

## IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2025

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#### **PURPOSE**

To provide a summary of the IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2025.

#### 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 (Figure 1), within the prescribed depth range of 18 to 732 metres (10 to 400 fathoms).

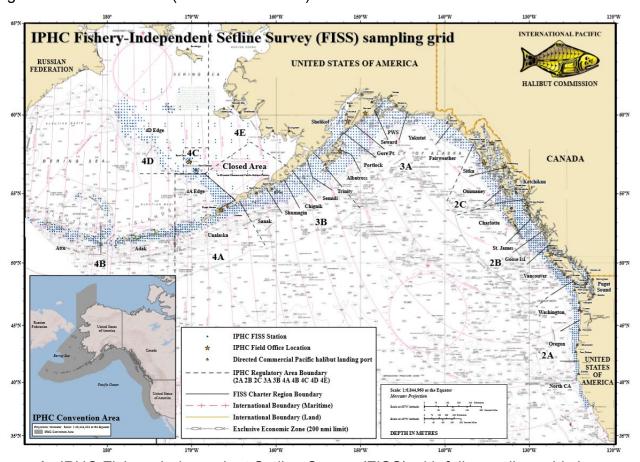


Figure 1. IPHC Fishery-Independent Setline Survey (FISS) with full sampling grid shown.

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

recognized the increased use of snap gear and integrated snap gear into the FISS tender specifications for 2023 and 2024 and 2025.

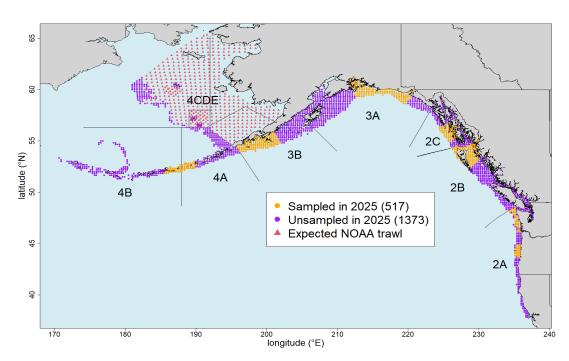
Beginning in 2019, individual weight data were collected coastwide from Pacific halibut caught on the FISS to eliminate questions that have arisen regarding the accuracy of estimates that depend on these weights, including weight per unit effort (WPUE) indices of density. Data from IPHC collections from 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.

# 2025 FISS design

On 13 December 2024, the 2025 FISS Tender Specifications were published to the IPHC website with a deadline of 3 February 2025 for tenders.

Following SS014, the final 2025 FISS design was approved via inter-sessional agreement (IPHC-2024-CR-030, IPHC-2024-CR-031).

The design (<u>Figure 2</u>) comprised sampling of subareas within IPHC Regulatory Areas 2A, 2B, 2C, 3A, 3B, 4A and 4B intended to balance the Commissions primary and secondary objectives for the FISS.



**Figure 2.** Map of the 2025 FISS design approved by the Commission on 8 November 2024. Purple circles were not sampled in 2025.

#### **M**ATERIALS AND METHODS

The IPHC's FISS design encompasses nearshore and offshore waters of the IPHC Convention Area ( $\underline{\text{Fig. 1}}$ ). 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 2025 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 8-15 vessels are chosen. In 2025, the process was clearly documented on the IPHC website for accountability and transparency purposes: Vessel Recruiting - IPHC.

In 2025, six (6) vessels were chartered to complete the FISS, as detailed in <a href="IPHC-2025-MR-007">IPHC-2025-MR-007</a> Notification of IPHC Fishery-Independent Setline Survey (FISS) 2025 Contract Awards - IPHC. There was an additional vessel chartered to complete the 2025 Catch Protection Study in 4A Edge that provided FISS data as well.

# Sampling protocols

IPHC Setline Survey Specialists (Field) collected data according to protocols established in the 2025 FISS Sampling Manual (IPHC-2025-VSM01).

# Sampling challenges - 2025

There were six (6) stations completed during the 2025 Catch Protection Study in 4A Edge that met FISS tender specifications and were added to the total 2025 FISS, making a total of 523 FISS stations planned for the 2025 FISS season. Of the 523 FISS stations planned for the 2025 FISS season, 497 (95%) were effectively sampled.

**Not sampled**: A total of four (4) stations initially planned for sampling in 2025 were not completed. One station in the Yakutat charter region was not sampled due to the presence of ice. In the Charlotte charter region, one station was excluded because it was located within the Hecate Marine Protected Area. Additionally, two stations in the Unalaska charter region were originally scheduled for sampling but were ultimately removed during the planning phase, following negotiations with the vessel operator.

**Ineffective stations**: Coastwide, twenty-two (22) stations were deemed ineffective due to orca depredation (n=6), sperm whale depredation (n=10), pinniped depredation (n=1), unknown depredation (n=2), sand fleas (n=1), soak time (n=1), and setting and gear issues (n=1).

### 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 2024 (<u>IPHC Media Release 2024-MR015</u>), the Secretariat made preseason bait purchases of approximately 72.6 tonnes (145,200 lbs) of chum salmon to ensure a smooth start to the 2025 FISS.

#### **RESULTS**

#### Interactive views of the FISS results are provided via the IPHC website here:

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

As in previous years, legal-sized (O32) Pacific halibut caught on the FISS were sacrificed in order to obtain biological data and were retained for sale. In addition, beginning in 2020, sublegal (U32) Pacific halibut randomly selected for otolith sampling were also retained and sold. This helped to offset costs of the FISS. FISS vessels also retained for sale incidentally captured rockfish (Sebastes spp.) and Pacific cod (Gadus macrocephalus) as these species 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 2025 FISS chartered seven (7) commercial longline vessels (three Canadian and four USA), during a combined 33 trips and 271 charter days (<u>Tables 1</u>). Otoliths were removed from 5,670 fish coastwide. Approximately 119 tonnes (261,912 pounds) of Pacific halibut, 28 tonnes (60,662 pounds) of Pacific cod, and 24 tonnes (52,669 pounds) of rockfish were landed from the FISS stations.

**Table 1a.** Effort and landing summary by FISS charter region and vessel for all 2025 stations and all Pacific halibut (sampled U32 and all O32).

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/lb <sup>5</sup>
2A	Oregon	Pacific Surveyor Pacific	947061	14	26	26	1	3,276	\$16.05	\$7.28
2A	Washington	Surveyor	947061	26	42	42	4	7,746	\$16.20	\$7.35
2B	Charlotte	Vanisle	21912	49	89	86	20	44,460	\$21.29	\$9.66
2C	Ommaney	Pender Isle	27282	27	52	49	31	68,407	\$22.03	\$9.99
3A	Prince William Sound	Kema Sue	41033	30	67	66	13	29,128	\$17.27	\$7.83
3A	Yakutat	Kema Sue	41033	31	64	57	17	37,431	\$16.47	\$7.47
3B	Sanak	Star Wars I	99997	35	71	68	13	28,262	\$14.45	\$6.56
3B	Shumagin	Star Wars I	99997	28	54	53	9	20,898	\$12.71	\$5.77
4A	Unalaska	Kema Sue	41033	16	30	26	6	13,265	\$13.95	\$6.33
4A	4A Edge	Oracle	77897	4	6	4	1	1,398	\$11.36	\$5.15
4B	Adak	Polaris	19266	15	30	28	4	9,040	\$13.67	\$6.20
Total		7 Vessels		271	531	505	119	263,310	\$18.04	\$8.18

<sup>&</sup>lt;sup>1</sup> Canada: Vessel Registration Number and USA: ADF&G vessel number.

**Table 1b.** Effort and landing summary by FISS charter region and vessel for all 2025 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/lb <sup>5</sup>
2A	Orogen	Pacific	947061	14	26	26	4	2,687	\$17.64	\$8.00
ZA	Oregon	Surveyor Pacific	947001	14	20	20	ı	2,007	φ17.04	\$6.00
2A	Washington	Surveyor	947061	26	42	42	4	4,823	\$18.38	\$8.34
2B	Charlotte	Vanisle	21912	49	89	86	20	42,155	\$21.50	\$9.75
2C	Ommaney	Pender Isle	27282	27	52	49	31	66,787	\$22.16	\$10.05
3A	Prince William Sound	Kema Sue	41033	30	67	66	13	28,099	\$17.30	\$7.84
3A	Yakutat	Kema Sue	41033	31	64	57	17	36,796	\$16.48	\$7.48
3B	Sanak	Star Wars I	99997	35	71	68	13	26,258	\$14.63	\$6.64

<sup>&</sup>lt;sup>2</sup> Days are estimated - some vessels fished two charter regions in one day.

<sup>&</sup>lt;sup>3</sup> Stations that did not meet setting parameters or deemed ineffective are excluded.

<sup>&</sup>lt;sup>4</sup> Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

<sup>&</sup>lt;sup>5</sup> Ex-vessel price.

Total		7 Vessels		271	531	505	110	241,959	\$18.43	\$8.36
4B	Adak	Polaris	19266	15	30	28	4	6,111	\$14.01	\$6.36
4A	4A Edge	Oracle	77897	4	6	4	1	777	\$11.83	\$5.36
4A	Unalaska	Kema Sue	41033	16	30	26	6	8,043	\$14.58	\$6.61
3B	Shumagin	Star Wars II	99997	28	54	53	9	19,423	\$12.75	\$5.78

<sup>&</sup>lt;sup>1</sup> Canada: Vessel Registration Number and USA: ADF&G vessel number.

**Table 1c.** Effort and landing summary by FISS charter region and vessel for all 2025 stations and sampled U32 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/lb <sup>5</sup>
2A	Oregon	Pacific Surveyor	947061	14	26	26	1	589	\$8.82	\$4.00
2/1	Oregon	Pacific	347001	14	20	20	'	309	ψ0.02	Ψ4.00
2A	Washington	Surveyor	947061	26	42	42	4	2,923	\$12.60	\$5.71
2B	Charlotte	Vanisle	21912	49	89	86	20	2,305	\$17.36	\$7.87
2C	Ommaney	Pender Isle	27282	27	52	49	31	1,620	\$16.86	\$7.65
3A	Prince William Sound	Kema Sue	41033	30	64	63	13	1,029	\$17.27	\$7.83
3A	Yakutat	Kema Sue		31	67	60	17	634	\$15.47	\$7.02
3B	Sanak	Star Wars II	99997	35	71	68	13	2,004	\$12.16	\$5.52
3B	Shumagin	Star Wars II	99997	28	54	53	9	1,475	\$12.26	\$5.56
4A	Unalaska	Kema Sue	41033	16	30	26	6	5,222	\$12.96	\$5.88
4A	4A Edge	Oracle	77897	4	6	4	1	621	\$10.77	\$4.89
4B	Adak	Polaris	19266	15	30	28	4	2,929	\$12.96	\$5.88
Total		7 Vessels		271	531	505	5 10	21,351	\$13.63	\$6.18

<sup>&</sup>lt;sup>1</sup> Canada: Vessel Registration Number and USA: ADF&G vessel number.

Vessels chartered by the IPHC delivered fish to eleven (11) 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. In the case of multi-port bidding, vessel transit logistics and operational requirements were also considered. Individual sales were evaluated after each event to ensure that the buyer was meeting IPHC standards. Average prices increased from \$13.71/kg in 2024 to \$18.04/kg in 2025 (<u>Tables 3</u>). This represents a 24% increase in price.

<sup>&</sup>lt;sup>2</sup> Days are estimated - some vessels fished two charter regions in one day.

<sup>&</sup>lt;sup>3</sup> Stations that did not meet setting parameters or deemed ineffective are excluded.

<sup>&</sup>lt;sup>4</sup> Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

<sup>&</sup>lt;sup>5</sup> Ex-vessel price.

<sup>&</sup>lt;sup>2</sup> Days are estimated - some vessels fished two charter regions in one day.

<sup>&</sup>lt;sup>3</sup> Stations that did not meet setting parameters or deemed ineffective are excluded.

<sup>&</sup>lt;sup>4</sup> Net weight (head-off, dressed, washed). May not sum to correct total due to rounding.

<sup>&</sup>lt;sup>5</sup> Ex-vessel price.

Table 2a. FISS Pacific halibut landings by port for all Pacific halibut (sampled U32 and all O32), 2025<sup>1,2</sup>.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/lb)
Cordova	1	5	10.052	\$64.554.11	\$14.16	\$6.42
Dutch Harbor	3	11	23.703	\$147,175.43	\$13.69	\$6.21
False Pass	1	5	9.981	\$61.444.80	\$13.57	\$6.16
Kodiak	1	4	8.718	\$68.278.37	\$17.27	\$7.83
Newport	3	2	3,919	\$28,248.00	\$15.89	\$7.21
Port Angeles	1	1	2,462	\$11,633.72	\$10.42	\$4.73
Prince Rupert	9	51	112,867	\$1,113,004.49	\$21.74	\$9.86
Sand Point	5	14	17,164	\$141,691.20	\$18.20	\$8.26
Seward	2	8	6,888	\$56,598.90	\$18.12	\$8.22
Westport	2	2	4,641	\$40,881.64	\$19.42	\$8.81
Whittier	1	3	6,224	\$49,792.00	\$17.64	\$8.00
Yakutat	4	15	33,118	\$251,698.35	\$16.76	\$7.60
Grand Total	33	119	263,310	\$2,154,484.59	\$18.04	\$8.18

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

Table 2b. FISS Pacific halibut landings by port for O32 Pacific halibut, 2025<sup>1,2</sup>.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/lb)
Cordova	1	4	9,729	\$62,545.45	\$14.17	\$6.43
Dutch Harbor	3	7	14,931	\$96,212.77	\$14.21	\$6.44
False Pass	1	4	9,331	\$57,700.80	\$13.63	\$6.18
Kodiak	1	4	8,029	\$63,317.57	\$17.39	\$7.89
Newport	3	1	3,143	\$25,144.00	\$17.64	\$8.00
Port Angeles	1	1	1,355	\$7,305.35	\$11.89	\$5.39
Prince Rupert	9	49	108,942	\$1,082,471.27	\$21.91	\$9.94
Sand Point	5	13	28,321	\$165,526.56	\$12.89	\$5.84
Seward	2	8	16,717	\$138,294.00	\$18.24	\$8.27
Westport	2	1	3,012	\$29,256.61	\$21.41	\$9.71
Whittier	1	3	5,828	\$46,624.00	\$17.64	\$8.00
Yakutat	4	15	32,621	\$248,101.35	\$16.77	\$7.61
Grand Total	33	110	241,959	\$2,022,499.73	\$18.43	\$8.36

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

Table 2c. FISS Pacific halibut landings by port for sampled U32 Pacific halibut, 2025<sup>1,2</sup>.

Offload Port	Trips	Tonnes	Pounds	Total USD	Average Price (USD/kg)	Average Price (USD/lb)
Cordova	1	4	8.772	\$50.962.66	\$12.81	\$5.81
Dutch Harbor	3	0	323	\$2.008.66	\$13.71	\$6.22
False Pass	1	0	650	\$3.744.00	\$12.70	\$5.76
Kodiak	1	0	689	\$4.960.80	\$15.87	\$3.70 \$7.20
Newport	3	0	776	\$3.104.00	\$8.82	\$4.00
Port Angeles	1	1	1,107	\$4,328.37	\$8.62	\$3.91
Prince Rupert	9	2	3.925	\$30.533.22	\$17.15	\$7.78
Sand Point	5	1	2.140	\$10.555.92	\$10.87	\$4.93
Seward	2	0	447	\$3.397.20	\$16.76	\$7.60
Westport	2	1	1.629	\$11,625.03	\$15.73	\$7.14
Whittier	1	0	396	\$3.168.00	\$17.64	\$8.00
Yakutat	4	0	497	\$3,597.00	\$15.96	\$7.24
Grand Total	33	10	21,351	\$131,984.86	\$13.63	\$6.18

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

<sup>&</sup>lt;sup>2</sup> Prices based on net weight.

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**Table 3a**. FISS landings (total pounds and price) of all Pacific halibut (sampled U32 and all O32) by IPHC Regulatory Area in 2025<sup>1</sup>.

IPHC Regulatory Area	2A	2B	2C	3 <b>A</b>	3B	4A	4B	Total Weight and Average Price
Tonnes	5	20	31	30	22	7	4	119
Pounds	11,022	44,460	68,407	66,558	49,160	14,663	9,040	263,310
Price USD/kg	\$16.15	\$21.29	\$22.03	\$16.82	\$13.71	\$13.70	\$13.67	\$18.04
Price USD/lb	\$7.33	\$9.66	\$9.99	\$7.63	\$6.22	\$6.21	\$6.20	\$8.18

<sup>&</sup>lt;sup>1</sup> Net weight (head-off, dressed, washed)

**Table 3b**. FISS landings (total pounds and price) of O32 Pacific halibut by IPHC Regulatory Area in 2025<sup>1</sup>.

IPHC Regulatory Area	2A	2B	2C	3A	3B	4A	4B	Total Weight and Average Price
Tonnes	3	19	30	29	21	4	3	110
Pounds	7510	42,155	66,787	64,895	45,681	8,820	6,111	241,959
Price USD/kg	\$18.04	\$21.50	\$22.16	\$16.84	\$13.79	\$14.34	\$13.89	\$18.43
Price USD/lb	\$8.18	\$9.75	\$10.05	\$7.64	\$6.26	\$6.50	\$6.30	\$8.36

<sup>&</sup>lt;sup>1</sup> Net weight (head-off, dressed, washed)

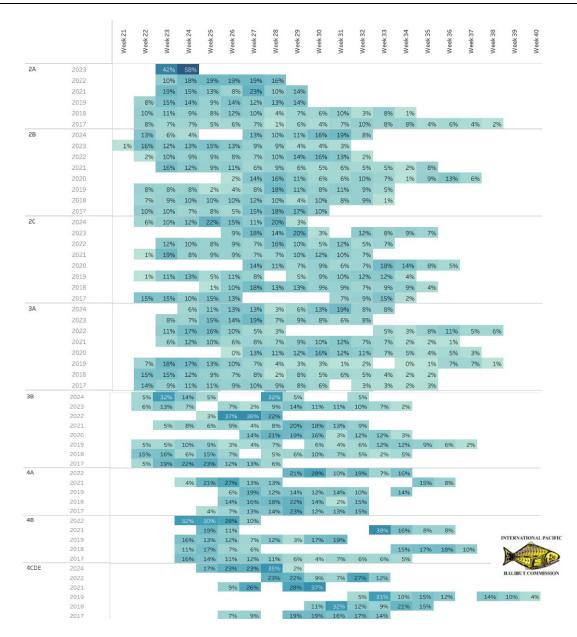
**Table 3c**. FISS landings (total pounds and price) of sampled U32 Pacific halibut by IPHC Regulatory Area in 2025<sup>1</sup>.

IPHC Regulatory Area	2A	2B	2C	3A	3B	4A	4B	Total Weight and Average Price
Tonnes	2	1	1	1	2	3	1	10
Pounds	3512	2,305	1,620	1,663	3,479	5,543	2,929	21,351
Price USD/kg	\$12.12	\$17.36	\$16.86	\$16.15	\$12.71	\$12.73	\$13.23	\$13.63
Price USD/lb	\$5.50	\$7.87	\$7.65	\$7.32	\$5.77	\$5.77	\$6.00	\$6.18

<sup>&</sup>lt;sup>1</sup> Net weight (head-off, dressed, washed)

### FISS timing

The months of June, July, and August are targeted for FISS fishing every year. In 2025, this activity took place from 24 May through 5 September. On a coastwide basis, FISS vessel activity was highest in intensity at the beginning of the FISS season and declined in early August as most boats finished their charter regions (<u>Figure 3</u>). All FISS activity was completed by early September.



**Figure 3.** Percent of the total FISS stations completed by IPHC Regulatory Area during each week of the year (2017-2024). Week 21 begins in late May or early June, depending on the year. **NOTE**: This figure will be updated prior to the meeting.**Recommendation/s** 

### That the RAB:

1) **NOTE** paper IPHC-2025-RAB026-07 that provides a summary of the IPHC Fishery-Independent Setline Survey (FISS) design and implementation in 2025.

#### **APPENDICES**

Nil.