



Fisheries Data Overview (2022)

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PURPOSE

To provide an overview of the key fisheries data regarding Pacific halibut removals from fisheries catching Pacific halibut during 2022, including the status of landings compared to fishery limits implemented by the Contracting Parties to the Commission. Data provided in this paper is the best available up to and including data on 10 January 2023.

BACKGROUND

The International Pacific Halibut Commission (IPHC) estimates all Pacific halibut (*Hippoglossus stenolepis*) removals taken in the IPHC Convention Area and uses this information in its yearly stock assessment (see [IPHC-2023-AM099-11](#)) and other analyses. The data are compiled by the IPHC Secretariat and include data from Federal and State agencies of each Contracting Party. All 2022 data are in net weight (head-off, dressed, ice and slime deducted) and are considered preliminary at this time.

This paper includes Pacific halibut removals for:

- Directed commercial fisheries, including landings and discard mortality
- Recreational fisheries, including landings and discard mortality
- Subsistence fisheries
- Non-directed commercial discard mortality (e.g. trawl, pot, longline)
- IPHC Fishery-Independent Setline Survey (FISS) and other IPHC research

[Figure 1](#) shows the distribution of Pacific halibut removals (mortality) by fishery sources in 2022. [Table 1](#) and [Table 2](#) provide estimates of total removals by IPHC Regulatory Area ([Figure 2](#)).

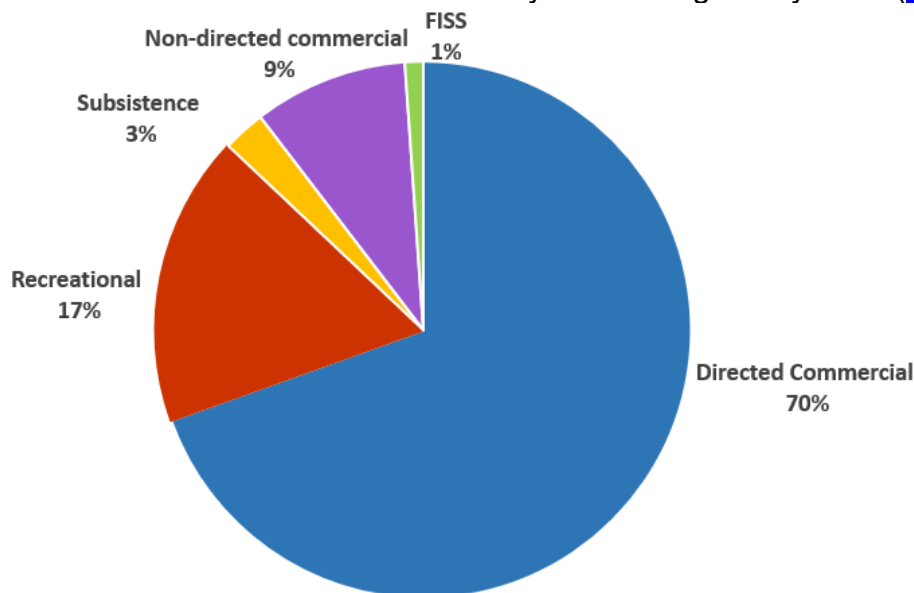


Figure 1. Distribution of Pacific halibut mortality by source in 2022.

Table 1. 2022 Mortality limits (TCEYs) and projection estimates (TCEYs and U26).

| | Mortality limits (net weight) | | Mortality (net weight) | | Percent |
|---|----------------------------------|-------------------|---------------------------|-------------------|-----------|
| | Tonnes (t) | Pounds (lb) | Tonnes (t) | Pounds (lb) | % |
| Canada | 3,429 | 7,560,000 | 3,391 | 7,475,240 | 99 |
| United States of America | 15,268 | 33,660,000 | 13,617 | 30,021,410 | 89 |
| IPHC Regulatory Area 2A | 748 | 1,650,000 | 676 | 1,490,980 | 90 |
| IPHC Regulatory Area 2C | 2,681 | 5,910,000 | 2,713 | 5,981,641 | 101 |
| IPHC Regulatory Area 3A | 6,600 | 14,550,000 | 5,889 | 12,982,854 | 89 |
| IPHC Regulatory Area 3B | 1,769 | 3,900,000 | 1,564 | 3,447,106 | 88 |
| IPHC Regulatory Area 4A | 953 | 2,100,000 | 764 | 1,683,903 | 80 |
| IPHC Regulatory Area 4B | 658 | 1,450,000 | 321 | 706,948 | 49 |
| IPHC Regulatory Area 4CDE and Closed Area | 1,860 | 4,100,000 | 1,691 | 3,727,978 | 91 |
| Subtotal (TCEY) | 18,697 | 41,220,000 | 17,008 | 37,496,650 | 91 |
| Non-directed commercial discard mortality (U26) | 558 | 1,230,000 | 727 | 1,602,000 | 130 |
| Total | 19,255 | 42,450,000 | 17,735 | 39,098,650 | 92 |

Table 2. 2022 estimates of fishery removals and mortality (net weight), including fishery limits and mortality projections of Pacific halibut by IPHC Regulatory Area.

| IPHC Regulatory Area | Fishery limit/mortality projection | | Mortality (net weight) | | Percent |
|---|---------------------------------------|-------------|------------------------|-------------|---------|
| | Tonnes (t) | Pounds (lb) | Tonnes (t) | Pounds (lb) | % |
| Canada – Area 2B (British Columbia) | 3,429.16 | 7,560,000 | 3,390.71 | 7,475,240 | 99 |
| Directed commercial fishery landings | 2,585.48 | 5,700,000 | 2,487.55 | 5,484,107 | 96 |
| Directed commercial discard mortality | 95.25 | 210,000 | 89.81 | 198,000 | 94 |
| Recreational fishery | 458.13 | 1,010,000 | 427.14 | 941,686 | 93 |
| Recreational discard mortality ¹ | 13.61 | 30,000 | 13.26 | 29,237 | 97 |
| Recreational fishery (XRQ) | -- | -- | 6.80 | 15,000 | -- |
| Subsistence ¹ | 185.97 | 410,000 | 183.70 | 405,000 | 99 |
| Non-directed commercial discard mortality (O26) ¹ | 95.25 | 210,000 | 133.36 | 294,000 | 140 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 49.08 | 108,210 | -- |
| Non-directed commercial discard mortality (U26) | 13.61 | 30,000 | 19.05 | 42,000 | 140 |
| USA – 2A (California, Oregon, and Washington) | 748.43 | 1,650,000 | 676.30 | 1,490,980 | 90 |
| Non-treaty directed commercial | 114.64 | 252,730 | 109.48 | 241,365 | 96 |
| Non-treaty incidental to salmon troll fishery | 20.23 | 44,599 | 12.37 | 27,281 | 61 |
| Non-treaty incidental to sablefish fishery | 22.68 | 50,000 | 27.67 | 61,000 | 122 |
| Treaty Indian directed commercial | 225.89 | 498,000 | 225.51 | 497,173 | 100 |
| Directed commercial discard mortality | 31.75 | 70,000 | 23.59 | 52,000 | 74 |
| Recreational – Washington | 133.71 | 294,786 | 112.97 | 249,063 | 84 |
| Recreational – Oregon | 130.47 | 287,645 | 82.39 | 181,644 | 63 |
| Recreational – California | 17.57 | 38,740 | 18.13 | 39,967 | 103 |
| Recreational discard mortality | -- | -- | 1.70 | 3,739 | -- |
| Treaty Indian ceremonial and subsistence | 10.66 | 23,500 | 10.66 | 23,500 | 100 |
| Non-directed commercial discard mortality (O26) ¹ | 40.82 | 90,000 | 46.27 | 102,000 | 113 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 5.56 | 12,248 | -- |
| Non-directed commercial discard mortality (U26) | -- | -- | 1.81 | 4,000 | -- |

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Table 2 continued. 2022 estimates of fishery removals and mortality (net weight), including fishery limits and mortality projections of Pacific halibut by IPHC Regulatory Area.

| IPHC Regulatory Area | Fishery limit/mortality projection | | Mortality (net weight) | | Percent |
|---|------------------------------------|-------------|------------------------|-------------|---------|
| | Tonnes (t) | Pounds (lb) | Tonnes (t) | Pounds (lb) | |
| USA – Area 2C (southeastern Alaska) | 2,680.73 | 5,910,000 | 2,713.23 | 5,981,641 | 101 |
| Directed commercial fishery landings | 1,592.11 | 3,510,000 | 1,459.19 | 3,216,972 | 92 |
| Directed commercial discard mortality | 63.50 | 140,000 | 75.75 | 167,000 | 119 |
| Metlakatla (Annette Island Reserve) | -- | -- | 14.12 | 31,127 | -- |
| Guided recreational fishery | 371.95 | 820,000 | 366.05 | 807,000 | 98 |
| Guided recreational discard mortality ³ | -- | -- | 16.58 | 36,557 | -- |
| Guided recreational fishery (GAF) ¹ | -- | -- | 45.39 | 100,067 | -- |
| Unguided recreational fishery ¹ | 494.42 | 1,090,000 | 510.29 | 1,125,000 | 103 |
| Unguided recreational discard mortality ³ | -- | -- | 6.80 | 15,000 | -- |
| Subsistence ¹ | 131.54 | 290,000 | 131.60 | 290,137 | 100 |
| Non-directed commercial discard mortality (O26) ¹ | 31.75 | 70,000 | 31.30 | 69,000 | 99 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 56.15 | 123,781 | -- |
| Non-directed commercial discard mortality (U26) | -- | -- | 0.45 | 1000 | -- |
| USA – Area 3A (central Gulf of Alaska) | 6,599.77 | 14,550,000 | 5,888.92 | 12,982,854 | 89 |
| Directed commercial fishery landings | 4,331.81 | 9,550,000 | 3,965.43 | 8,742,275 | 92 |
| Directed commercial discard mortality | 185.97 | 410,000 | 307.08 | 677,000 | 165 |
| Guided recreational fishery | 957.08 | 2,110,000 | 798.32 | 1,760,000 | 83 |
| Guided recreational discard mortality ³ | -- | -- | 6.19 | 13,641 | -- |
| Guided recreational fishery (GAF) | -- | -- | 2.94 | 6,487 | -- |
| Unguided recreational fishery ¹ | 716.68 | 1,580,000 | 536.15 | 1,182,000 | 75 |
| Unguided recreational discard mortality ³ | -- | -- | 8.88 | 19,573 | -- |
| Subsistence ¹ | 81.65 | 180,000 | 80.28 | 176,993 | 98 |
| Non-directed commercial discard mortality (O26) ¹ | 326.59 | 720,000 | 132.00 | 291,000 | 40 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 51.66 | 113,885 | -- |
| Non-directed commercial discard mortality (U26) | 131.54 | 290,000 | 88.00 | 194,000 | 67 |
| USA – Area 3B (western Gulf of Alaska) | 1,769.01 | 3,900,000 | 1,563.58 | 3,447,106 | 88 |
| Directed commercial fishery landings | 1,519.53 | 3,350,000 | 1,314.11 | 2,897,116 | 86 |
| Directed commercial discard mortality ¹ | 86.18 | 190,000 | 136.08 | 300,000 | 158 |
| Recreational fishery ¹ | 4.54 | 10,000 | 2.93 | 6,460 | 65 |
| Recreational discard mortality | -- | -- | -- | -- | -- |
| Subsistence ¹ | 4.54 | 10,000 | 6.29 | 13,861 | 139 |
| Non-directed commercial discard mortality (O26) ¹ | 158.76 | 350,000 | 89.81 | 198,000 | 57 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 14.36 | 31,669 | -- |
| Non-directed commercial discard mortality (U26) | 31.75 | 70,000 | 40.37 | 89,000 | 127 |
| USA – Area 4A (eastern Aleutians) | 952.54 | 2,100,000 | 763.81 | 1,683,903 | 80 |
| Directed commercial fishery landings | 798.32 | 1,760,000 | 579.49 | 1,277,563 | 73 |
| Directed commercial discard mortality ¹ | 31.75 | 70,000 | 23.13 | 51,000 | 73 |
| Recreational fishery ¹ | 4.54 | 10,000 | 4.91 | 10,829 | 108 |
| Recreational discard mortality | -- | -- | -- | -- | -- |
| Subsistence ¹ | 4.54 | 10,000 | 5.50 | 12,118 | 121 |
| Non-directed commercial discard mortality (O26) ¹ | 108.86 | 240,000 | 146.96 | 324,000 | 135 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 3.81 | 8,393 | -- |
| Non-directed commercial discard mortality (U26) | 36.29 | 80,000 | 58.97 | 130,000 | 163 |

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| IPHC Regulatory Area | Fishery limit/mortality projection | | Mortality (net weight) | | Percent |
|---|------------------------------------|-------------|------------------------|-------------|---------|
| | Tonnes (t) | Pounds (lb) | Tonnes (t) | Pounds (lb) | |
| USA – Area 4B (central/western Aleutians) | 657.71 | 1,450,000 | 320.67 | 706,948 | 49 |
| Directed commercial fishery landings | 580.60 | 1,280,000 | 248.14 | 547,046 | 43 |
| Directed commercial discard mortality ¹ | 22.68 | 50,000 | 2.72 | 6,000 | 12 |
| Recreational fishery ¹ | -- | -- | -- | -- | -- |
| Recreational discard mortality | -- | -- | -- | -- | -- |
| Subsistence ¹ | -- | -- | 0.45 | 987 | -- |
| Non-directed commercial discard mortality (O26) ¹ | 54.43 | 120,000 | 67.13 | 148,000 | 123 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 2.23 | 4,915 | -- |
| Non-directed commercial discard mortality (U26) | 4.54 | 10,000 | 3.63 | 8,000 | 80 |
| USA – Area 4CDE and Closed (Bering Sea) | 1,859.73 | 4,100,000 | 1,690.98 | 3,727,978 | 91 |
| Directed commercial fishery landings | 934.40 | 2,060,000 | 710.95 | 1,567,372 | 76 |
| Directed commercial discard mortality ¹ | 18.14 | 40,000 | 26.31 | 58,000 | 145 |
| Recreational fishery ¹ | -- | -- | -- | -- | -- |
| Recreational discard mortality | -- | -- | -- | -- | -- |
| Subsistence ¹ | 18.14 | 40,000 | 16.63 | 36,661 | 92 |
| Non-directed commercial discard mortality (O26) ¹ | 889.04 | 1,960,000 | 932.13 | 2,055,000 | 105 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 4.96 | 10,945 | -- |
| Non-directed commercial discard mortality (U26) | 353.80 | 780,000 | 514.37 | 1,134,000 | 145 |
| Totals | 18,697.07 | 41,220,000 | 17,008.19 | 37,496,650 | 91 |
| Directed commercial fishery | 13,263.04 | 29,240,000 | 11,838.49 | 26,099,397 | 89 |
| Recreational fishery | 3,288.54 | 7,250,000 | 2,967.83 | 6,542,950 | 90 |
| Subsistence ¹ | 439.98 | 970,000 | 435.11 | 959,257 | 99 |
| Non-directed commercial discard mortality (O26) ¹ | 1,705.51 | 3,760,000 | 1,578.95 | 3,481,000 | 93 |
| IPHC fishery-independent setline survey and research ² | -- | -- | 187.81 | 414,046 | -- |
| Non-directed commercial discard mortality (U26) | 557.92 | 1,230,000 | 726.65 | 1,602,000 | 130 |

¹ 'Fishery projection' values are from 2021 estimates which were used in setting the TCEY for each IPHC Regulatory Area.

² Includes U32 Pacific halibut landed during FISS

³ Limit included in limit listed above.

XRQ = Experimental Quota and GAF = Guided Angler Fish (XRQ and GAF leased from commercial quota).

DEFINITIONS

Directed commercial fisheries include commercial landings and discard mortality. Directed commercial discard mortality include estimates of sub-legal Pacific halibut (under 81.3 cm [32 inches], a.k.a. U32), fish that die on lost or abandoned fishing gear, and fish discarded for regulatory compliance reasons.

Recreational fisheries include recreational landings including landings from commercial leasing and discard mortality.

Subsistence fisheries are non-commercial, customary, and traditional use of Pacific halibut for direct personal, family, or community consumption or sharing as food, or customary trade. Subsistence fisheries include:

Ceremonial and subsistence (C&S) removals in the IPHC Regulatory Area 2A treaty Indian fishery

- i) Sanctioned First Nations Food, Social, and Ceremonial (FSC) fishery conducted in British Columbia;
- ii) Federal subsistence fishery in Alaska, USA that uses Alaska Subsistence Halibut Registration Certificate (SHARC); and
- iii) U32 Pacific halibut retained in IPHC Regulatory Areas 4D and 4E by the CDQ fishery

for personal use.

Non-directed commercial discard mortality incidentally caught Pacific halibut by fisheries targeting other species and that cannot legally be retained, e.g., by the trawl fleet. Refers only to those Pacific halibut that subsequently die due to capture.

IPHC Fishery-Independent Setline Survey (FISS) and IPHC Research includes Pacific halibut landings and removals by the IPHC Fishery-Independent Setline Survey (FISS) and other IPHC research.

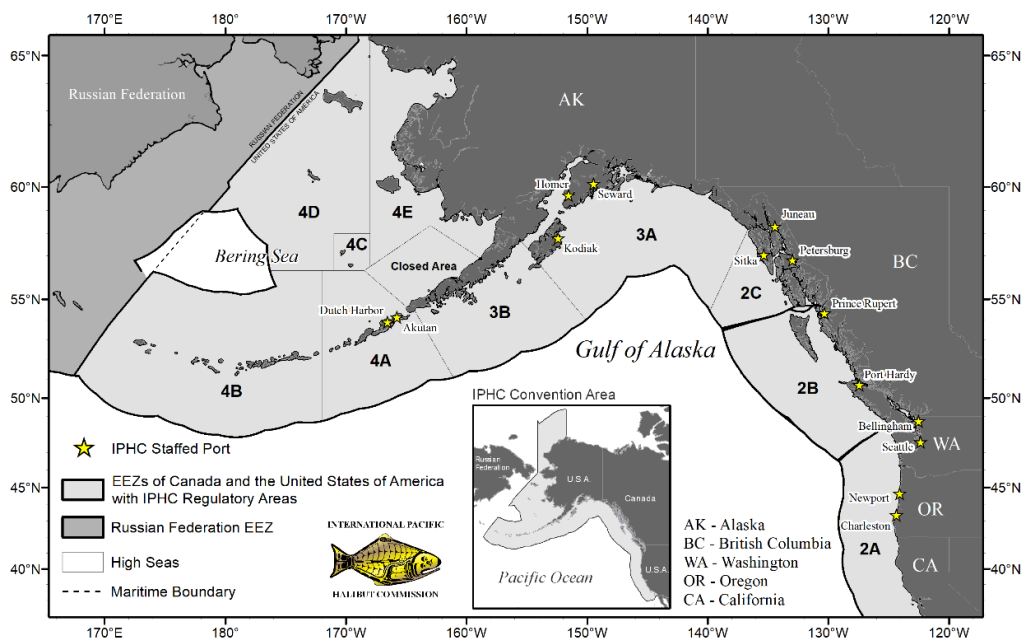


Figure 2. Map of the IPHC Convention Area (insert) and IPHC Regulatory Areas.

DIRECTED COMMERCIAL FISHERIES

The IPHC's directed commercial fisheries span from northern California through to northern and western Alaska in USA and Canadian waters of the northeastern Pacific Ocean. The IPHC sets annual limits for the retention of Pacific halibut in each IPHC Regulatory Area. Participants in these commercial fisheries use longline and pot gear to catch Pacific halibut for sale. The directed commercial Pacific halibut fisheries in IPHC Regulatory Area 2A consisted of the directed commercial fishery with fishing period limits, the incidental Pacific halibut catch during the salmon troll and limited-entry sablefish (*Anoplopoma fimbria*) fisheries, and the treaty Indian fisheries. Farther north, the directed commercial fisheries consisted of the Individual Vessel Quota (IVQ) fishery in IPHC Regulatory Area 2B in British Columbia, Canada; the Metlakatla fishery in IPHC Regulatory Area 2C; the Individual Fishing Quota (IFQ) system in Alaska, USA; and the Community Development Quota (CDQ) fisheries in IPHC Regulatory Areas 4B and 4CDE. All 2022 landing and discard mortality data presented in this document are preliminary.

Directed Commercial Fishing Periods

The Canadian IVQ fishery in IPHC Regulatory Area 2B and the USA IFQ and CDQ fisheries in IPHC Regulatory Areas 2C, 3A, 3B, 4A, 4B, 4C, 4D, and 4E commenced at 12 noon local time on 6 March and closed at 12 noon local time on 7 December (Table 3). The IPHC Regulatory Area 2A directed commercial fisheries, including the treaty Indian commercial fisheries, occurred during the same calendar period (6 March to 7 December 2022). For IPHC Regulatory Area 2A, the potential of 58-hour fishing periods every two weeks beginning on the fourth Tuesday in June for the non-treaty directed commercial fishery were adopted. Fishing periods began on the Tuesday at 0800 and ended on the

Thursday at 1800 local time (58-hours), were further restricted by fishing period limits, and closed for the remainder of the year after the third opening on 28 July, when the IPHC Regulatory Area 2A directed commercial non-treaty fishery allocation was estimated to have been reached.

Table 3. Fishing periods for directed commercial Pacific halibut fisheries by IPHC Regulatory Area, 2018-2022. d = days; h = hours

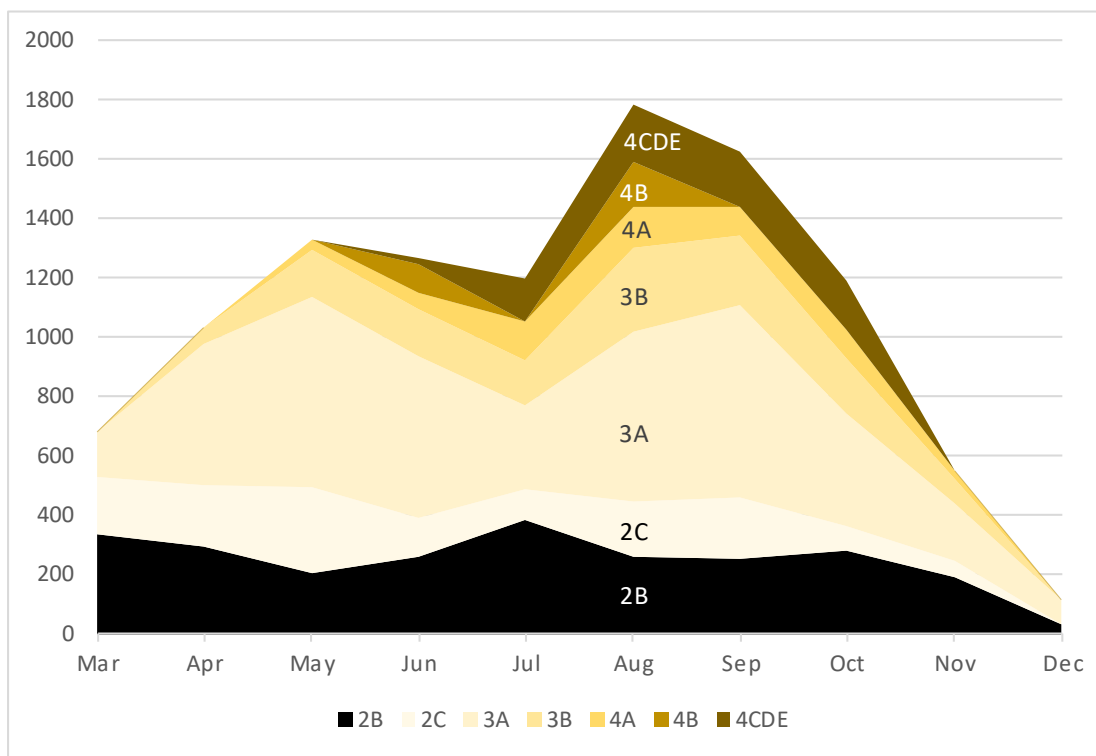
| IPHC Regulatory Area | Year | | | | |
|---|--|--|--|--|---|
| | 2022 | 2021 | 2020 | 2019 | 2018 |
| Canada: 2B | 6 Mar–7 Dec (276 d) | 6 Mar–7 Dec (276 d) | 14 Mar-7 Dec (268 d) | 15 Mar-14 Nov (244 d) | 24 Mar–7 Nov (228 d) |
| USA: 2A Treaty Indian | 6 Mar-31 May (55 h) (Unrestricted) | 6 Mar-16 May (55 h) (Unrestricted) | 14 Mar-30 Sep (55 h) (Unrestricted) | 15 Mar-15 May (55 h) (Unrestricted) | 24 Mar – 28 Apr (36 h) |
| | 6 Mar-31 May (122 h) (Restricted) | 6 Mar-16 May (102 h) (Restricted) | 14 Mar-30 Sep (222 h) (Restricted) | 15 Mar-15 May (84 h) 20 May-15 Jun (72 h) (Restricted) | 24 Mar – 28 Apr (37 h) 4 May – 23 May (30 h) |
| | 3 Jun-30 Sept (48 h and 72 h) (Restricted) | 16 May-20 Jun (24 h) | 5 Oct -18 Oct (13 d) | 11 Jun-24 Jul (35 d) | |
| USA: 2A Commercial Directed | 28-30 Jun 12-14 Jul 26-28 Jul (58 h each) | 22-24 Jun 6-8 Jul 20-22 Jul (58 h each) | 22-24 Jun 6-8 Jul 20-22 Jul 3-5 Aug 17-19 Aug (58 h each) | 26 Jun 10 Jul 24 Jul (10 h each) | 27 Jun 11 Jul 25 Jul (10 h each) |
| USA: 2A Commercial Incidental | Salmon 1 Apr – 31 Oct (213 d) | Salmon 1 Apr – 7 Dec (250 d) | Salmon 15 Apr–30 Sep (WA – 168 d) | Salmon 20 Apr - 30 Sep (WA, CA - 163 d) | Salmon 24 Mar – 8 Aug (137 d) |
| | Sablefish 1 Apr – 31 Oct (213 d) | Sablefish 1 Apr – 7 Dec (250 d) | 15 Apr–31 Oct (OR - 199 d) 1 Aug–30 Sep (CA - 60 d) | 20 Apr - 31 Oct (OR - 194 d) Sablefish 1 Apr- 31 Oct (213 d) | Sablefish 24 Mar – 7 Nov (228 d) |
| | | | Sablefish 1 Apr – 15 Nov (228 d) | | |
| USA: Alaska (2C, 3A, 3B, 4A, 4B, 4CDE) | 6 Mar–7 Dec (276 d) | 6 Mar–7 Dec (276 d) | 14 Mar-15 Nov (246 d) | 15 Mar-14 Nov (244 d) | 24 Mar–7 Nov (228 d) |

Directed Commercial Landings

Directed commercial fishery limits and landings by IPHC Regulatory Area for the 2022 fishing season are shown in [Table 2](#). The directed commercial fishery limit, as referred to here, is the IPHC commercial fishery limit set by the Contracting Parties following the IPHC Annual Meeting and is equivalent to the Fishery Constant Exploitation Yield (FCEY). The fishery limits with adjustments from the underage and overage programs from the previous year's quota share programs are not shown. The Use of Fish allocation in IPHC Regulatory Area 2B are also not presented. Historical landings and fishery limits are available on the IPHC website (<https://www.iphc.int/data>).

The 2022 directed commercial fishery landings were spread over ten months (March – December) of

the year in Canada and the USA ([Figure 2](#)). On a month-to-month comparison, July took the lead as the busiest month for total poundage (15%) landed from IPHC Regulatory Area 2B. On a month-to-month comparison, August was the busiest month for total poundage (18%) from Alaska, USA. A year-to-date visualization is also available on the IPHC website: <https://www.iphc.int/data/year-to-date-directed-commercial-landing-patterns-ak-and-bc>



Regulatory Area 2B landings from DFO Fishery Operations System (FOS).

Regulatory Areas 2C, 3, and 4 landings from NOAA Fisheries Restricted Access Management (RAM) Program.

Regulatory Area 2C: December combined with and shown above in November for confidentiality reasons.

Regulatory Area 3B: March combined with and shown above in April; December combined with and shown above in November for confidentiality reasons.

Regulatory Area 4A: April combined with and shown above in May; December combined with and shown above in November for confidentiality reasons.

Regulatory Area 4B: April/May combined with and shown above in June; Jul/Sep/Oct combined with and shown above in August for confidentiality reasons

Regulatory Areas 4CDE: November combined with and shown above in October for confidentiality reasons.

Figure 3. 2022 directed commercial landings (tonnes, net weight, preliminary) of Pacific halibut for IQ fisheries by IPHC Regulatory Area and month.

Canada – IPHC Regulatory Area 2B (British Columbia)

Under the IVQ fishery in British Columbia, Canada, the number of active Pacific halibut licences (L licences), and First Nations communal commercial licences (FL licences) was 148 in 2022. In addition, Pacific halibut can be landed as incidental catch in other licensed groundfish fisheries. Pacific halibut was landed from a total of 211 active licences in 2022, with 63 of these licences from other fisheries. The 2022 directed commercial landings represented 2,488 tonnes (5,484,107 pounds) of Pacific halibut ([Table 2](#)).

Directed commercial trips from IPHC Regulatory Area 2B were delivered into 13 different ports in 2022. The ports of Port Hardy (including Coal Harbour and Port McNeill) and Prince Rupert/Port Edward were the major landing locations, receiving 93% of the commercial landings. Port Hardy received 46% while Prince Rupert received 47% of the directed commercial landings. All IVQ landings were landed in IPHC Regulatory Area 2B. Canadian vessels landed frozen, head-off Pacific halibut in 2022: 54 landings 38 tonnes (84,596 net pounds) reported frozen- at-sea head-off product from 24 vessels.

According to logbook data, less than 0.05% by weight of Pacific halibut were caught with pot gear and landed within the directed commercial fishery in IPHC Regulatory Area 2B.

USA – IPHC Regulatory Area 2A (Washington, Oregon, California)

The 2022 IPHC Regulatory Area 2A fisheries and respective fishery limits are listed in [Table 2](#). The total IPHC Regulatory Area 2A directed commercial landings of 375 tonnes (826,819 pounds) are 2% below the fishery limit. The total non-treaty directed commercial landings of 109 tonnes (241,365 pounds) were 4% under the fishery limit of 115 tonnes (252,730 pounds) after three 58-hour openers. The fishing period limits by vessel size class for each opening in 2022 are listed in [Table 4](#).

The salmon troll fishery season began on 1 April with an allowable incidental landing ratio of one Pacific halibut per two Chinook (*Oncorhynchus tshawytscha*), plus one (1) additional Pacific halibut per landing, and a vessel trip limit of 35 fish. On 1 July, the fishery was extended at the same ratio and landing limit. Total landings of 12 tonnes (27,281 pounds) were 39% under the fishery limit 20 tonnes (44,599 pounds).

Incidental Pacific halibut retention during the limited-entry sablefish (*Anoplopoma fimbria*) fishery was open from 1 April to 31 October. Beginning 1 April, the allowable landing ratio was 0.10 tonnes (225 pounds) (net weight) of Pacific halibut to 0.45 tonnes (1,000 pounds) of sablefish, and up to two additional Pacific halibut in excess of the ratio limit. Beginning 9 May, the allowable landing ratio was reduced to 0.07 tonnes (150 pounds) of Pacific halibut to 0.45 tonnes (1,000 pounds) of sablefish, and up to two additional Pacific halibut in excess of the ratio limit. The total landings of 28 tonnes (61,000 pounds) were 22% over the fishery limit (23 tonnes [50,000 pounds]).

In IPHC Regulatory Area 2A, north of Point Chehalis (46°53.30' N. latitude), the treaty Indian tribes manage the directed commercial landings for three fisheries under a Memorandum of Understanding among the 13 tribes. These consist of an unrestricted fishery, a restricted fishery with trip limits, and a late season fishery. These fisheries are subject to in-season management. There was one unrestricted, open access fishery, not to exceed 55 hours from 6 March to 31 May and one restricted fishery not to exceed 122 hours including a vessel per day limit of 0.23 tonnes (500 pounds) from 6 March to 31 May. A final fishery with two options one to not exceed 48 hours in duration 1 tonne (2,200 pounds) limit and option two 72 hours with 0.7 tonne (1500 pounds) were open from 3 June to 30 September. Estimated total landings of 226 tonnes (497,173 pounds) were at the fishery limit (226 tonnes [498,000 pounds]).

Table 4. The fishing periods and limits (tonnes, dressed, head-on with ice/slime) by vessel class used in the 2022 directed commercial fishery in IPHC Regulatory Area 2A.

| Vessel Class | | Fishing Period (dates) & Limits (t) | | |
|--------------|-------|-------------------------------------|------------|------------|
| Letter | Feet | 28-30 June | 12-14 July | 26-28 July |
| A, B and C | 1-35 | 1.03 | 1.03 | 1.00 |
| D and E | 36-45 | 1.55 | 1.55 | 1.51 |
| F and G | 46-55 | 2.06 | 2.06 | 2.01 |
| H | 56+ | 2.32 | 2.32 | 2.26 |

USA – IPHC Regulatory Areas 2C, 3, and 4 (Alaska)

In Alaska, USA, the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) Restricted Access Management (RAM) Program allocated Pacific halibut quota share (QS) to recipients by IPHC Regulatory Area. Quota share transfers were permitted with restrictions on the amount of QS a person could hold and the amount that could be fished per vessel. In 2022, RAM reported that 2,241 persons/entities held QS.

The total 2022 landings from the IFQ/CDQ Pacific halibut fishery for the waters off Alaska, USA were

8,277 tonnes (18,248,00 pounds), 15% under the directed commercial fishery limit ([Table 2](#)). By IPHC Regulatory Area, the directed commercial landings were all under the fishery limit: in Area 2C was under the limit by 8%; Area 3A was 8% under the limit; Area 3B was 14% under the limit; Area 4A was 27% under the limit; Area 4B was 57% under the limit; and 4CDE/Closed (IFQ) was 24% under the limit. ([Table 2](#)).

Kodiak received approximately 15% of the directed commercial landings of Alaskan catch making it the port that received the greatest number of pounds in 2022. Homer received the second and Seward the third largest landing volume at 14% and 11% of the Alaskan commercial landings, respectively. In Southeast Alaska, the two largest landing volumes were received in Sitka and Juneau, and their combined landings represented 14% of the directed commercial Alaskan landings. The Alaskan QS catch that was landed in Bellingham, WA, USA was less than 3%.

In Alaska, 24 tonnes (53,000 pounds) of Pacific halibut were caught with pot gear and landed within the directed commercial fishery representing 0.3% of the total Alaska landings.

The Metlakatla Indian Community (within IPHC Regulatory Area 2C) was authorized by the United States government to conduct a commercial Pacific halibut fishery within the Annette Islands Reserve. There were 11 two-day openings between 6 May and 02 October for total landings of 14 tonnes (31,127 pounds). The fishery closed on 4 October.

Directed Commercial Discard Mortality

Incidental mortality of Pacific halibut in the directed commercial Pacific halibut fishery is the mortality of all Pacific halibut that do not become part of the landed catch. The three main sources of discard mortality estimate include: 1) fish that are captured and discarded because they are below the legal-size limit of 81.3 cm (32 inches); 2) fish that are estimated to die on lost or abandoned fishing gear; and 3) fish that are discarded for regulatory reasons (e.g., the vessels trip limit has been exceeded). The methods that are applied to produce each of these estimates differ due to the amount and quality of information available. Information on lost gear and regulatory discards is collected through logbook interviews and fishing logs received by mail. The ratio of U32 to O32 Pacific halibut (>81.3 cm or 32 inches in length) is determined from the IPHC FISS in most areas and by direct observation in the IPHC Regulatory Area 2B fishery. Different mortality rates are applied to each category: released Pacific halibut have a 16% mortality rate and Pacific halibut mortality from lost gear is 100%.

Pacific halibut discard mortality estimates from the commercial Pacific halibut fishery are summarized by IPHC Regulatory Area in [Table 2](#).

RECREATIONAL FISHERIES

The 2022 recreational removals of Pacific halibut, including discard mortality, was estimated at 2,968 tonnes (6,542,950 pounds). Changes in harvests varied across areas, in some cases, in response to changes in size restrictions. Recreational fishery limits and landings are detailed by IPHC Regulatory Area in [Table 2](#). Historical recreational removals are also available at the IPHC website: <https://www.iphc.int/data/datatest/pacific-halibut-recreational-fisheries-data>

Recreational Landings

Canada – IPHC Regulatory Area 2B (British Columbia)

IPHC Regulatory Area 2B operated under a 133 cm (52.4 inch) maximum size limit and one Pacific halibut had to be between 90 – 133 cm (35.4 - 52.4 inches) or both under 90 cm (35.4 inch) when attaining the two fish possession limit, with an annual limit of ten per licence holder. On 20 August, the possession limit was increased to three fish if all were under 90 cm (35.4 inch), still with an annual limit of ten per licence holder. The IPHC Regulatory Area 2B recreational harvest was 7% under the recreational fishery limit at 427 tonnes (941,686).

USA – IPHC Regulatory Area 2A (Washington, Oregon, California)

The 2022 IPHC Regulatory Area 2A recreational allocation was 282 tonnes (621,171 pounds) net weight and based on the Pacific Fishery Management Council's Catch Sharing Plan formula, which divides the overall fishery limit among all sectors. The recreational allocation was further subdivided to seven subareas, after 23 tonnes (50,000 pounds) were allocated to the incidental Pacific halibut catch in the commercial sablefish fishery in Washington. This subdivision resulted in 134 tonnes (249,786 pounds) being allocated to Washington subareas and 130 tonnes (287,645 pounds) to Oregon subareas. In addition, California received an allocation of 18 tonnes (38,740 pounds). The IPHC Regulatory Area 2A recreational harvest totaled 213 tonnes (WA + OR + CA; 470,674 pounds), 24% under the recreational fishery limit. Recreational fishery harvest seasons by subareas varied and were managed in season with fisheries opening on 1 April.

IPHC Regulatory Areas 2C, 3, and 4 (USA: Alaska)

A reverse slot limit allowing for the retention of Pacific halibut, if ≤ 101.6 cm (40 inches) or ≥ 203.2 cm (80 inches) in total length, was in place for the charter fishery in IPHC Regulatory Area 2C. In IPHC Regulatory Area 3A, charter anglers were allowed to retain two fish per day, but only one could exceed 71.1 cm (28 inches) in length, with a recording requirement. A 2 fish daily bag limits and no annual limit. One trip per calendar day per charter permit was allowed, with no charter retention of Pacific halibut on Wednesdays.

The Contracting Party agencies in Alaska (USA) have a program that allow recreational harvesters to land fish that is leased from commercial fishery quota shareholders for the current season.

Recreational Discard Mortality

Pacific halibut discarded for any reason suffer some degree of discard mortality, and impacts more of the stock with the increasing use of size restrictions, such as reverse slot limits. Current year estimates from Contracting Parties' agencies of recreational discard mortality have been received from both Contracting Parties and are provided in [Table 2](#).

SUBSISTENCE FISHERIES

Pacific halibut is taken throughout its range as subsistence harvest by several fisheries. Subsistence fisheries are non-commercial, customary, and traditional use of Pacific halibut for direct personal, family, or community consumption or sharing as food, or customary trade. The primary subsistence fisheries are the treaty Indian Ceremonial and Subsistence fishery in IPHC Regulatory Area 2A off northwest Washington State (USA), the First Nations Food, Social, and Ceremonial (FSC) fishery in British Columbia (Canada), and the subsistence fishery by rural residents and federally recognized native tribes in Alaska (USA) documented via Subsistence Halibut Registration Certificates (SHARC).

The coastwide subsistence estimate for 2022 was 435 tonnes (959,257 pounds) ([Table 2](#)). Historical subsistence removals are also available at the IPHC website: <https://www.iphc.int/datatest/subsistence-fisheries>

Estimated subsistence harvests by area

In the commercial Pacific halibut fisheries coastwide, the state and federal regulations require that take-home Pacific halibut caught during commercial fishing be recorded as part of the commercial fishery on the landing records (i.e., State fish tickets or Canadian validation records). This is consistent across areas, including the quota share fisheries in Canada and USA, and as part of fishing period limits and Pacific halibut ratios in the incidental fisheries in IPHC Regulatory Area 2A. Therefore, personal use fish or take-home fish within the commercial fisheries are accounted for as commercial catch and are not included here.

IPHC Regulatory Area 2A (USA: Washington, Oregon, California)

The Pacific Fishery Management Council's Catch Sharing Plan allocates the Pacific halibut fishery limit to commercial, recreational, and treaty Indian users in IPHC Regulatory Area 2A. The treaty tribal fishery limit is further sub-divided into commercial and ceremonial and subsistence (C&S) fisheries. It is estimated that 11 tonnes (23,500 pounds) were retained as C&S. A revised estimate of the 2022 removals will be provided at the end of the year.

IPHC Regulatory Area 2B (Canada: British Columbia)

The source of Pacific halibut subsistence harvest in British Columbia is the First Nations FSC fishery. The IPHC receives some logbook and landing data for this harvest from the DFO, but those data have not been adequate for the IPHC to make an independent estimate of the FSC fishery harvest. DFO estimated the First Nations FSC harvest to be 136 tonnes (300,000 pounds) annually until 2006, and since 2007, the yearly estimate has been provided as 184 tonnes (405,000 pounds).

IPHC Regulatory Areas 2C, 3, and 4 (USA: Alaska)

In 2003, the subsistence Pacific halibut fishery off Alaska was formally recognized by the North Pacific Fishery Management Council and implemented by IPHC and NOAA Fisheries regulations. The fishery allows the customary and traditional use of Pacific halibut by rural residents and members of federally recognized Alaska, USA native tribes who can retain Pacific halibut for non-commercial use, food, or customary trade. The NOAA Fisheries regulations define legal gear, number of hooks, and daily bag limits, and IPHC regulations set the fishing season. Prior to subsistence fishing, eligible persons registered with NOAA Fisheries Restricted Access Management to obtain a SHARC. The Division of Subsistence at ADF&G was contracted by NOAA Fisheries to estimate the subsistence harvest in Alaska, USA through a data collection program. A voluntary survey of fishers is conducted by mail or phone, with some onsite visits. Beginning in 2018, this survey is conducted on a biannual schedule, rather than annually. The 2020 estimate has been carried forward for 2022.

In addition to the SHARC harvest, IPHC regulations allow Pacific halibut less than 81.3 cm or 32 inches in fork length (also called U32) to be retained in the IPHC Regulatory Area 4D and 4E commercial Pacific halibut CDQ fishery, under an exemption requested by the North Pacific Fishery Management Council, if the fish are not sold or bartered. The exemption originally applied only to CDQ fisheries in IPHC Regulatory Area 4E in 1998 but was expanded in 2002 to also include IPHC Regulatory Area 4D. The CDQ organizations are required to report to the IPHC the amounts retained during their commercial fishing operations. This harvest is not included in the SHARC program estimate and is reported separately.

Reports for 2022 removals were received from three CDQ management organizations: Bristol Bay Economic Development Corporation (BBEDC), Norton Sound Economic Development Corporation (NSEDC), and Coastal Villages Regional Fund (CVRF).

CDQ - Bristol Bay Economic Development Corporation (BBEDC)

BBEDC requires their fishers to record the lengths of retained U32 Pacific halibut in a separate log, which are then tabulated by BBEDC at the conclusion of the season. The lengths were converted to weights using the IPHC length/weight relationship and summed to estimate the total retained U32 weight. Pacific halibut were landed by BBEDC vessels primarily in King Salmon and Dillingham in a lesser amount. A small amount was landed in Dillingham. BBEDC reported 5 harvesters landed 137 U32 Pacific halibut (<1 tonne; 1,209 pounds).

CDQ - Coastal Villages Regional Fund (CVRF)

CVRF reported that no Pacific halibut were landed by their fishers or received by their facilities.

CDQ - Norton Sound Economic Development Corporation (NSEDC)

NSEDC required their fishers to offload the U32 Pacific halibut for weighing. The fish were not washed nor were the heads removed. The U32 Pacific halibut were then returned to the harvester. NSEDC reported 57 U32 Pacific halibut weighing <1 tonne (664 pounds) were caught in the local CDQ fishery

and landed at the Nome plant.

NON-DIRECTED COMMERCIAL DISCARD MORTALITY

The IPHC accounts for non-directed commercial discard mortality by IPHC Regulatory Area and sector. All removals for 2022 are available in [Table 2](#). Historical data are also available on the IPHC website: <https://www.iphc.int/data/datatest/non-directed-commercial-discard-mortality-fisheries>

Estimating Non-Directed Commercial Discard Mortality

Non-directed commercial discard mortality of Pacific halibut is estimated because not all fisheries have 100% monitoring and not all Pacific halibut that are discarded are assumed to die. Agencies estimate the amount of non-directed commercial discard that will not survive, called non-directed commercial discard mortality.

The IPHC relies upon information supplied by observer programs run by Contracting Party agencies for non-directed commercial discard mortality estimates in most fisheries. Non-IPHC research survey information is used to generate estimates of non-directed commercial discard mortality in the few cases where fishery observations are unavailable. Trawl fisheries off British Columbia, Canada are monitored, and non-directed commercial discard mortality information is provided to IPHC by DFO. NOAA Fisheries operates observer programs off the USA West Coast and Alaska, which monitor the major groundfish fisheries. Data collected by NOAA fisheries observer programs are used to estimate non-directed commercial discard mortality. A breakout of removals from each non-directed commercial fishery by IPHC Regulatory Area and year is available on the IPHC website: <https://www.iphc.int/data/datatest/non-directed-commercial-discard-mortality-fisheries>.

Non-directed Commercial Discard Mortality by Area

Canada – IPHC Regulatory Area 2B (British Columbia)

In Canada, Pacific halibut non-directed commercial discard mortality in trawl fisheries are capped at 454 tonnes round weight by DFO. Non-trawl non-directed commercial discard mortality is handled under an IFQ system within the directed Pacific halibut fishery cap.

USA – IPHC Regulatory Area 2A (Washington, Oregon, California)

Groundfish fisheries off Washington, Oregon, and California are managed by NOAA Fisheries, following advice and recommendations developed by the Pacific Fishery Management Council. Non-directed commercial discard mortality projected estimates are provided by NOAA Fisheries.

USA – IPHC Regulatory Areas 2C, 3, and 4 (Alaska)

Groundfish fisheries in Alaska are managed by NOAA Fisheries, following advice and recommendations developed by the North Pacific Fishery Management Council. Non-directed commercial discard mortality projected estimates for Alaskan areas are provided by NOAA Fisheries and ADF&G.

IPHC Regulatory Area 2C (Southeast Alaska)

For the federal waters of IPHC Regulatory Area 2C, non-directed commercial discard mortality by hook-and-line and pot vessels fishing in the outside waters were reported by NOAA Fisheries. These vessels are primarily targeting Pacific cod and rockfish (*Sebastes* spp.) in open access fisheries, and sablefish in the IFQ fishery. In 1998, a no trawl zone was established in the Gulf of Alaska eliminating trawl fishing in this area.

Fisheries occurring within state waters and resulting in Pacific halibut non-directed commercial discard mortality include pot fisheries for red and golden king crab, and tanner crab. Information is provided periodically by ADF&G, and the estimate was rolled forward from 2021 to 2022.

IPHC Regulatory Area 3 (Eastern, Central and Western Gulf of Alaska)

IPHC Regulatory Area 3 is comprised of Areas 3A and 3B. For the purposes of stock assessment and management, IPHC tracks non-directed commercial discard mortality in both IPHC Regulatory Areas. Federal groundfish fisheries operate throughout both areas and a subset of these vessels are monitored for discarded Pacific halibut. Trawl fisheries are responsible for most of the non-directed commercial discard mortality in Regulatory Area 3, with hook-and-line fisheries a distant second. State-managed crab and scallop fisheries are also known to take Pacific halibut as non-directed commercial discard mortality, but data from these state-managed fisheries is currently unavailable.

Estimates of non-directed commercial discard mortality in IPHC Regulatory Area 3 reflect different levels of observer coverage by gear and type of fishing trip. 2021 coverage rates vary from 100% to 15% of the estimated discarded groundfish pounds by gear and fishery (Table 3-4 in AFSC 2021). The lowest coverage rates are realized for the non-pelagic trawl fishery, which also has the highest likelihood of encountering Pacific halibut. Analyses of observed and unobserved trip properties (magnitude of the landings, trip duration, species composition of the landed catch, etc.) have shown that observed trips are not representative of all trips in some of these metrics (observed and unobserved) (Appendix A in AFSC 2019). Therefore, non-directed discard mortality estimates for IPHC Regulatory Area 3 have both a greater uncertainty and potential for bias than those from areas with higher coverage rates and/or where there is no evidence of different behavior when observed.

IPHC Regulatory Area 4 (Bering Sea and Aleutian Islands)

The Pacific cod fishery, which is conducted in the late winter/early spring and late summer, contributes a large fraction of the Pacific halibut non-directed commercial discard mortality in IPHC Regulatory Area 4. Almost all vessels are required to have 100% observer coverage because of the vessel's size and requirements of their fishery cooperative; a few small vessels fish Pacific cod in this IPHC Regulatory Area. The high level of observer coverage for fisheries in IPHC Regulatory Area 4 results in reliable estimates of non-directed commercial discard mortality.

Pots are used to fish for Pacific cod and sablefish and are very selective. Non-directed commercial discard mortality rates are quite low, and survival is relatively high. Annual non-directed commercial discard mortality estimates are typically low, usually less than 7 tonnes.

In IPHC Regulatory Area 4CDE non-directed commercial discard mortality estimates have typically been the highest ([Table 2](#)) due to groundfish fisheries which target flatfish in the Bering Sea.

IPHC FISHERY-INDEPENDENT SETLINE SURVEY (FISS)

Approximately 188 tonnes (414,046 pounds) of Pacific halibut were landed from the FISS and in 2022 with the amount landed from each IPHC Regulatory Area documented in [Table 2](#). There were no other IPHC research Pacific halibut retained, landed, or sold in 2022.

RECOMMENDATION

That the Commission **NOTE** paper IPHC-2023-AM099-07 Rev_1 which provides an overview of the key fisheries data regarding Pacific halibut removals from fisheries catching Pacific halibut during 2022, including the status of landings compared to fishery limits implemented by the Contracting Parties of the Commission.

CITATIONS

AFSC Alaska Fisheries Science Center (U.S.). 2022. North Pacific Observer Program 2021 Annual Report. AFSC processed report 2022-06. DOI : <https://doi.org/10.25923/gnbj-nt98>

AFSC Alaska Fisheries Science Center (U.S.). 2021. North Pacific Observer Program 2019 Annual Report. AFSC Processed Report 2021-05. DOI : <https://doi.org/10.25923/5hcp-j028>