.06	0.00	0.00	0.06	0.05	0.51	0.00	0.13	0.00	0.00	1.21
Pacific Lamprey	0.00	0.00		0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03
Pacific Mackerel		0.05	0.27	0.01	18.15	16.54	0.00	0.07	17.73	0.68	4.56			14.21	13.01	25.26	0.00	12.66			123.19
Pacific Ocean Perch	0.03	0.00	0.00	0.04	0.58	0.08	0.02	0.00	0.32	0.00	0.65	0.08	0.00	0.15	0.78	0.14	0.00	0.02	0.02	0.07	3.00
Pacific Pomfret					0.00									0.00							0.00
Pacific Sardine			0.04		1.85	0.00	0.00	0.00	0.39	0.00	0.41			0.42	0.22	1.00		0.05			4.39
Pacific Saury			0.00					0.00		0.00											0.00
Pacific Sleeper Shark	0.03		0.05		0.14	0.07		0.04	0.37	0.14	0.34	0.05	0.12	0.07		0.11		0.04	0.81	0.07	2.46
Paperbones Unidentified											0.00										0.00
Pearleyes Unidentified						0.00															0.00
Poacher Unidentified			0.00																		0.00
Pollock														0.00							0.00
Ragfish	0.11			0.02	0.09	0.16	0.10	0.12	0.10	0.06	0.13			0.09		0.15		0.00	0.05	0.13	1.33
Rainbow Smelt									0.00												0.00
Red Banded Rockfish					0.02		0.00	0.00	0.06		0.00			0.00		0.00					0.08
Redstripe Rockfish		0.00		0.00	0.93				0.36	0.00	0.18			0.39	0.02	0.56					2.44
Rex Sole	0.28	0.01	0.04	0.01	0.59	0.09	0.27	0.13	1.89	0.00	0.16	0.23	0.00	0.13	0.25	0.14	0.00	0.00	0.16	0.24	4.61
Ribbonfish Unidentified				0.01		0.05	0.01			0.00	0.04			0.01		0.19		0.00			0.31
Rock Sole					0.00																0.00
Rockfish Unidentified									0.00												0.00
Rougeye Rockfish	0.49	0.01	0.00	0.04	2.21	0.65	0.17	0.00	3.71	0.01	1.36	0.87	0.01	1.33	0.04	1.08	0.00	0.06	0.27	0.32	12.64

Roundfish Unidentified	0.00	0.00	0.00		0.02	0.01		0.00	0.03	0.00	0.01	0.00				0.00		1.27			1.33
Sablefish	10.71	0.09	11.18	0.49	4.05	2.66	1.55	5.95	3.42	24.88	16.65	12.42	15.44	1.92	1.32	4.10	0.00	0.75	2.97	2.38	122.90
Salmon Shark	0.15	0.61		0.67	0.31	0.53	0.53	0.21		0.63	0.36	0.15	0.23	0.56	0.12	0.73	0.25	0.29	0.17		6.47
Sandpaper Skate		0.00								0.00	0.00										0.01
Sea Anemone Unidentified													0.00								0.00
Sea Devil Unidentified					0.00			0.00												0.00	0.01
Shark Unidentified					0.02				0.03												0.05
Sharpchin Rockfish					0.03			0.00	0.76	0.00		0.00	0.00	0.32	0.01	0.00					1.13
Shortbelly Rockfish	0.57		0.00	0.00	0.03	0.54	0.00	0.68	0.01	0.00	7.05	2.71	0.08	0.28	0.01	5.43		0.24	0.04		17.67
Shortraker Rockfish									0.01							0.02			0.02		0.05
Shortspine Thornyhead	4.16	0.11	0.35	0.06	4.02	4.80	1.23	0.38	5.10	0.01	1.89	2.45	0.02	0.92	0.18	4.36	0.00	0.13	1.28	2.81	34.22
Shrimp Unidentified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.01
Silvergray Rockfish	0.00					0.01			0.01		0.01	0.01		0.02	0.04	0.02		0.00	0.00		0.13
Slender Barracudina								0.00													0.00
Slender Sole	0.00			0.00	0.00	0.01	0.00		0.00		0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00	0.01
Smelt Unidentified												0.00									0.00
Snailfish Unidentified	0.00	0.00	0.00					0.00	0.01	0.01	0.00					0.00	0.00				0.04
Snipe Eel Unidentified		0.00																			0.00
Snow Crab, Opilio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Soupin Shark	0.04				0.05		0.05	0.06	0.03			0.02	0.04	0.03		0.11		0.05	0.06		0.52
Spiny Dogfish Shark	0.27	0.31	1.84	0.23	21.54	0.34	0.28	2.72	3.46	1.37	2.66	0.33	0.04	0.98	0.05	1.97	0.26	0.26	0.21	0.23	39.35
Splitnose Rockfish	0.14	0.01	0.00	0.49	0.55	0.58	2.80	0.01	5.93	0.04	0.60	0.36	0.03	2.22	0.19	0.46	0.00	0.09	0.52	0.19	15.19
Spotted Ratfish							0.00														0.00
Squid Unidentified	1.66	0.24	10.42	1.62	7.77	5.62	0.96	15.46	3.20	13.02	13.70	1.88	0.50	1.05	0.32	2.55	0.00	1.13	1.36	1.28	83.75
Stripetail Rockfish						0.00															0.00
Thornyhead Rockfish Unidentified					0.04				0.00					0.00	0.35				0.00		0.39
Thresher Shark																0.18					0.18
Tubeshoulder Unidentified	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00	0.01
Unidentified Petrel	0.00																			0.00	0.00
Viperfish Unidentified	0.00		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.01
White Barracudina	0.00		0.00		0.00						0.00										0.00
Widow Rockfish	4.43	0.04	0.00	0.43	47.06	0.88	0.26	0.00	1.06	0.04	1.20	0.15	0.02	1.68	9.63	2.15	0.00	0.61	0.14	0.05	69.84
Wrymouth Unidentified														0.00							0.00
Yellowtail Rockfish	0.23	0.43	0.00	0.34	1.51	0.53	0.09	0.00	2.67	0.00	0.53	0.01	0.00	2.12	7.93	5.36	0.00	0.33	0.07	0.00	22.16

## Attachment 2 Sea State Daily Report

Harvesting Vessel	Processing Vessel	Most Recent Haul Date	Most Recent Haul Number	Pacific Hake Allocation	Pacific Hake Remaining	Pacific Hake	Canary Rockfish	Widow Rockfish	Darkblotched Rockfish	Pacific Ocean Perch	Chinook Salmon	Yellowtail Rockfish	Sablefish
Arctic Fury	Excellence,Phoenix	6/25/2022	300	2,158.38	0.37	2,158.00	0.02	4.43	0.52	0.03	2.00	-	10.76
Bay Islander	Arctic Fjord	-	-	48.52	48.52	-	-	-	-	-	-	-	-
Leslie Lee	Arctic Fjord	6/19/2022	1145	1,094.77	704.40	390.00	0.01	0.05	0.02	-	-	-	0.08
Leslie Lee	Arctic Storm	6/12/2022	1130	1,683.24	0.16	1,683.00	-	0.64	0.38	0.03	-	-	1.39
Lisa Melinda	Ocean Rover	10/12/2022	1303	4,895.90	741.24	4,155.00	0.03	0.88	0.33	0.13	98.00	-	11.30
Marathon	Arctic Fjord	6/19/2022	1148	2,628.55	459.91	2,169.00	0.03	0.43	0.52	0.04	2.00	-	0.45
Marathon	Arctic Storm	6/30/2022	1197	2,279.74	1,386.52	893.00	0.02	0.52	0.01	0.00	-	-	10.90
Mark I	Excellence,Phoenix	10/17/2022	632	5,833.42	1,087.93	4,745.00	0.45	47.45	1.12	0.64	171.00	-	4.57
Miss Berdie	Arctic Fjord	10/8/2022	1271	3,138.32	28.55	3,110.00	0.03	0.88	0.39	0.08	8.00	-	2.66
Miss Berdie	Arctic Storm	-	-	0.29	0.29	-	-	-	-	-	-	-	-
Miss Sarah	Arctic Fjord	6/19/2022	1146	2,521.55	559.74	1,962.00	0.01	0.26	0.43	0.02	2.00	-	1.55
Muir Milach	Ocean Rover	10/12/2022	1305	8,120.28	3,590.51	4,530.00	0.02	0.75	0.45	0.09	52.00	-	6.06
Nordic Fury	Excellence,Phoenix	10/17/2022	633	3,748.57	1,168.67	2,580.00	0.30	1.06	0.95	0.32	92.00	-	3.42
Nordic Star	Ocean Rover	10/12/2022	1304	4,738.73	0.72	4,738.00	0.01	1.26	0.47	0.07	41.00	-	24.98
Pacific Challenger	Arctic Fjord	10/20/2022	1320	1,525.00	883.52	641.00	0.01	0.20	0.10	0.02	70.00	-	0.48
Pacific Challenger	Golden Alaska	5/30/2022	1074	1,922.78	288.19	1,635.00	0.04	1.09	0.60	1.04	13.00	-	36.30
Pacific Challenger	Ocean Rover	10/12/2022	1301	5,688.54	2,174.84	3,514.00	0.01	2.64	0.70	0.08	57.00	-	4.64
Pacific Fury	Excellence,Phoenix	6/24/2022	299	1,633.63	0.20	1,633.00	0.02	0.15	1.65	0.08	-	-	12.47
Pegasus	Excellence,Phoenix	-	-	4,298.00	4,298.00	-	-	-	-	-	-	-	-
Pegasus	Golden Alaska	5/26/2022	1059	504.55	-	505.00	0.01	0.07	0.24	0.00	4.00	-	16.37
Predator	Arctic Fjord	10/20/2022	1322	2,625.36	651.77	1,974.00	0.29	1.68	0.86	0.15	25.00	-	1.76
Predator	Arctic Storm	6/30/2022	1200	805.24	-	805.00	0.02	0.15	0.05	0.01	-	-	8.59
Raven	Arctic Fjord	9/22/2022	1205	2,676.20	947.13	1,729.00	0.28	9.63	0.32	0.78	4.00	-	1.32
Sea Storm	Arctic Fjord	10/20/2022	1321	4,988.13	2,145.59	2,843.00	0.92	2.15	0.21	0.14	29.00	-	4.10
Sea Storm	Arctic Storm	6/30/2022	1198	2,721.54	-	2,722.00	0.03	2.79	0.28	0.02	4.00	-	9.83
Seadawn	Arctic Storm	6/12/2022	1132	7,241.89	5,671.02	1,571.00	-	0.79	0.62	0.14	-	-	1.69
Seeker	Arctic Fjord	10/9/2022	1274	2,235.00	1,432.98	802.00	0.02	0.61	0.01	0.02	8.00	-	0.75
Seeker	Arctic Storm	6/30/2022	1199	1,830.48	0.33	1,830.00	0.00	0.44	0.25	0.01	10.00	-	2.58
Traveler	Excellence,Phoenix	6/17/2022	487	2,265.79	313.92	1,952.00	0.01	0.19	0.87	0.06	4.00	-	10.77
Vanguard	Excellence,Phoenix	6/15/2022	484	2,081.55	192.33	1,889.00	0.00	0.11	0.43	0.15	-	-	3.53

**Attachment 6**

**Whiting Mothership Cooperative**

An Amendment 20 Mothership Catcher Vessel Cooperative

Salmon Mitigation Plan Postseason Report on the 2022 Pacific Whiting Fishery

Prepared by: Kristin McQuaw, Cooperative Manager

Submitted to NMFS & the PFMC: March 2023

## Purpose of Report

The Whiting Mothership Cooperative is submitting a Salmon Mitigation Plan (SMP) Report for the 2022 season on behalf of its membership, all of whom are party to SMP-2022-01. This report is intended to disclose all information required or identified in 50 CFR 660.113(e)(6).

## SMP Report Requirements

(6) ***SMP postseason report.*** The designated SMP representative for an approved SMP must submit a written postseason report to NMFS and the Council for the year in which the SMP was approved.

(i) ***Submission deadline.*** The SMP postseason report must be received by NMFS and the Council no later than March 31 of the year following that in which the SMP was approved.

(ii) ***Information requirements.*** The SMP postseason report must contain, at a minimum, the following information:

(A) Name of the SMP and SMP identification number.

(B) A comprehensive description of Chinook salmon bycatch avoidance measures used in the fishing year in which the SMP was approved, including but not limited to, information sharing, area closures, movement rules, salmon excluder use, and internal bycatch guidelines.

(C) An evaluation of the effectiveness of these avoidance measures in minimizing Chinook salmon bycatch.

(D) A description of any amendments to the terms of the SMP that were approved by NMFS during the fishing year in which the SMP was approved and the reasons the amendments to the SMP were made.

### **(A) Name of the SMP and SMP identification number.**

Salmon Mitigation Plan for the Whiting Mothership Cooperative. SMP identification number: SMP-2022-01

### **(B) A comprehensive description of Chinook salmon bycatch avoidance measures used in the fishing year in which the SMP was approved, including but not limited to, information sharing, area closures, movement rules, salmon excluder use, and internal bycatch guidelines.**

In 2022, the WMC consistently shared information regarding Chinook salmon encounters amongst its members as well as with the Catcher Processor and Shorebased Cooperatives. Information sharing is critical to raising the fleets awareness of when and where Chinook are

prevalent during the season and in preventing unnecessary lightning strikes. The Cooperative also instituted area closures, movement rules and additional internal bycatch guidelines to minimize Chinook bycatch. Lastly, the Cooperative required all participants to utilize a salmon excluder, designed with escapement panels to encourage salmon to exit the net.

**(C) An evaluation of the effectiveness of these avoidance measures in minimizing Chinook salmon bycatch.**

In 2022, the Cooperative caught 697 Chinook, 6.3% of the 11,000 fish Chinook guideline. Chinook encounters increased from 2021, likely due to the increased number of vessels, days at sea and whiting harvested in 2022. However, the timing and general location of fishing activity, coupled with environmental conditions, limited WMC encounters with Chinook. Furthermore, the Cooperative's avoidance measures, specifically their internal movement rules and salmon excluder use, were effective at further minimizing Chinook bycatch. The movement rules prompted the fleets to relocate fishing effort on multiple occasions in response to elevated Chinook bycatch rates. The movement shifts effort to areas where the likelihood of Chinook encounters is lower. Additionally, the Cooperative's use of salmon excluders continues to minimize Chinook bycatch. While the effectiveness of excluders is dependent on individual vessels and their unique gear configurations, recent EFP studies in the Bering Sea Pollock fishery have shown possible salmon escapement of 15-40% in vessels with comparable horsepower and gear to those in the whiting mothership fishery.

**(D) A description of any amendments to the terms of the SMP that were approved by NMFS during the fishing year in which the SMP was approved and the reasons the amendments to the SMP were made.**

No amendments to the SMP were made in 2022.