Fishery statistics (2019)

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PURPOSE

To provide an overview of the key fishery statistics from fisheries catching Pacific halibut during 2019, including the status of landings compared to fishery limits implemented by the Contracting Parties of the Commission.

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-2020-AM096-09) and other analyses. The data are compiled by the IPHC Secretariat and include data from Federal and State agencies of each Contracting Party. All 2019 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 (previously bycatch, e.g. trawl, pot, longline)
- IPHC Fishery-Independent Setline Survey (FISS) and other research

Figure 1 shows the distribution of Pacific halibut removals (mortality) by these fishery sources in 2019. Table 1 and Table 2 provide estimates of total removals by Contracting Party and IPHC Regulatory Area (Figure 2).

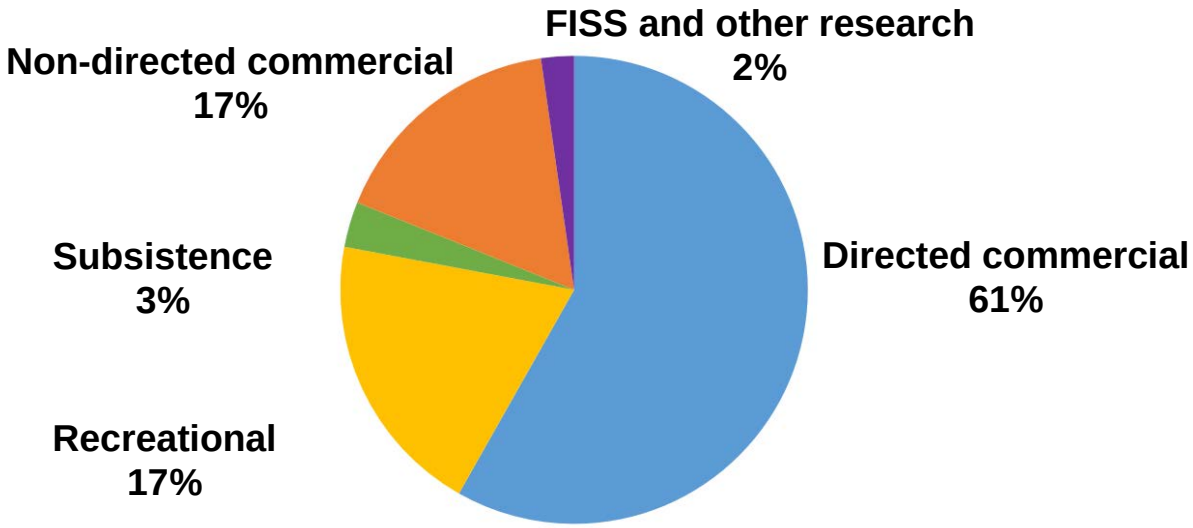

Figure 1. Distribution of Pacific halibut mortality by source in 2019.

Table 1. 2019 Mortality limits (TCEYs) and estimates (TCEYs and U26) by Contracting Party.

Contracting Party	Mortality limits (net weight)		Mortality (net weight)		Percent
	Tonnes (t)	Pounds (lb)	Tonnes (t)	Pounds (lb)	%
Canada	**3,098**	**6,830,000**	**3,087**	**6,804,806**	**100**
United States of America	**14,415**	**31,780,000**	**14,267**	**31,453,705**	**99**
IPHC Regulatory Area 2A	748	1,650,000	692	1,526,495	93
IPHC Regulatory Area 2C	2,876	6,340,000	2,771	6,109,138	96
IPHC Regulatory Area 3A	6,123	13,500,000	6,254	13,787,578	102
IPHC Regulatory Area 3B	1,315	2,900,000	1,324	2,917,958	101
IPHC Regulatory Area 4A	880	1,940,000	790	1,741,619	90
IPHC Regulatory Area 4B	658	1,450,000	541	1,193,777	82
IPHC Regulatory Area 4CDE and Closed Area	1,814	4,000,000	1,895	4,177,140	104
Subtotal (TCEY)	**17,513**	**38,610,000**	**17,354**	**38,258,511**	**99**
Non-directed commercial discard mortality (U26)	none	none	730	1,610,000	n/a
Total	**none**	**none**	**18,084**	**39,868,511**	**n/a**

Table 2. 2019 mortality projections and estimates (net weight) of Pacific halibut by IPHC Regulatory Area (as of 31 January 2020).

IPHC Regulatory Area	Mortality projection (net weight)		Mortality (net weight)		Percent
	Tonnes (t)	Pounds (lb)	Tonnes (t)	Pounds (lb)	%
Canada – Area 2B (British Columbia)	3,107.11	6,850,000	3,097.49	6,828,806	100
Directed commercial fishery landings	2,313.32	5,100,000	2,304.77	5,081,145	100
Directed commercial discard mortality	58.97	130,000	63.50	140,000	108
Recreational fishery	381.02	840,000	371.53	819,085	98
Recreational discard mortality[1]	36.29	80,000	19.34	42,634	53
Recreational fishery (XRQ)	n/a	n/a	8.16	17,999	n/a
Subsistence[1]	183.70	405,000	183.70	405,000	99
Non-directed commercial discard mortality (O26)[1]	122.47	270,000	97.52	215,000	80
IPHC fishery-independent setline survey and research	n/a	n/a	38.08	83,943	n/a
Non-directed commercial discard mortality (U26)	9.07	20,000	10.89	24,000	120
USA – 2A (California, Oregon, and Washington)	748.43	1,650,000	693.31	1,528,495	93
Non-treaty directed commercial	115.41	254,426	114.65	252,761	99
Non-treaty incidental to salmon troll fishery	20.37	44,899	19.69	43,417	97
Non-treaty incidental to sablefish fishery	31.75	70,000	36.00	79,360	113
Treaty Indian directed commercial	225.44	497,000	224.33	494,568	100
Directed commercial discard mortality	9.07	20,000	13.15	29,000	145
Recreational – Washington	125.69	277,100	122.48	270,024	97
Recreational – Oregon	131.35	289,575	72.71	160,306	55
Recreational – California	17.69	39,000	8.15	17,968	46
Recreational discard mortality	n/a	n/a	2.59	5,706	n/a
Treaty Indian ceremonial and subsistence	12.70	28,000	14.61	32,200	115
Non-directed commercial discard mortality (O26)[1]	58.97	130,000	56.25	124,000	95
IPHC fishery-independent setline survey and research	n/a	n/a	7.79	17,185	n/a
Non-directed commercial discard mortality (U26)	0.00	0	0.91	2,000	n/a

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Table 2 continued. 2019 estimates of total removals (net weight), including fishery limits and mortality of Pacific halibut by IPHC Regulatory Area (as of 31 January 2020).

IPHC Regulatory Area	Fishery projection (net weight)		Mortality (net weight)		Percent
	Tonnes (t)	Pounds (lb)	Tonnes (t)	Pounds (lb)	%
USA – Area 2C (southeastern Alaska)	2,875.78	6,340,000	2,771.51	6,110,138	96
Directed commercial fishery landings	1,637.47	3,610,000	1,537.05	3,388,622	94
Directed commercial discard mortality	27.22	60,000	36.29	80,000	133
Metlakatla (Annette Island Reserve)	n/a	n/a	12.64	27,863	n/a
Guided recreational fishery	371.95	820,000	287.58	634,000	77
Guided recreational discard mortality[2]	n/a	n/a	14.97	33,000	n/a
Guided recreational fishery (GAF)[1]	n/a	n/a	34.04	75,039	n/a
Unguided recreational fishery[1]	625.96	1,380,000	515.28	1,136,000	82
Unguided recreational discard mortality[2]	n/a	n/a	6.80	15,000	n/a
Subsistence[1]	199.58	440,000	166.11	366,214	83
Non-directed commercial discard mortality (O26)[1]	13.61	30,000	41.28	91,000	303
IPHC fishery-independent setline survey and research	n/a	n/a	119.02	262,400	n/a
Non-directed commercial discard mortality (U26)	0.00	0	0.45	1,000	n/a
USA – Area 3A (central Gulf of Alaska)	6,291.33	13,870,000	6,377.77	14,060,578	101
Directed commercial fishery landings	3,655.95	8,060,000	3,582.34	7,897,699	98
Directed commercial discard mortality	140.61	310,000	160.12	353,000	114
Guided recreational fishery	857.29	1,890,000	907.18	2,000,000	106
Guided recreational discard mortality[2]	n/a	n/a	8.62	19,000	n/a
Guided recreational fishery (GAF)	n/a	n/a	4.83	10,652	n/a
Unguided recreational fishery[1]	789.25	1,740,000	742.08	1,636,000	94
Unguided recreational discard mortality[2]	n/a	n/a	12.70	28,000	n/a
Subsistence[1]	99.79	220,000	85.14	187,698	85
Non-directed commercial discard mortality (O26)[1]	580.60	1,280,000	622.78	1,373,000	107
IPHC fishery-independent setline survey and research	n/a	n/a	128.15	282,529	n/a
Non-directed commercial discard mortality (U26)	167.83	370,000	123.83	273,000	74
USA – Area 3B (western Gulf of Alaska)	1,365.31	3,010,000	1,352.59	2,981,958	99
Directed commercial fishery landings	1,056.87	2,330,000	995.44	2,194,580	94
Directed commercial discard mortality[1]	86.18	190,000	73.94	163,000	86
Recreational fishery[1]	4.54	10,000	1.81	4,000	40
Recreational discard mortality	0.00	0	0.00	0	n/a
Subsistence[1]	4.54	10,000	7.55	16,644	166
Non-directed commercial discard mortality (O26)[1]	163.29	360,000	188.69	416,000	116
IPHC fishery-independent setline survey and research	n/a	n/a	56.12	123,734	n/a
Non-directed commercial discard mortality (U26)	49.90	110,000	29.03	64,000	58
USA – Area 4A (eastern Aleutians)	925.33	2,040,000	856.21	1,887,619	93
Directed commercial fishery landings	748.43	1,650,000	622.48	1,372,332	83
Directed commercial discard mortality[1]	40.82	90,000	47.17	104,000	116
Recreational fishery[1]	4.54	10,000	6.35	14,000	140
Recreational discard mortality	0.00	0	0.00	0	0
Subsistence[1]	4.54	10,000	6.00	13,237	132
Non-directed commercial discard mortality (O26)[1]	81.65	180,000	90.72	200,000	111
IPHC fishery-independent setline survey and research	n/a	n/a	17.26	38,050	146
Non-directed commercial discard mortality (U26)	45.36	100,000	66.22	146,000	n/a

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Table 2 continued. 2019 estimates of total removals (net weight), including fishery limits and mortality of Pacific halibut by IPHC Regulatory Area (as of 31 January 2020).

IPHC Regulatory Area	Fishery projection (net weight)		Mortality (net weight)		Percent
	Tonnes (t)	Pounds (lb)	Tonnes (t)	Pounds (lb)	%
USA – Area 4B (central/western Aleutians)	662.24	1,460,000	544.21	1,199,777	82
Directed commercial fishery landings	548.85	1,210,000	443.50	977,742	81
Directed commercial discard mortality[1]	9.07	20,000	17.24	38,000	190
Recreational fishery[1]	0.00	0	0.00	0	0
Recreational discard mortality	0.00	0	0.00	0	0
Subsistence[1]	0.00	0	0.76	1,684	n/a
Non-directed commercial discard mortality (O26)[1]	99.79	220,000	67.13	148,000	67
IPHC fishery-independent setline survey and research	n/a	n/a	12.86	28,351	n/a
Non-directed commercial discard mortality (U26)	4.54	10,000	2.72	6,000	n/a
USA – Area 4CDE and Closed (Bering Sea)	2,322.39	5,120,000	2,390.85	5,271,140	103
Directed commercial fishery landings	925.33	2,040,000	744.72	1,641,820	80
Directed commercial discard mortality[1]	18.14	40,000	34.02	75,000	188
Recreational fishery[1]	0.00	0	0.00	0	0
Recreational discard mortality	0.00	0	0.00	0	0
Subsistence[1]	27.22	60,000	17.04	37,564	63
Non-directed commercial discard mortality (O26)[1]	848.22	1,870,000	1,090.44	2,404,000	129
IPHC fishery-independent setline survey and research	n/a	n/a	8.51	18,756	n/a
Non-directed commercial discard mortality (U26)	508.02	1,120,000	496.23	1,094,000	98
Totals	18,297.91	40,340,000	18,084.05	39,868,511	99
Directed commercial fishery landings	11,669.26	25,726,325	11,083.03	24,433,909	95
Recreational fishery	3,345.55	7,375,675	3,147.21	6,938,413	94
Subsistence[1]	534.33	1,178,000	480.92	1,060,241	90
Non-directed commercial discard mortality (O26)[1]	1,964.05	4,330,000	2,254.81	4,971,000	115
IPHC fishery-independent setline survey and research	n/a	n/a	387.80	854,948	n/a
Non-directed commercial discard mortality (U26)	784.71	1,730,000	730.28	1,610,000	93

[1] 'Fishery projection' is value from 2018 estimates which were used in setting the TCEY for each IPHC Regulatory Area.
[2] Limit included in limit listed above.
n/a = not available and XRQ = Experimental Quota and GAF = Guided Angler Fish (XRQ and GAF leased from commercial quota).

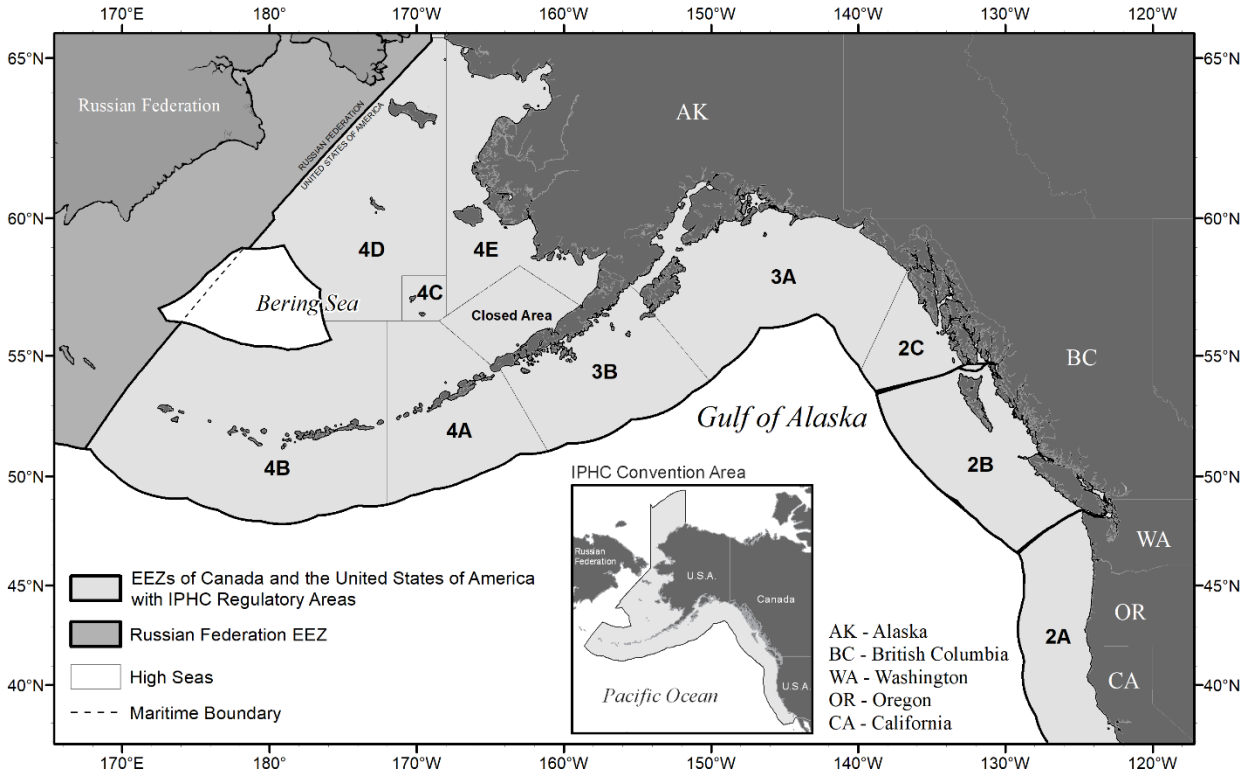

Figure 2. Map of the IPHC Convention Area (insert) and IPHC Regulatory Areas.

DEFINITIONS

Directed commercial fisheries: include commercial landings and discard mortality. Directed commercial discard mortality continues to include estimates of sub-legal Pacific halibut (under 32 inches (81.3 cm), also called 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 (formerly called personal use/subsistence): 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:

i) ceremonial and subsistence (C&S) removals in the IPHC Regulatory Area 2A treaty Indian fishery,
ii) the sanctioned First Nations Food, Social, and Ceremonial (FSC) fishery conducted in British Columbia,
iii) federal subsistence fishery in Alaska, USA that uses Alaska Subsistence Halibut Registration Certificate (SHARC), and
iv) 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 FISS and Research: includes Pacific halibut landings and removals as a result of the IPHC fishery-independent setline survey and other research.

DIRECTED COMMERCIAL FISHERIES

The IPHC's directed commercial fisheries span from northern California through to northern and western Alaska in USA and Canada waters of the northeastern Pacific Ocean. The IPHC sets annual limits for the catch 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 non-treaty Indian directed commercial fishery with fishing period limits, the incidental Pacific halibut catch during the salmon troll and limited-entry sablefish 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, the Individual Fishing Quota (IFQ) system in Alaska, USA, the Community Development Quota (CDQ) fisheries in IPHC Regulatory Areas 4B and 4CDE, and the Metlakatla fishery in IPHC Regulatory Area 2C. All 2019 landing and discard mortality data presented in this document are preliminary.

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 15 March and closed at 12 noon local time on 14 November 2019 (Table 3). The IPHC Regulatory Area 2A directed commercial fisheries, including the treaty Indian commercial fisheries, occurred during the same calendar period (15 March to 14 November 2019). For IPHC Regulatory Area 2A, eight potential 10-hour fishing periods for the non-treaty directed commercial fishery were adopted: 26 June, 27 June, 10 July, 24 July, 7 August, 21 August, 4 September, and 18 September 2019. All fishing periods began at 0800 and ended at 1800 local time, were further restricted by fishing period limits, and closed for the remainder of the year after the third opening on 24 July (no opening was observed on 27 June) when the IPHC Regulatory Area 2A directed commercial fishery allocation was estimated to have been reached.

Table 3. Fishing periods for commercial Pacific halibut fisheries by IPHC Regulatory Area, 2010-19.

IPHC Regulatory Area	Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Canada: 2B	6 Mar–15 Nov (255)	12 Mar–18 Nov (252)	17 Mar–7 Nov (236)	23 Mar–7 Nov (230)	8 Mar–7 Nov (244)	14 Mar–7 Nov (238)	19 Mar–7 Nov (233)	11 Mar–7 Nov (241)	24 Mar–7 Nov (228)	15 Mar-14 Nov (244)
USA: 2A Treaty Indian	6 Mar–20 Mar (14) 6 Mar-8 Apr	20-22 Mar (2) 1-2 May (19 h) 12-19 Mar 24-28 Mar (13)	24-26 Mar (2) 1 May (13 hrs) 17-19 Mar (55 hrs)	23-25 Mar (48 hrs) 2-4 Apr, 15-16 Apr, 8 May, 6 Jun, 13 Jul 20 Jul 3 Aug	11-13 Mar (48 hrs) 20-21Mar, 8May 8 May	16-18 Mar (48 hrs) 1-2 Apr	19-21 Mar,20-21 Mar, 21-23 Mar 1-2 Apr 1-2,11-12 May, 18 May-15 Aug, 25 Jul-2 Aug, 12 Sep-7 Nov	20 Mar, 15-16 Apr 1-2 May 19-20 May, 22-23 May 18-19 Jun 21-22 Jul	24 Mar – 28 Apr (36 hrs) 24 Mar – 28 Apr (37 hrs) 4 May – 23 May (30 hrs)	15 Mar-15 May (55 hrs) (Unrestricted) 15 Mar-15 May (84 hrs) and 20 May-15 Jun (72 hrs) (Restricted) 11 Jun-24 Jul(~327 lbs per tribe)
USA: 2A Commercial Directed	30 Jun (10 hrs)	29 Jun (10 hrs) 13 Jul (10 hrs)	27 Jun (10 hrs) 11 Jul (10 hrs)	26 Jun (10 hrs) 10 Jul (10 hrs)	25 Jun (10 hrs) 9 Jul (10 hrs)	24 Jun (10 hrs) 8 Jul (10 hrs)	22 Jun (10 hrs) 6 Jul (10 hrs) 20 Jul (10 hrs)	28 Jun (10 hrs) 12 Jul (10 hrs) 26 Jul (10 hrs)	27 Jun (10 hrs) 11 Jul (10 hrs) 25 Jul (10 hrs)	26 June (10 hrs) 10 July (10 hrs) 24 July (10 hrs)
USA: 2A Commercial Incidental	Salmon 1 May– 16 Jun (45) Sablefish No fishery	Salmon 1 May–28May (28) 29 Jul-31 Oct (94) Sablefish No fishery	Salmon 1 May – 3 Jul (64) Sablefish 1 May– 31 Oct (184)	Salmon 1 May–10 Aug (101) Sablefish 1 May– 31 Oct (184)	Salmon 1 Apr–11 Sep (163) Sablefish 1 Apr– 31 Oct (213)	Salmon 1 Apr–21 Aug (142) Sablefish 1 Apr– 31 Aug (152)	Salmon 1 Apr – 31 Oct (213) Sablefish 1 Apr – 31 Oct (213)	Salmon 1 Apr–3 Aug (124) Sablefish 1 Apr– 31 Oct (213)	Salmon 24 Mar - 8 Aug (137) Sablefish 24 Mar – 7 Nov (228)	Salmon 20 Apr - 30 Sept (WA, CA - 163) 20 Apr - 31 Oct (OR - 194) Sablefish 1 April- 31 Oct (213)
USA: Alaska (2C, 3A, 3B, 4A, 4B, 4CDE)	6 Mar–15 Nov (255)	12 Mar–18 Nov (252)	17 Mar–7 Nov (236)	23 Mar–7 Nov (230)	8 Mar–7 Nov (244)	14 Mar–7 Nov (238)	19 Mar–7 Nov (233)	11 Mar–7 Nov (241)	24 Mar–7 Nov (228)	15 Mar-14 Nov (244)

Directed Commercial Landings

Directed commercial landings and fishery limits by IPHC Regulatory Area for the 2019 fishing season are shown in Table 2. Directed commercial fishery limit, as referred to here, is the IPHC directed commercial fishery limit set by the Contracting Parties following the Annual Meeting. The fishery limits with adjustments from the underage and overage programs from the previous year's quota share programs, and in IPHC Regulatory Area 2B it also includes relinquishment of quota and quota leasing programs among sectors and the Use of Fish allocation, are not presented.

The 2019 directed commercial fishery landings were spread over nine months of the year (Table 4). On a month-to-month comparison, July took the lead as the busiest month for total poundage (18%) landed from IPHC Regulatory Area 2B. On a month-to-month comparison, May was the busiest months for total poundage (17%) from Alaska, USA.

Table 4. 2019 Directed commercial landings (tonnes, net weight, preliminary) of Pacific halibut for Alaska, USA and British Columbia, Canada by IPHC Regulatory Area and month.

IPHC Regulatory Area	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
2B[1]	284	309	263	257	390	285	207	208	100	2,305
2C[2]	189	312	332	143	102	171	139	118	31	1,537
3A[2]	232	616	694	475	268	468	397	324	109	3,582
3B[2]	30	125	101	169	92	150	159	117	52	995
4A[2]	-	38[3]	56	68	76	114	174	76	20	622
4B[2]	-	61[3]	108	53	79	67	37	39[4]	-	444
4CDE[2]	-	-	15[3]	112	159	279	103	64	14	745
Alaska Total	451	1,152	1,306	1,020	776	1,249	1,009	738	226	7,926
Grand Total	735	1,460	1,568	1,277	1,166	1,533	1,216	946	327	10,230

[1] Based on landings from DFO Fishery Operations System (FOS).
[2] Based on landings from NOAA Fisheries Restricted Access Management (RAM) Division.
[3] Weight combined with the previous months for confidentiality purposes.
[4] Weight combined with the following month for confidentiality purposes.
n/a = not available

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 153 in 2019. In addition, Pacific halibut can be landed as incidental catch in other licensed groundfish fisheries. Therefore, Pacific halibut was landed from a total of 231 active licences in 2019, with 78 of these licences from other fisheries. The 2019 directed commercial landings of 2,305 tonnes (5,081,000 pounds) were less than 1% under the fishery limit (2,313 tonnes (5,100,000 pounds)) (Table 2).

Directed commercial trips from IPHC Regulatory Area 2B were delivered into 16 different ports in 2019. The ports of Port Hardy (including Coal Harbour and Port McNeill) and Prince Rupert/Port Edward were the major landing locations, receiving 90% of the commercial landings.

Port Hardy received 40% while Prince Rupert received 50% (913 and 1,158 tonnes (2,013,000 and 2,554,000 pounds), respectively) of the directed commercial landings. All of the IVQ landings were landed in IPHC Regulatory Area 2B. Only Canadian vessels landed frozen, head-off Pacific halibut in 2019, and only in Canadian ports: 47 landings (36.75 tonnes; 81,010 net lb) reported frozen-at-sea head-off product from 21 vessels.

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

The 2019 IPHC Regulatory Area 2A fisheries and respective fishery limits are listed in Table 2. The total IPHC Regulatory Area 2A directed commercial landings (not including IPHC FISS and other research) of 395 tonnes (870,000 pounds) were less than 1% over the fishery limit. The total directed commercial non-treaty Indian landings of 115 tonnes (253,000 pounds) were 1% under the fishery limit of 115 tonnes (254,426 pounds) after three 10-hour openers. The fishing period limits by vessel size class for each opening in 2019 are listed in Table 5.

At the start of the salmon troll fishery season on 20 April, the allowable incidental landing ratio was one Pacific halibut per three Chinook (*Oncorhynchus tshawytscha*), plus an “extra” Pacific halibut per landing, and a vessel trip limit of 10 fish. The allowable incidental landing ratio was changed to one Pacific halibut per two Chinook, plus an “extra” Pacific halibut per landing, and a vessel trip limit of 15 fish on 1 May. The allowable incidental landing ratio was changed to one Pacific halibut per two Chinook, plus an “extra” Pacific halibut per landing, and a vessel trip limit of 15 fish on 1 July. The allowable incidental landing ratio was changed to one Pacific halibut per two Chinook, plus an “extra” Pacific halibut per landing, and a vessel trip limit of 4 fish on 19 July. The allowable incidental landing ratio was changed to one Pacific halibut per two Chinook, plus an “extra” Pacific halibut per landing, and a vessel trip limit of 2 fish on 29 July. The incidental Pacific halibut retention in Washington and California was open through 30 September with Oregon remaining open through the month of October. Total landings of 20 tonnes (43,417 pounds) was 3% under the fishery limit (20 tonnes (44,899 pounds)).

Incidental Pacific halibut retention during the limited-entry sablefish fishery remained open from 1 April to noon on 31 October. Beginning 1 April, the allowable landing ratio was 0.09 tonnes (200 pounds) (net weight) of Pacific halibut to 0.45 tonnes (1,000 pounds) (net weight) of sablefish, and up to two additional Pacific halibut in excess of the ratio limit. Effective 2 August, the landing ratio was modified to 0.11 tonnes (250 pounds) (net weight) of Pacific halibut to 0.45 tonnes (1,000 pounds) (net weight) of sablefish, and up to two additional Pacific halibut in excess of the ratio limit. The total landings of 36 tonnes (79,360 pounds) were 13% over the fishery limit (32 tonnes (70,000 pounds)).

In IPHC Regulatory Area 2A, north of Point Chehalis, the treaty Indian tribes manage the 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 were one unrestricted, open access fishery 15 March to 15 May, and two restricted fisheries, including a vessel per day limit of 0.23 tonnes (500 pounds) for 15 March to 15 May and 20 May to 5 June openings. The 2019 treaty Indian directed commercial season closed to all parties following a late fishery 11 June to 24 July with each tribe fishing a share of approximately 0.15 tonnes (327 pounds). Estimated total landings, of 224 tonnes (494,568 pounds), were less than 1% under the fishery limit (225 tonnes (497,000 pounds)).

Table 5. The fishing periods and limits (tonnes, dressed, head-on with ice/slime) by vessel class used in the 2019 directed commercial fishery in IPHC Regulatory Area 2A.

Vessel Class		Fishing Period (dates) & Limits (t)	
Letter	**Feet**	**26 June and 10 July**	**24 July**
A	≤25	2.05	1.04
B	26-30	2.05	1.04
C	31-35	2.05	1.04
D	36-40	3.09	1.04
E	41-45	3.09	1.04
F	46-50	4.12	1.04
G	51-55	4.12	1.04
H	56+	4.64	1.04

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) 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 2018, RAM reported that 2,257 persons held QS.

The total 2019 landings from the IFQ/CDQ Pacific halibut fishery for the waters off Alaska, USA were 7,926 tonnes (17,473,000 pounds), less than 8% under the fishery limit. By IPHC Regulatory Area, the landings were under the fishery limit by 4% for Areas 2C, 2% for Area 3A, 6% for Area 3B, 17% for Area 4A, and 19% for Area 4B (Table 2). The total combined IPHC Regulatory Area 4CDE commercial landings of 745 tonnes (1,642,000 pounds) were 20% under the combined Area 4CDE fishery limit (925 tonnes (2,040,000 pounds)). The North Pacific Fishery Management Council's Catch Sharing Plan allowed IPHC Regulatory Area 4D CDQ to be harvested in IPHC Regulatory Areas 4D or 4E and Area 4C IFQ and CDQ to be fished in Areas 4C or 4D.

Homer received approximately 14% (1,142 tonnes (2,517,000 pounds)) of the directed commercial landings of Alaskan catch making it the port that received the greatest number of pounds in 2019. Kodiak received the second and Seward the third largest landing volume at 12% (927 tonnes, (2,043,000 pounds)) and 11% (895 tonnes (1,974,000 pounds)) of the Alaskan commercial landings, respectively. In Southeast Alaska, the two largest landing volumes were received in Sitka (551 tonnes (1,214,000 pounds)), and Juneau (548 tonnes (1,209,000 pounds)), and their combined landings represented 14% of the commercial Alaskan landings. The Alaskan QS catch that was landed outside of Alaska, USA was 2%.

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 14 two-day openings between 29 March and 29 September for total landings of 13 tonnes (27,863 pounds) (Table 6).

Table 6. Metlakatla community fishing periods, number of vessels, and preliminary Pacific halibut landings (net weight) in IPHC Regulatory Area 2C, 2019.

Fishing Period Dates	Landings		Number of Vessels
	(Tonnes)	(Pounds)	
29 – 31 March	0.74	1,627	7
12 – 14 April	0.79	1,731	8
26 – 28 April	0.89	1,952	6
10 – 12 May	1.14	2,516	9
24 – 26 May	0.73	1,616	8
07 – 09 June	0.89	1,952	5
21 – 23 June	0.67	1,483	7
05 – 07 July	1.64	3,610	7
19 – 21 July	1.20	2,640	6
02 – 04 August	0.71	1,567	5
16 – 18 August	1.21	2,662	7
30 August – 01 September	0.85	1,865	5
13 – 15 September	0.86	1,863	8
27 – 29 September	0.35	779	3
Total	12.64	27,863	14 Openings

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 fisheries-independent setline survey 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 directed commercial Pacific halibut fishery are summarized by IPHC Regulatory Area in Table 2.

RECREATIONAL FISHERIES

The 2019 recreational removals of Pacific halibut, including discard mortality, was estimated at 3,147 tonnes (6,938,000 pounds). Recreational fishery limits and landings are detailed by IPHC Regulatory Area in Table 2.

Recreational Landings

Canada – IPHC Regulatory Area 2B (British Columbia)

IPHC Regulatory Area 2B operated under a 115 cm (45.3 inch) maximum size limit and one Pacific halibut had to be less than 83 cm (32.7 inch) when attaining the two fish possession limit with an annual limit of six per licence holder from 1 March to 1 April. 1 April the maximum size limit was increased to 126 cm (49.6 inch) and one fish had to be less than 90 cm (35.4 inch) when attaining the two fish possession limit. The IPHC Regulatory Area 2B fishery remains open.

British Columbia, Canada and Alaska, USA both have programs that allow recreational harvesters to land fish that is leased from directed commercial fishery quota share holders for the current season. In Canada, an estimated 8 tonnes (18,000 pounds) were leased from the commercial quota fishery and landed as recreational harvest.

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

The 2019 IPHC Regulatory Area 2A recreational allocation was 275 tonnes (605,674 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 32 tonnes (70,000 pounds) were allocated to the incidental Pacific halibut catch in the commercial sablefish fishery in Washington. This subdivision resulted in 126 tonnes (277,100 pounds) being allocated to Washington subareas, 131 tonnes (289,575 pounds) to Oregon subareas. In addition, California received an allocation of 18 tonnes (39,000 pounds). The IPHC Regulatory Area 2A recreational harvest totaled 203 tonnes (448,298 pounds), 26% under the recreational allocation (Table 2).

Recreational fishery harvest seasons by subareas varied and were managed inseason with fisheries opening on 1 May.

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

A reverse slot limit allowing for the retention of Pacific halibut, if ≤ 97 cm (38 inches) or ≥ 203 cm (80 inches) in total length, was continued by the IPHC for the charter fishery in IPHC Regulatory Area 2C. In IPHC Regulatory Area 3A, charter anglers were allowed to retain two fish, but only one could exceed 71 cm (28 inches) in length, a four fish annual limit with a recording requirement, one trip per calendar day per charter permit, with no charter retention of Pacific halibut on Wednesdays throughout the season and 9 July, 16 July, 23 July, 30 July, 6 August and 13 August.

Similar to British Columbia (Canada), Alaska (USA) has programs that allow recreational harvesters to land fish that is leased from commercial fishery quota share holders for the current season. In IPHC Regulatory Areas 2C and 3A, 34 tonnes (75,039 pounds) and 5 tonnes (10,652 pounds), respectively, were leased from the directed commercial quota fisheries in those areas and landed as recreational harvest.

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 Alaska, Washington, Oregon and California in the USA, and British Columbia, Canada 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 2019 is 481 tonnes (1,060,241 pounds) (Table 2).

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 landings and are not included here.

Canada – IPHC Regulatory Area 2B (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).

USA – IPHC Regulatory Area 2A (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. The 2018 final estimate of C&S was 13 tonnes (28,000 pounds) and this catch estimate became the 2019 C&S allocation. The estimate of the 2019 removals is 15 tonnes (32,200 pounds).

USA – IPHC Regulatory Areas 2C, 3, and 4 (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. Yearly reports are available at http://www.fakr.noaa.gov/ram/subsistence/halibut.htm . Each year, the data collection program included an annual voluntary survey conducted by mail or phone, with some onsite visits. The 2012 estimate has been carried forward for the 2013 estimate and the 2014 estimate has been used for 2014 through 2015; a 2016 estimate was used for 2016 through 2017 and a new 2018 estimate is used for 2018 through 2019. The 2014 estimates are about 10% higher than in 2012, and are noticeably higher in IPHC Regulatory Area 4E. To collect the 2014 harvest estimates, the ADF&G staff conducted face to face interviews in two of the major subsistence harvesting communities within IPHC Regulatory Area 4E rather than relying on mailed returns. Face to face interviews likely resulted in more realistic harvest estimates than the mail survey alone, so it is likely that the IPHC Regulatory Area 4E harvest estimates between 2009 through 2013 were low.

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, as long as 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 2019 were received from three organizations: Bristol Bay Economic Development Corporation (BBEDC), Coastal Villages Regional Fund (CVRF), and Norton Sound Economic Development Corporation (NSEDC). The reports are summarized below, and the reported amounts of retained U32 Pacific halibut totaled 3 tonnes (7,252 pounds). Generally, annual changes are a reflection of the amount of effort by the local small boat fleets and the availability of fish in their nearshore fisheries.

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 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 equally at Togiak and Dillingham, with a small amount landed in Naknek and a minor amount landed in Egegik. BBEDC reported 25 harvesters landed 317 U32 Pacific halibut (1.5 tonnes; 3,349 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. Ice was removed but the fish were not washed nor the heads removed. The U32 Pacific halibut were then returned to the harvester. NSEDC reported 390 U32 Pacific halibut weighing 1.8 tonnes (3,903 pounds) were caught in the local CDQ fishery and landed at the Nome plant.

NON-DIRECTED COMMERCIAL DISCARD MORTALITY

Estimates of Pacific halibut discard mortality in non-directed fisheries in 2019 have been projected to total 2,985 tonnes (6,581,000 pounds) net weight (Table 2).

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. Contracting Party 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 Canada British Columbia are comprehensively 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 those programs are used to estimate non-directed commercial discard mortality.

Non-directed Commercial Discard Mortality by Area

Canada – IPHC Regulatory Area 2B (British Columbia)

For 2019, non-directed commercial discard mortality in the bottom trawl fishery in Canada (British Columbia) was projected to be 108 tonnes (239,000 pounds) (Table 2). The reported non-directed commercial discard mortality data were complete through October. Projections for the full calendar year 2019 were made by extrapolating to the full 12 months.

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. The current estimate of non-directed commercial discard mortality in IPHC Regulatory Area 2A is 57 tonnes (126,000 pounds) (Table 2).

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 were provided by NOAA Fisheries (Table 2).

USA – IPHC Regulatory Area 2C (Southeast Alaska)

For the federal waters of IPHC Regulatory Area 2C, only non-directed commercial discard mortality by hook-and-line 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.

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 again rolled forward.

In aggregate, these fisheries are projected to result in 42 tonnes (92,000 pounds) of non-directed commercial discard mortality in 2019.

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

IPHC Regulatory Area 3 is comprised of Areas 3A and 3B. IPHC tracks non-directed commercial discard mortality for each IPHC Regulatory Area due to assessment and stock management needs, while groundfish fisheries operate throughout both areas. Trawl fisheries are responsible for the majority of the non-directed commercial discard mortality in these IPHC Regulatory Areas, with hook-and-line fisheries a distant second for a projected total of 964 tonnes (2,126,000 pounds). State-managed crab and scallop fisheries are also known to take Pacific halibut as non-directed commercial discard mortality, but at low levels.

IPHC Regulatory Area 3 remains the area where non-directed commercial discard mortality mortality is estimated most poorly. Observer coverage for most fisheries is relatively low. Tendering, loopholes in trip cancelling, and safety considerations likely result in observed trips not being representative of all trips (observed and unobserved) in many regards (e.g. duration, species composition, etc.. This, plus low coverage, lead to increased uncertainty in these non-directed commercial discard mortality estimates and to potential for bias.

USA – IPHC Regulatory Area 4 (Bering Sea and Aleutian Islands)

Non-directed commercial discard mortality for all IPHC Regulatory Areas within Area 4 was projected at 1,813 tonnes (3,998,000 pounds).

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

Pots are used to fish for Pacific cod and sablefish and fish very selectively. 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.

IPHC FISHERY-INDEPENDENT SETLINE SURVEY AND OTHER RESEARCH

The IPHC's FISS provides catch information and biological data on Pacific halibut (*Hippoglossus stenolepis)* that are independently collected from the commercial fishery. Approximately 388 tonnes (855,000 pounds) of Pacific halibut were landed from the FISS in 2019 with the amount landed from each IPHC Regulatory Area documented in Table 2. For additional information on the FISS see IPHC-2020-AM096-06.

RECOMMENDATION/S

That the Commission:

1) **NOTE** paper IPHC-2020-AM096-05 Rev_2 which provides fishery statistics from fisheries catching Pacific halibut during 2019, including the status of removals compared to fishery limits implemented by the Contracting Parties of the Commission.

REFERENCES

Nil

APPENDICES

Nil