

# IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2022

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## PURPOSE

To provide a summary of the IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2022.

## BACKGROUND

The annual IPHC Fishery-Independent Setline Survey (FISS) of the Pacific halibut stock was augmented from 2014-2019 with expansion stations that filled in gaps in coverage in the annual FISS. Prior to 2020, the standard grid of stations comprised 1,200 stations. Following the completion in 2019, expansion stations were added to the standard grid in all IPHC Regulatory Areas, now totaling 1,890 stations for the full FISS design (Fig. 1), within the prescribed depth range of 18 to 732 metres (10 to 400 fathoms).

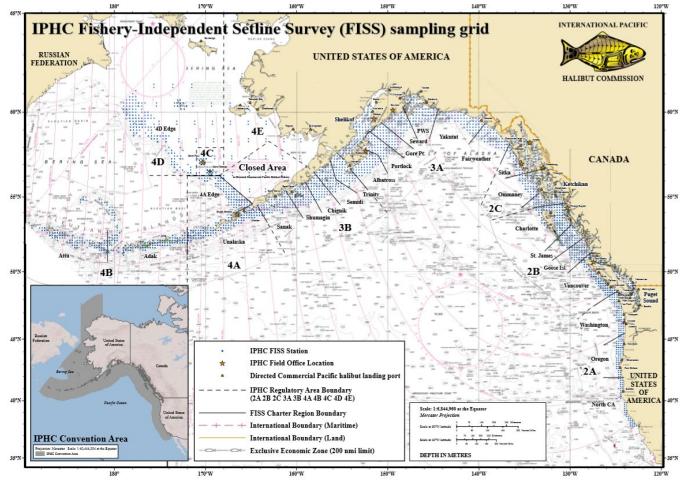


Figure 1. IPHC Fishery-Independent Setline Survey (FISS) with full sampling grid shown.

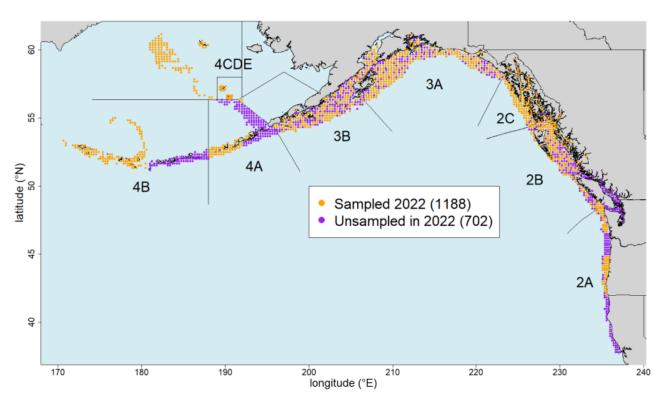
Prior to 2019, only fixed gear was used to fish FISS sets. With increasing use of snap gear in the commercial fishery, this restriction has limited the number of vessels available for the FISS. Further, any differences between snap and fixed gears (including catch rate differences and differences in fishing locations) may affect our understanding of trends in commercial fishery indices. This has motivated the need for a study comparing the two gear types with this work being done in 2019, 2020,

and again in 2021. While no study was completed in 2022, we recognize the increased use of snap gear and hope to continue the fixed vs snap gear comparison in the future.

Beginning in 2019, individual weight data were collected coastwide from Pacific halibut caught on the FISS to eliminate questions that have arisen regarding the accuracy of estimates that depend on these weights, including weight per unit effort (WPUE) indices of density. Data from IPHC collections from commercial landings and other sources had provided evidence that the current standard length-net weight curve used for estimating Pacific halibut weights on the FISS may have been over-estimating weights on average in most IPHC Regulatory Areas, and that the relationship between weight and length may vary spatially.

## 2022 FISS design

At the <u>97<sup>th</sup> Session of the IPHC Interim Meeting (IM097)</u>, the Commission recommended a FISS design for 2022 that included 1,188 stations coastwide (<u>Fig. 2</u>). The design comprised sampling of subareas within IPHC Regulatory Areas 2A, 2B, 3A, 3B, 4A, 4B and 4CDE intended to reduce potential bias (relative to historical observed changes year-to-year) and to achieve a level of precision comparable to or better than recent setline surveys. 2022 sampling in IPHC Regulatory Areas 2C included random subsampling from the full design in IPHC charter region Ketchikan while sampling in IPHC charter regions Ommaney & Sitka included 100% of the full FISS design.



**Figure 2.** Map of the 2022 FISS design endorsed by the Commission on 1 December 2021. (IPHC-2021-IM097) Purple circles were not sampled in 2022

At the 98<sup>th</sup> Session of the IPHC Annual Meeting (<u>IPHC-2022-AM098-R</u>), the Commission:

(para. 38) "**RECALLED** the IM097 endorsement of the FISS design options for 2022 (<u>Appendix IVa and b</u>) and provisional endorsement of the proposed designs for 2023 and 2024 (<u>Appendix V</u>) (<u>IPHC-2021-IM097-R</u>, paras. 31, 32), and made no further amendments at AM098."

<u>IPHC-2021-IM097-R</u>, para. 31 "The Commission **ENDORSED** optimized design 1 for the 2022 FISS, with full sampling in IPHC Regulatory Area 4CDE (<u>Appendix IV</u>), and optimized design 2, reduced sampling in IPHC Regulatory Area 4CDE (<u>Appendix V</u>), as an alternative if necessary..."

(para. 38) "The Commission **NOTED** that the endorsed FISS design for 2022 may undergo further modification depending on the outcome of the 2022 request for tender process, as well as unforeseen in-season logistical issues that IPHC contracted vessels may encounter throughout 2022 (e.g. weather, mechanical)."

#### **MATERIALS AND METHODS**

The IPHC's FISS design encompasses nearshore and offshore waters of the IPHC Convention Area (Fig. 1). The IPHC Regulatory Areas are divided into 29 charter regions, each requiring between 10 and 46 charter days to complete. FISS stations are located at the intersections of a 10 nmi by 10 nmi square grid within the depth range occupied by Pacific halibut during summer months (18 - 732 m [10 - 400 fm]). Figure 2 depicts the 2022 FISS station positions, and IPHC Regulatory Areas.

Fishing vessels are chosen through a competitive bid process where up to four (4) charter regions per vessel may be awarded and typically 10-15 vessels are chosen. In 2022, the process has been clearly documented on the IPHC website for accountability and transparency purposes: <u>https://www.iphc.int/management/science-and-research/fishery-independent-setline-survey-fiss/62-fiss-vessel-recruiting</u>.

In 2022, 9 vessels were chartered to complete the FISS, as detailed in <u>Media Release 2022-007:</u> Notification of IPHC Fishery-Independent Setline Survey (FISS) 2022 Contract Awards.

#### Sampling protocols

IPHC Setline Survey Specialists (Field) collected data according to protocols established in the 2022 FISS Sampling Manual (<u>IPHC-2022-VSM01</u>).

#### Sampling challenges - 2022

Of the 1,196 FISS stations planned for the 2021 FISS season (1,188 stations plus eight (8) rockfish index stations in Washington), 862 (72%) were effectively sampled.

**Not sampled**: A total of 289 initially planned stations were not sampled in 2022. There were challenges with vessel recruitment this season due to 1) increased sablefish quota availability; 2) several vessels transitioning to snap-gear; 3) vessel maintenance; and 4) challenges with vessel crew recruitment.

Due to the challenges with vessel recruitment, the following stations within IPHC charter regions were not sampled: Gore Point (35 stations), Semidi (27 stations), Chignik (35 stations), Shumagin (26 stations), and 4CDE North (40 stations), Attu (61 stations), Portlock (27 stations), Shelikof (9 stations), Ketchikan (12 stations) and Ommaney (12 stations).

In addition, two (2) stations in Sitka were unsampled as they were within Glacier Bay National Park and we were not permitted to complete these stations within the park this year by NOAA. Two (2) stations in Yakutat were unsampled due to the presence of sea ice restricting the vessel's access. One (1) station in Unalaska was also not sampled due to poor weather and tides.

**Ineffective stations**: Coastwide, forty-five (45) stations were deemed ineffective due to Orca depredation (n=16), Sperm whale depredation (n=15), gear soak time (n=4), shark predation (n=1), sand flea activity (n=1), station moved > 3nmi (n=1), and setting and gear issues (n=7).



# Bait (Chum salmon)

The minimum quality requirement for FISS bait is No. 2 semi-bright (Alaska Seafood Marketing Institute grades A through E), headed and gutted, and individually quick-frozen chum salmon. Bait usage is based on 0.17 kilograms (0.37 pounds) per hook resulting in approximately 136 kilograms (300 pounds) per eight skate station. Bait quality was monitored and documented throughout the season and found to meet the standard as described above.

**Pre-season**: In September 2021 (<u>IPHC Media Release 2021-025</u>), the Secretariat made preseason bait purchases of approximately 102 tonnes (225,600 lbs) to ensure a smooth start to the 2022 FISS, and to take advantage of advance purchase prices.

### RESULTS

# Interactive views of the FISS results are provided via the IPHC website and can be found here once published:

## https://www.iphc.int/data/setline-survey-catch-per-unit-effort

As in previous years, legal-sized (O32) Pacific halibut that were caught on FISS stations and sacrificed in order to obtain biological data were retained and sold. In addition, beginning in 2020, sub-legal (U32) Pacific halibut that were caught and randomly selected for otolith sampling were also retained and sold. This helps to offset costs of the FISS. FISS vessels also retained for sale incidentally captured rockfish (*Sebastes spp.*) and Pacific cod (*Gadus macrocephalus*). These species were retained because they rarely survive the barotrauma resulting from capture. Most vessel contracts provided the vessel a lump sum payment, along with a 10% share of the Pacific halibut proceeds and a 50% share of the incidental catch proceeds.

The 2022 FISS chartered 8 commercial longline vessels (four Canadian and four USA) during a combined 49 trips and 513 charter days (<u>Tables 1</u>). Otoliths were removed from 10,308 fish coastwide. Approximately 188 tonnes (414,000 pounds) of Pacific halibut, 31 tonnes (69,200 pounds) of Pacific cod, and 32 tonnes (71,400 pounds) of rockfish were landed from the FISS stations.

IPHC Regulatory Area	Charter Region	Vessel	Vessel Number¹	Charter Days <sup>2</sup>	Planned Stations	Effective Stations <sup>3</sup>	Pacific halibut Sold (t) <sup>4</sup>	Pacific halibut Sold (lb) <sup>4</sup>	Average Price USD/kg⁵	Average Price USD/lb⁵
2A	Oregon	Pacific Surveyor	947061	20	43	42	2	4,172	\$13.24	\$6.00
2A	Washington	Pacific Surveyor	947061	16	37	37	4	8,076	\$11.92	\$5.40
2B	Charlotte Goose	Bold Pursuit Bold	99997	35	75	72	20	43,957	\$19.93	\$9.04
2B	Island	Pursuit Pender	99997	17	32	32	11	23,382	\$20.02	\$9.08
2B	St. James	Isle Bold	27282	20	36	36	12	26,241	\$19.73	\$8.95
2B	Vancouver	Pursuit	99997	18	31	31	7	14,630	\$19.59	\$8.89
2C	Ketchikan	Vanisle	21912	21	35	23	7	16,142	\$15.49	\$7.02
2C	Ommaney	Vanisle	21912	23	52	36	27	58,911	\$15.78	\$7.16
2C	Sitka	Vanisle	21912	32	52	46	22	48,728	\$16.88	\$7.66

**Table 1a.** Effort and landing summary by FISS charter region and vessel for all 2022 stations and all Pacific halibut (sampled U32 and all O32).

Total		8 Vessels		513	936	862	188	414,046	\$17.01	\$7.72
Area	4CDE	Sue	41033	1	3	3	0	0	-	-
Closed		Kema						.,	,	, , , , , , , , , , , , , , , , , , , ,
4D	4CDE South	Kema Sue	41033	14	37	35	2	3,310	\$15.08	\$6.84
4D	4CDE Central	Kema Sue	41033	19	40	38	2	3,684	\$14.99	\$6.80
4C	4CDE South	Kema Sue	41033	8	20	18	2	3,951	\$15.08	\$6.84
4B	Attu	Kema Sue	41033	10	24	22	1	2,212	\$15.22	\$6.90
4B	Adak	Kema Sue	41033	32	45	44	1	2,703	\$15.22	\$6.90
4A	Unalaska	Devotion	42892	39	59	50	4	8,393	\$15.02	\$6.81
3B	Trinity	Devotion	42892	14	27	26	7	15,267	\$17.06	\$7.74
3B	Sanak	Star Wars II	99997	25	49	45	7	16,402	\$15.08	\$6.84
3A	Yakutat	Pender Isle	27282	26	55	51	10	23,080	\$16.41	\$7.44
3A	Shelikof	Star Wars II	99997	17	36	35	5	10,201	\$13.88	\$6.30
3A	Seward	St. Nicholas	45399	26	35	32	5	11,832	\$17.52	\$7.94
3A	William Sound	St. Nicholas	45399	35	39	38	8	18,625	\$16.25	\$7.94
3A	Portlock Prince	Star Wars II	99997	8	13	12	2	4,562	\$13.45	\$6.10
3A	Fairweather	Pender Isle	27282	14	26	26	7	14,508	\$17.11	\$7.76
3A	Albatross	Devotion	42892	23	35	32	14	31,077	\$17.00	\$7.71

1 Canada: Vessel Registration Number and USA: ADF&G vessel number.

2 Days are estimated - some vessels fished two charter regions in one day.

3 Stations that did not meet setting parameters or deemed ineffective are excluded.

4 Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

5 Ex-vessel price.

**Table 1b.** Effort and landing summary by FISS charter region and vessel for all 2022 stations and O32 Pacific halibut.

IPHC Regulatory Area	Charter Region	Vessel	Vessel Number¹	Charter Days²	Planned Stations	Effective Stations <sup>3</sup>	Pacific halibut Sold (t) <sup>4</sup>	Pacific halibut Sold (lb) <sup>4</sup>	Average Price USD/kg⁵	Average Price USD/lb⁵
2A	Oregon	Pacific Surveyor	947061	20	43	42	2	3,716	\$13.78	\$6.25
2A	Washington	Pacific Surveyor	947061	16	37	37	2	5,407	\$12.90	\$5.85
2B	Charlotte Goose	Bold Pursuit Bold	99997	35	75	72	19	42,187	\$19.99	\$9.07
2B	Island	Pursuit Pender	99997	17	32	32	10	22,778	\$20.06	\$9.10
2B	St. James	Isle Bold	27282	20	36	36	12	25,836	\$19.75	\$8.96
2B	Vancouver	Pursuit	99997	18	31	31	6	14,051	\$19.64	\$8.91
2C	Ketchikan	Vanisle	21912	21	35	23	7	15,568	\$15.51	\$7.04
2C	Ommaney	Vanisle	21912	23	52	36	26	57,462	\$15.80	\$7.17
2C	Sitka	Vanisle	21912	32	52	46	21	46,404	\$16.90	\$7.67
3A	Albatross	Devotion Pender	42892	23	35	32	13	29,458	\$17.00	\$7.71
3A	Fairweather	Isle Star	27282	14	26	26	6	14,069	\$17.12	\$7.77
3A	Portlock	Wars II	99997	8	13	12	2	4,459	\$13.50	\$6.12

Total		o Vessels		513	936	862	177	391,281	\$17.13	\$7.77
Area	4CDE	Sue 8	41033	1	3	3	0	0	-	-
Closed		Kema								
4D	South	Sue	41033	14	37	35	1	2,469	\$15.44	\$7.00
4D	4CDE Central 4CDE	Kema Sue Kema	41033	19	40	38	1	2,803	\$15.17	\$6.88
4C	4CDE South	Kema Sue	41033	8	20	18	1	2,967	\$15.17	\$6.88
4B	Attu	Kema Sue	41033	10	24	22	1	2,120	\$15.23	\$6.91
4B	Adak	Kema Sue	41033	32	45	44	1	2,591	\$15.23	\$6.91
4A	Unalaska	Devotion	42892	39	59	50	3	6,589	\$15.30	\$6.94
3B	Trinity	Devotion	42892	14	27	26	7	14,467	\$17.06	\$7.74
3B	Sanak	Star Wars II	99997	25	49	45	6	14,086	\$15.18	\$6.88
3A	Yakutat	Pender Isle	27282	26	55	51	10	21,762	\$16.41	\$7.44
3A	Shelikof	Star Wars II	99997	17	36	35	4	9,899	\$13.93	\$6.32
3A	Seward	St. Nicholas	45399	26	35	32	5	11,587	\$17.51	\$7.94
3A	Prince William Sound	St. Nicholas	45399	35	39	38	8	18,546	\$16.25	\$7.37

1 Canada: Vessel Registration Number and USA: ADF&G vessel number.

 $\ensuremath{\mathsf{2}}$  Days are estimated - some vessels fished two charter regions in one day.

3 Stations that did not meet setting parameters or deemed ineffective are excluded.

4 Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

5 Ex-vessel price.

**Table 1c.** Effort and landing summary by FISS charter region and vessel for all 2022 stations and sampled U32 Pacific halibut.

IPHC Regulatory Area	Charter Region	Vessel	Vessel Number <sup>1</sup>	Charter Days²	Planned Stations	Effective Stations <sup>3</sup>	Pacific halibut Sold (t) <sup>4</sup>	Pacific halibut Sold (lb) <sup>4</sup>	Average Price USD/kg⁵	Average Price USD/lb⁵
2A	Oregon	Pacific Surveyor	947061	20	43	42	0	456	\$8.82	\$4.00
2A	Washington	Pacific Surveyor	947061	16	37	37	1	2,669	\$9.91	\$4.50
2B	Charlotte Goose	Bold Pursuit Bold	99997	35	75	72	1	1,770	\$18.50	\$8.39
2B	Island	Pursuit Pender	99997	17	32	32	0	604	\$18.39	\$8.34
2B	St. James	Isle Bold	27282	20	36	36	0	405	\$18.39	\$8.34
2B	Vancouver	Pursuit	99997	18	31	31	0	579	\$18.32	\$8.31
2C	Ketchikan	Vanisle	21912	21	35	23	0	574	\$14.79	\$6.71
2C	Ommaney	Vanisle	21912	23	52	36	1	1,449	\$15.07	\$6.83
2C	Sitka	Vanisle	21912	32	52	46	1	2,324	\$16.39	\$7.44
3A	Albatross	Devotion Pender	42892	23	35	32	1	1,619	\$17.03	\$7.73
3A	Fairweather	Isle Star	27282	14	26	26	0	439	\$16.67	\$7.56
3A	Portlock Prince William	Wars II St.	99997	8	13	12	0	103	\$11.10	\$5.03
3A	Sound	Nicholas St.	45399	35	39	38	0	79	\$16.25	\$7.37
3A	Seward	Nicholas Star	45399	26	35	32	0	245	\$17.66	\$8.01
3A	Shelikof	Wars II	99997	17	36	35	0	302	\$12.21	\$5.54

Total		Vessels		513	936	862	10	22,765	\$15.05	\$6.83
	-	8			-	-	-			
Area	4CDE	Sue	41033	1	3	3	0	0	-	-
Closed		Kema								
4D	4CDE South	Kema Sue	41033	14	37	35	0	841	\$14.04	\$6.37
4D	4CDE Central	Kema Sue	41033	19	40	38	0	881	\$14.42	\$6.54
4C	4CDE South	Kema Sue	41033	8	20	18	0	984	\$14.82	\$6.72
4B	Attu	Kema Sue	41033	10	24	22	0	92	\$14.82	\$6.72
4B	Adak	Kema Sue	41033	32	45	44	0	112	\$14.82	\$6.72
4A	Unalaska	Devotion	42892	39	59	50	1	1,804	\$14.00	\$6.35
3B	Trinity	Devotion	42892	14	27	26	0	800	\$17.07	\$7.74
3B	Sanak	Star Wars II	99997	25	49	45	1	2,316	\$14.50	\$6.58
3A	Yakutat	Pender Isle	27282	26	55	51	1	1,318	\$16.53	\$7.50

1 Canada: Vessel Registration Number and USA: ADF&G vessel number.

2 Days are estimated - some vessels fished two charter regions in one day.

3 Stations that did not meet setting parameters or deemed ineffective are excluded.

4 Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

5 Ex-vessel price.

Vessels chartered by the IPHC delivered fish to 21 different ports (<u>Tables 2</u>). Fish sales were awarded based on obtaining a fair market price. When awarding sales, the Commission considered the price offered, the number of years that a buyer had been buying and marketing Pacific halibut, how fish were graded at the dock (including the determination of No. 2 and chalky Pacific halibut), and the promptness of settlements following deliveries. Individual sales were evaluated after each event to ensure that the buyer was meeting IPHC standards. Average prices increased from \$15.13/kg in 2021 to \$17.01/kg in 2022 (<u>Tables 3</u>). This represents a 12.4% increase in price.

**Table 2a.** FISS Pacific halibut landings by port for all Pacific halibut (sampled U32 and all O32), 2022<sup>1,2</sup>.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/lb)
						· · · ·
Coos Bay	1	0	891	\$5,429.25	\$13.43	\$6.09
Dutch Harbor	10	13	29,137	\$199,997.80	\$15.13	\$6.86
Homer	3	5	10,043	\$66,356.68	\$14.57	\$6.61
Juneau	3	14	30,550	\$238,344.80	\$17.20	\$7.80
Ketchikan	4	18	40,356	\$284,053.50	\$15.52	\$7.04
King Cove	1	4	9,716	\$66,044.50	\$14.99	\$6.80
Kodiak	6	25	54,484	\$407,212.04	\$16.48	\$7.47
Neah Bay	1	1	2,816	\$15,689.39	\$12.28	\$5.57
Newport	2	1	3,281	\$19,619.75	\$13.18	\$5.98
Petersburg	4	12	26,121	\$180,374.30	\$15.22	\$6.91
Port Angeles	1	1	3,129	\$17,081.81	\$12.04	\$5.46
Port Hardy	5	18	39,176	\$355,343.60	\$20.00	\$9.07
Prince Rupert	5	26	56,333	\$506,381.92	\$19.82	\$8.99
Sand Point	1	1	1,802	\$12,006.50	\$14.69	\$6.66
Seward	7	12	27,037	\$207,521.95	\$16.92	\$7.68

Grand Total	66	188	391,624	\$3,194,874.77	\$17.01	\$7.72
Yakutat	4	9	20,291	\$152,182.50	\$16.53	\$7.50
Westport	1	1	2,131	\$10,876.25	\$11.25	\$5.10
Vancouver	1	1	1,105	\$10,121.68	\$20.19	\$9.16
Valdez	1	2	5,098	\$36,960.50	\$15.98	\$7.25
Tofino/Ucluelet	1	5	11,596	\$102,617.64	\$19.51	\$8.85
Sitka	4	18	38,953	\$300,658.41	\$17.02	\$7.72

<sup>1</sup> Net weight (head-off, dressed, washed). <sup>2</sup> Prices based on net weight.

# Table 2b. FISS Pacific halibut landings by port for O32 Pacific halibut, 2022<sup>1,2</sup>.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/Ib)
Coos Bay	1	0	829	\$5,181.25	\$13.78	\$6.25
Dutch Harbor	10	11	23,946	\$166,024.63	\$15.29	\$6.93
Homer	3	4	9,815	\$65,041.12	\$14.61	\$6.63
Juneau	3	13	29,464	\$230,377.40	\$17.24	\$7.82
Ketchikan	4	18	39,940	\$281,217.50	\$15.52	\$7.04
King Cove	1	4	8,309	\$56,599.31	\$15.02	\$6.81
Kodiak	6	24	51,888	\$387,634.63	\$16.47	\$7.47
Neah Bay	1	1	1,948	\$11,526.95	\$13.05	\$5.92
Newport	2	1	2,887	\$18,043.75	\$13.78	\$6.25
Petersburg	4	11	24,854	\$172,152.05	\$15.27	\$6.93
Port Angeles	1	1	1,830	\$10,732.95	\$12.93	\$5.87
Port Hardy	5	17	38,316	\$348,144.65	\$20.03	\$9.09
Prince Rupert	5	25	54,351	\$489,790.50	\$19.87	\$9.01
Sand Point	1	1	1,370	\$9,630.50	\$15.50	\$7.03
Seward	7	12	26,713	\$204,966.75	\$16.92	\$7.67
Sitka	4	17	37,109	\$286,625.64	\$17.03	\$7.72
Tofino/Ucluelet	1	5	11,095	\$98,453.27	\$19.56	\$8.87
Valdez	1	2	5,098	\$36,960.50	\$15.98	\$7.25
Vancouver	1	0	1,090	\$9,994.19	\$20.21	\$9.17
Westport	1	1	1,629	\$9,387.19	\$12.70	\$5.76
Yakutat	4	9	18,800	\$141,000.00	\$16.53	\$7.50
Grand Total	66	177	391,281	\$3,039,484.73	\$17.13	\$7.77

<sup>1</sup> Net weight (head-off, dressed, washed). <sup>2</sup> Prices based on net weight.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/lb)
Coos Bay	1	0	62	\$248.00	\$8.82	\$4.00
Dutch Harbor	10	0	5,191	\$33,973.17	\$14.43	\$6.54
Homer	3	0	228	\$1,315.56	\$12.72	\$5.77
Juneau	3	0	1,086	\$7,967.40	\$16.17	\$7.34
Ketchikan	4	0	416	\$2,836.00	\$15.03	\$6.82
King Cove	1	1	1,407	\$9,445.19	\$14.80	\$6.71
Kodiak	6	1	2,596	\$19,577.41	\$16.63	\$7.54
Neah Bay	1	0	868	\$4,162.44	\$10.57	\$4.80
Newport	2	0	394	\$1,576.00	\$8.82	\$4.00
Petersburg	4	1	1,267	\$8,222.25	\$14.31	\$6.49
Port Angeles	1	1	1,299	\$6,348.86	\$10.78	\$4.89
Port Hardy	5	0	860	\$7,198.95	\$18.45	\$8.37
Prince Rupert	5	1	1,982	\$16,591.42	\$18.46	\$8.37
Sand Point	1	0	432	\$2,376.00	\$12.13	\$5.50
Seward	7	0	324	\$2,555.20	\$17.39	\$7.89
Sitka	4	1	1,844	\$14,032.77	\$16.78	\$7.61
Tofino/Ucluelet	1	0	501	\$4,164.37	\$18.33	\$8.31
Valdez	1	0	0	-	-	
Vancouver	1	0	15	\$127.49	\$18.74	\$8.50
Westport	1	0	502	\$1,489.06	\$6.54	\$2.97
Yakutat	4	1	1,491	\$11,182.50	\$16.53	\$7.50
Grand Total	66	10	22,765	\$155,390.04	\$15.05	\$6.83

# **Table 2c.** FISS Pacific halibut landings by port for sampled U32 Pacific halibut, 2022<sup>1,2</sup>.

<sup>1</sup> Net weight (head-off, dressed, washed).

<sup>2</sup> Prices based on net weight.

**Table 3a**. FISS landings (total pounds and price) of all Pacific halibut (sampled U32 and all O32) by IPHC Regulatory Area in 2022<sup>1</sup>.

IPHC Regulatory Area	2A	2B	2C	3A	3B	4A	4B	4C	4D	Closed Area	Total Weight and Average Price
Tonnes	6	49	56	52	14	4	2	2	3	0	188
Pounds	12,248	108,210	123,781	113,885	31,669	8,393	4,915	3,951	6,994	0	414,046
Price USD/kg	\$12.37	\$19.85	\$16.18	\$16.40	\$16.04	\$15.02	\$15.22	\$15.08	\$15.04	\$-	\$17.01
Price USD/lb	\$5.61	\$9.01	\$7.34	\$7.44	\$7.27	\$6.81	\$6.90	\$6.84	\$6.82	\$-	\$7.72

1 Net weight (head-off, dressed, washed)

<b>Table 3b.</b> FISS landings (total pounds and price) of O32 Pacific halibut by IPHC Regulatory	
Area in 2022 <sup>1</sup> .	

IPHC Regulatory Area	2A 2B		2C	3A	3B	4A	4B	4C	4D	Closed Area	Total Weight and Average Price
Tonnes	4	48	54	50	13	3	2	1	2	0	177
Pounds	9123	104,852	119,434	109,780	28,553	6,589	4,711	2,967	5,272	0	391,281
Price USD/kg	\$13.26	\$19.90	\$16.19	\$16.40	\$16.13	\$15.30	\$15.23	\$15.17	\$15.30	\$-	\$17.13
Price USD/lb	\$6.01	\$9.03	\$7.34	\$7.44	\$7.32	\$6.94	\$6.91	\$6.88	\$6.94	\$-	\$7.77

**Table 3c**. FISS landings (total pounds and price) of sampled U32 Pacific halibut by IPHC Regulatory Area in 2022<sup>1</sup>.

IPHC Regulatory Area	2A 2B		2C	3A	3B	4A	4B	4C	4D	Closed Area	Total Weight and Average Price
Tonnes	1	2	2	2	1	1	0	0	1		0 10
Pounds	3125	3,358	4,347	4,105	3,116	1,804	204	984	1,722		0 22,765
Price USD/kg	\$9.75	\$18.44	\$15.74	\$16.36	\$15.16	\$14.00	\$14.82	\$14.82	\$14.24	\$-	\$15.05
Price USD/lb	\$4.42	\$8.36	\$7.14	\$7.42	\$6.88	\$6.35	\$6.72	\$6.72	\$6.46	\$-	\$6.83

1 Net weight (head-off, dressed, washed)

# FISS timing

Each year, the months of June, July, and August are targeted for FISS fishing. In 2022, this activity took place from 28 May through 16 September. On a coastwide basis, FISS vessel activity was highest in intensity at the beginning of the FISS season and declined early in August as boats finished their charter regions (Figure 8). All FISS activity was completed by mid-September.

		Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40
2A	2022		9%	25%	17%	17%	17%	15%												
	2021		19%	15%	13%	8%	23%	10%	14%											
	2019	7%	21%	13%	8%	13%	11%	13%	13%											
	2018	10%	11%	9%	8%	12%	10%	4%	7%	6%	10%	3%	8%	1%						
	2017	8%	7%	7%	5%	6%	7%	1%	6%	4%	7%	10%	8%	8%	4%	6%	4%	2%		
	2016		18%	11%	17%	12%	17%	9%	10%	7%										
	2015	20%	9%	15%	12%	16%	2%	13%	9%	4%										
2B	2022	2%	10%	9%	9%	8%	7%	10%	14%	16%	13%	2%								
	2021		16%	12%	9%	11%	6%	9%	6%	5%	6%	5%	5%	2%	8%					
	2020					2%	14%	16%	11%	6%	6%	10%	7%	1%	9%	13%	6%			
	2019	8%	8%	8%	2%	4%	8%	18%	11%	8%	11%	9%	5%							
	2018	7%	9%	10%	10%	10%	12%	10%	4%	10%	8%	9%	1%							
	2017	10%	10%	7%	8%	5%	15%	18%	17%	10%										
	2016				5%	9%	7%	9%	15%	20%	15%	11%	11%							
	2015	11%	11%	8%	9%	9%	4%	2%	11%	12%	9%	9%	7%							
2C	2022		12%	10%	8%	9%	7%	16%	10%	5%	11%	5%	7%							
	2021	1%	19%	8%	9%	9%	7%	7%	10%	12%	10%	7%								
	2020						14%	11%	7%	9%	6%	7%	18%	14%	8%	5%				
	2019	1%	11%	13%	5%	11%	8%		5%	9%	10%	12%	12%	4%						
	2018				1%	10%	18%	13%	13%	8%	8%	7%	8%	9%	4%					
	2017	15%	15%	10%	15%	13%					7%	9%	15%	2%						
	2016		15%	14%	9%	13%	15%	10%	11%	1%	7%	5%								
	2015	15%	5%			19%	12%	13%	17%	20%										
ЗA	2022		10%	17%	17%	10%	5%	3%					5%	2%	7%	11%	5%	6%		
	2021		6%	12%	10%	6%	8%	7%	9%	10%	12%	7%	7%	2%	2%	1%				
	2020	'				0%	13%	11%	12%	16%	12%	11%	7%	5%	4%	5%	3%			
	2019	7%	18%	17%	13%	10%	7%	3%	3%	3%	1%	2%		0%	1%	7%	7%	1%		
	2018	15%	15%	12%	10%	7%	8%	2%	8%	5%	6%	5%	4%	2%	2%					
	2017	14%	9%	11%	11%	9%	10%	9%	8%	6%		3%	3%	2%	3%					
	2016		11%	10%	11%	11%	5%	6%	8%	14%	9%	8%	4%	2%						
	2015	12%	18%	19%	16%	10%	6%	5%	2%	4%	4%	4%								

				3%	37%	38%	22%												
2021		5%	8%	6%	9%	4%	8%	20%	18%	13%	9%								
2020						14%	21%	19%	16%	3%	12%	12%	3%						
2019	5%	5%	10%	9%	3%	4%	7%		6%	4%	6%	12%	12%	9%	6%	2%			
2018	15%	16%	6%	15%	7%		5%	6%	10%	7%	5%	2%	5%						
2017	5%	19%	22%	23%	12%	13%	6%												
2016		1%	26%	19%	18%	18%	9%	7%	2%										
2015		5%	9%	10%	16%	14%	6%	8%	6%	13%	6%	6%							
2022								20%	29%	10%	19%	7%	15%						
2021			4%	21%	27%	13%	13%							15%	8%				
2019					6%	19%	12%	14%	12%	14%	10%		14%						
2018					14%	16%	18%	22%	14%	2%	15%								
2017				4%	7%	13%	14%	23%	12%	13%	15%								
2016	L 1	5%	14%	14%	3%	15%	12%	14%	15%	5%	5%								
2015		16%	13%	14%		9%	6%	19%	9%	5%		- I	8%						
2022			32%	30%	28%	10%													
2021				19%	11%							38%	16%	8%	8%				
2019			16%	13%	12%	7%	12%	3%	17%	19%									
2018			11%	17%	7%	6%							16%	17%	18%	10%			
2017			16%	14%	11%	12%	11%	6%	4%	7%	6%	6%	5%						
2016				13%	12%	12%	12%	18%	2%	9%	21%								
2015		3%	13%	16%	6%	10%	3%			11%	19%	18%							
2022							23%	22%	9%	7%	27%	12%							
2021					9%	26%		28%	37%										
2019											5%	31%	10%	15%	12%		14%	10%	4
2018									11%	32%	12%	9%	21%	15%					
2017					7%	9%		19%	19%	16%	17%	14%							
2016			1%	12%	4%	13%	18%	18%	16%	17%	2%								
2015						4%	14%	22%	16%	15%	22%	6%	2%				INT	RNATIONAL	PACI
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15%     12%     14%       2016     5%     14%     14%     3%     15%     12%     14%       2016     5%     14%     14%     3%     15%     12%     3%       2016     4%&lt;</td><td>20195%5%10%9%3%4%7%6%6%201815%16%6%15%7%13%6%10%20%20175%19%26%19%18%18%9%7%2%201619%26%19%16%14%6%8%6%20155%9%10%16%14%6%8%6%20224%21%27%13%13%12%20194%21%27%13%14%22%14%20194%7%13%14%23%12%14%20165%14%14%3%15%12%14%15%20165%14%14%3%15%12%14%15%20165%14%14%3%15%12%14%15%201716%13%14%11%12%14%15%14%201815%13%14%11%12%14%15%14%201716%13%13%16%16%10%3%17%201811%13%13%16%12%12%14%2%3%201713%13%16%16%10%3%17%2%201813%13%16%16%10%3%16%3%3%201613%13%16%6%<!--</td--><td>2019     5%     5%     10%     9%     3%     4%     7%     6%     4%       2018     15%     16%     6%     15%     7%     5%     6%     10%     7%       2017     5%     19%     22%     23%     12%     13%     6%     1       2016     1%     26%     19%     18%     9%     7%     2%       2015     1%     26%     19%     16%     14%     6%     8%     6%   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**Figure 8.** Percent of the total FISS stations completed by IPHC Regulatory Area during each week of the year (2015-2022). Week 22 begins in late May or early June depending on the year.

### **RECOMMENDATION/S**

That the RAB:

1) **NOTE** paper IPHC-2022-RAB023-06 which provides a summary of the IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2022.

#### APPENDICES

Nil.