State of the Fishery (2020)

PREPARED BY: IPHC SECRETARIAT (L. ERIKSON, H. TRAN; 17 DECEMBER 2020 AND 8 JANUARY 2021)

PURPOSE

To provide an overview of the key fishery statistics regarding Pacific halibut removals from fisheries catching Pacific halibut during 2020, 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-2021-AM097-08**) and other analyses. The data are compiled by the IPHC Secretariat and include data from Federal and State agencies of each Contracting Party. All 2020 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 research

Figure 1 shows the distribution of Pacific halibut removals (mortality) by these fishery sources in 2020. Table 1 and Table 2 provide estimates of total removals by IPHC Regulatory Area (Figure 2).

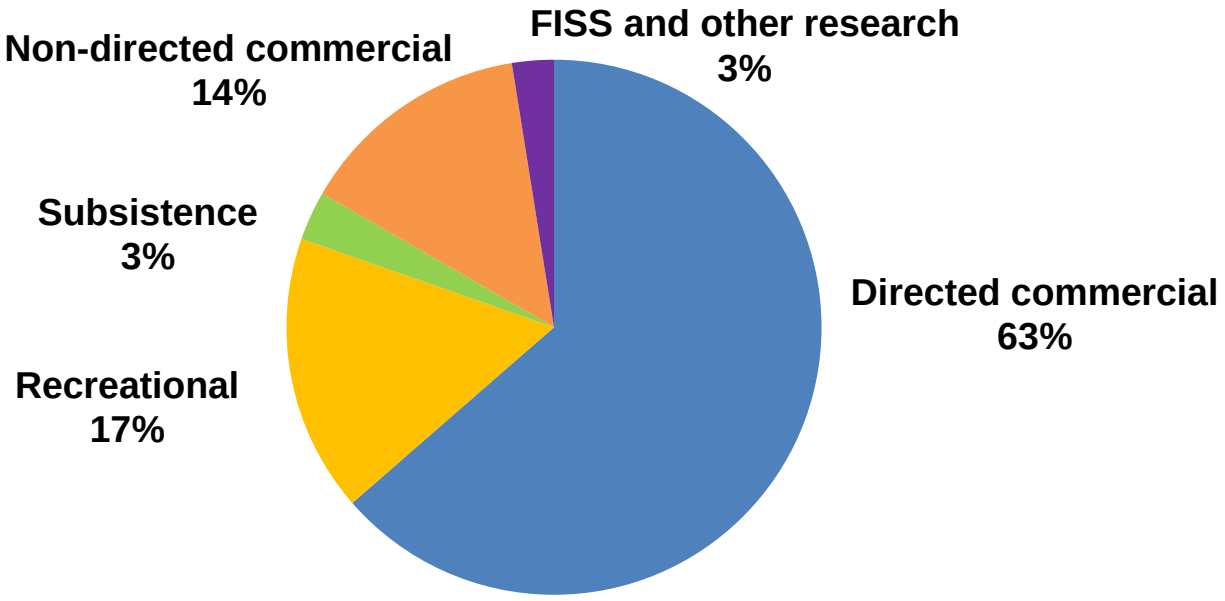

Figure 1. Distribution of Pacific halibut mortality by source in 2020.

Table 1. 2020 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**	2,904	6,402,376	94
United States of America	**13,508**	**29,780,000**	12,564	27,698,259	93
IPHC Regulatory Area 2A	748	1,650,000	644	1,419,993	86
IPHC Regulatory Area 2C	2,654	5,850,000	2,560	5,643,248	96
IPHC Regulatory Area 3A	5,534	12,200,000	5,316	11,720,165	96
IPHC Regulatory Area 3B	1,415	3,120,000	1,268	2,796,158	90
IPHC Regulatory Area 4A	794	1,750,000	680	1,498,469	86
IPHC Regulatory Area 4B	594	1,310,000	468	1,030,977	79
IPHC Regulatory Area 4CDE and Closed Area	1,769	3,900,000	1,628	3,589,249	92
Subtotal (TCEY)	**16,601**	**36,600,000**	**15,468**	**34,101,635**	**93**
Non-directed commercial discard mortality (U26)	none	none	422	930,000	n/a
Total	**none**	**none**	**15,890**	**35,031,635**	**n/a**

Table 2. 2020 estimates of total removals (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)	3,098.04	6,830,000	2,904.07	6,402,376	94
Directed commercial fishery landings	2,322.39	5,120,000	2,218.90	4,891,833	96
Directed commercial discard mortality	58.97	130,000	74.84	165,000	127
Recreational fishery	399.16	880,000	235.25	518,639	59
Recreational discard mortality[1]	22.68	50,000	11.01	24,262	49
Subsistence[1]	185.97	410,000	183.70	405,000	99
Non-directed commercial discard mortality (O26)[1]	108.86	240,000	91.17	201,000	84
IPHC fishery-independent setline survey[2]	n/a	n/a	89.20	196,642	n/a
Non-directed commercial discard mortality (U26)	9.07	20,000	13.15	29,000	145
USA – 2A (California, Oregon, and Washington)	748.43	1,650,000	644.10	1,419,993	86
Non-treaty directed commercial	115.41	254,426	110.06	242,647	95
Non-treaty incidental to salmon troll fishery	20.37	44,899	13.16	29,012	65
Non-treaty incidental to sablefish fishery	31.75	70,000	28.74	63,358	91
Treaty Indian directed commercial	223.53	492,800	221.77	488,915	99
Directed commercial discard mortality	13.61	30,000	14.97	33,000	110
Recreational – Washington	125.69	277,100	81.02	178,624	64
Recreational – Oregon	131.35	289,575	75.21	165,807	57
Recreational – California	17.69	39,000	29.08	64,107	164
Recreational discard mortality	n/a	n/a	3.99	8,797	n/a
Treaty Indian ceremonial and subsistence	14.61	32,200	18.02	39,726	123
Non-directed commercial discard mortality (O26)[1]	54.43	120,000	48.08	106,000	88
Non-directed commercial discard mortality (U26)	0.00	0	0.91	2,000	n/a

continued….

Table 2 continued. 2020 estimates of total removals (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)	2,653.51	5,850,000	2,559.73	5,643,248	96
Directed commercial fishery landings	1,546.75	3,410,000	1,451.83	3,200,727	94
Directed commercial discard mortality	31.75	70,000	28.58	63,000	90
Metlakatla (Annette Island Reserve)	n/a	n/a	10.94	24,119	n/a
Guided recreational fishery	353.80	780,000	216.38	477,041	64
Guided recreational discard mortality[3]	n/a	n/a	10.12	22,316	n/a
Guided recreational fishery (GAF)[1]	n/a	n/a	24.98	55,061	n/a
Unguided recreational fishery[1]	521.63	1,150,000	519.09	1,144,401	101
Unguided recreational discard mortality[3]	n/a	n/a	6.87	15,140	n/a
Subsistence[1]	167.83	370,000	166.11	366,214	99
Non-directed commercial discard mortality (O26)[1]	31.75	70,000	42.18	93,000	133
IPHC fishery-independent setline survey[2]	n/a	n/a	82.66	182,229	n/a
Non-directed commercial discard mortality (U26)	0	0	0.45	1,000	n/a
USA – Area 3A (central Gulf of Alaska)	5,533.83	12,200,000	5,316.18	11,720,165	96
Directed commercial fishery landings	3,197.83	7,050,000	3,092.66	6,818,145	97
Directed commercial discard mortality	131.54	290,000	85.28	188,000	65
Guided recreational fishery	775.64	1,710,000	717.73	1,582,333	93
Guided recreational discard mortality[3]	n/a	n/a	6.28	13,839	n/a
Guided recreational fishery (GAF)	n/a	n/a	0.97	2,147	n/a
Unguided recreational fishery[1]	752.96	1,660,000	759.52	1,674,445	102
Unguided recreational discard mortality[3]	n/a	n/a	11.68	25,754	n/a
Subsistence[1]	86.18	190,000	85.14	187,698	99
Non-directed commercial discard mortality (O26)[1]	585.13	1,290,000	343.37	757,000	59
IPHC fishery-independent setline survey[2]	n/a	n/a	213.55	470,804	n/a
Non-directed commercial discard mortality (U26)	131.54	290,000	100.24	221,000	76
USA – Area 3B (western Gulf of Alaska)	1,415.21	3,120,000	1,268.32	2,796,158	90
Directed commercial fishery landings	1,093.16	2,410,000	1,018.86	2,246,209	93
Directed commercial discard mortality[1]	72.57	160,000	43.54	96,000	60
Recreational fishery[1]	0.00	0	4.97	10,948	n/a
Recreational discard mortality	0.00	0	0.19	429	n/a
Subsistence[1]	9.07	20,000	7.55	16,644	83
Non-directed commercial discard mortality (O26)[1]	240.40	530,000	176.45	389,000	73
IPHC fishery-independent setline survey[2]	n/a	n/a	16.75	36,928	n/a
Non-directed commercial discard mortality (U26)	54.43	120,000	22.68	50,000	42
USA – Area 4A (eastern Aleutians)	793.79	1,750,000	679.69	1,498,469	86
Directed commercial fishery landings	639.57	1,410,000	520.27	1,146,995	81
Directed commercial discard mortality[1]	40.82	90,000	37.65	83,000	92
Recreational fishery[1]	4.54	10,000	7.26	16,008	162
Recreational discard mortality	0.00	0	0.10	229	n/a
Subsistence[1]	4.54	10,000	6.00	13,237	132
Non-directed commercial discard mortality (O26)[1]	99.79	220,000	108.41	239,000	109
Non-directed commercial discard mortality (U26)	63.50	140,000	19.05	42,000	30

continued….

Table 2 continued. 2020 estimates of total removals (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 4B (central/western Aleutians)	594.21	1,310,000	467.64	1,030,977	79
Directed commercial fishery landings	498.95	1,100,000	405.95	894,971	81
Directed commercial discard mortality[1]	18.14	40,000	16.33	36,000	90
Recreational fishery	0.00	0	0.00	0	n/a
Recreational discard mortality	0.00	0	0.00	0	n/a
Subsistence[1]	0.00	0	0.76	1,684	n/a
Non-directed commercial discard mortality (O26)[1]	72.57	160,000	39.92	88,000	55
IPHC fishery-independent setline survey[2] & research	n/a	n/a	4.68	10,322	n/a
Non-directed commercial discard mortality (U26)	4.54	10,000	4.54	10,000	100
USA – Area 4CDE and Closed (Bering Sea)	1,769.01	3,900,000	1,628.06	3,589,249	92
Directed commercial fishery landings	784.71	1,730,000	728.47	1,606,002	93
Directed commercial discard mortality[1]	36.29	80,000	35.83	79,000	99
Recreational fishery[1]	0.00	0	0.00	0	n/a
Recreational discard mortality	0.00	0	0.00	0	n/a
Subsistence[1]	18.14	40,000	15.08	33,247	83
Non-directed commercial discard mortality (O26)[1]	934.40	2,060,000	848.67	1,871,000	91
Non-directed commercial discard mortality (U26)	462.66	1,020,000	261.27	576,000	56
Totals	16,601.48	36,600,000	15,468.24	34,101,635	93
Directed commercial fishery landings	10,881.68	23,990,000	10,158.62	22,395,933	93
Recreational fishery	3,111.64	6,860,000	2,721.70	6,000,327	87
Subsistence[1]	480.81	1,060,000	482.37	1,063,450	100
Non-directed commercial discard mortality (O26)[1]	2,127.35	4,690,000	1,698.25	3,745,000	80
IPHC fishery-independent setline survey[2] & research	n/a	n/a	406.84	896,925	n/a
Non-directed commercial discard mortality (U26)	725.75	1,600,000	422.00	930 ,000	58

[1] 'Mortality projection' is the 2019 estimate, which was used in setting the TCEY for the IPHC Regulatory Area.

[2] Includes U32 Pacific halibut landed during FISS

[3] Limit included in limit listed above.

n/a = not available and GAF = Guided Angler Fish (GAF leased from commercial quota).

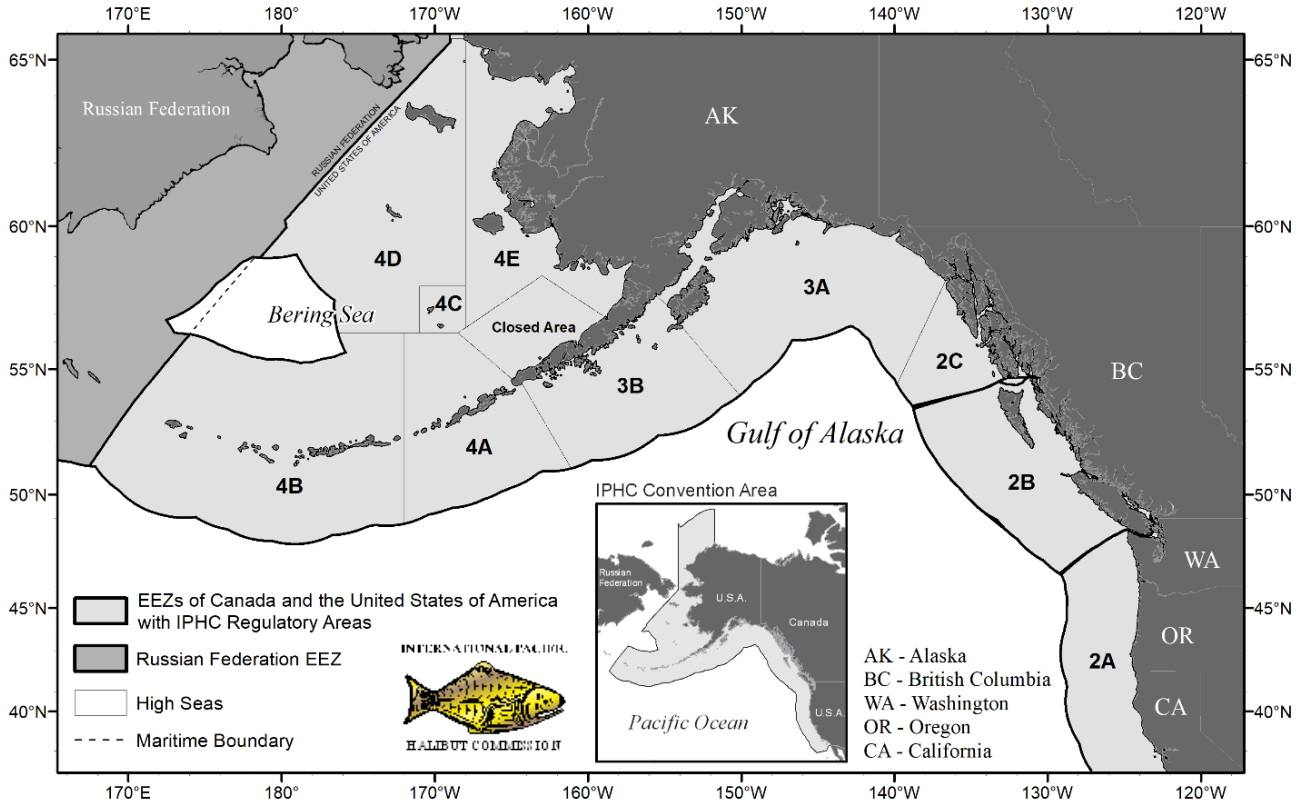

Figure 2. Map of the IPHC Convention Area (insert) and IPHC Regulatory Areas.

DEFINITIONS

Directed commercial fisheries: include commercial landings and discard mortality. Directed commercial discard mortality continues to include estimates of sub-legal Pacific halibut (under 81.3 cm (32 inches), 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 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 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 2020 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 14 March and closed at 12 noon local time on 15 November, with IPHC Regulatory Area 2B only closing on 7 December 2020 (Table 3). The IPHC Regulatory Area 2A directed commercial fisheries, including the treaty Indian commercial fisheries, occurred during the same calendar period (14 March to 15 November 2020). For IPHC Regulatory Area 2A, the potential of 58-hour fishing periods every two weeks beginning on the fourth Monday in June for the non-treaty directed commercial fishery were adopted. All of these fishing periods began on the Monday at 0800 and ended on the Wednesday at 1800 local time (58-hours), were further restricted by fishing period limits, and closed for the remainder of the year after the fifth opening on 19 August 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, 2011-20.

IPHC Regulatory Area	Year									
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Canada: 2B	14 Mar- 7 Dec (268)	15 Mar- 14 Nov (244)	24 Mar– 7 Nov (228)	11 Mar– 7 Nov (241)	19 Mar– 7 Nov (233)	14 Mar–7 Nov (238)	8 Mar–7 Nov (244)	23 Mar–7 Nov (230)	17 Mar–7 Nov (236)	12 Mar– 18 Nov (252)
USA: 2A Treaty Indian	14 Mar-30 Sept (55 h) (Unrestricted) 14 Mar-30 Sep (222 h) (Restricted) 5 Oct -18 Oct (800 lb per calendar day per vessel)	15 Mar-15 May (55 h) (Unrestricted) 15 Mar-15 May (84 h) 20 May-15 Jun (72 h) (Restricted) 11 Jun-24 Jul (~327 lb per tribe)	24 Mar – 28 Apr (36 h) 24 Mar – 28 Apr (37 h) 4 May – 23 May(30 h)	20 Mar, 15-16 Apr 1-2 May 19-20 May, 22-23 May 18-19 Jun 21-22 Jul	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	16-18 Mar (48 h) 1-2 Apr	11-13 Mar (48 h) 20-21Mar, 8May 8 May	23-25 Mar (48 h) 2-4 Apr, 15-16 Apr, 8 May, 6 Jun, 13 Jul, 20 Jul, 3 Aug	24-26 Mar (2) 1 May (13 h) 17-19 Mar (55 h)	20-22 Mar (2) 1-2 May (19 h) 12-19 Mar 24-28 Mar (13 h)
USA: 2A Commercial Directed	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)	28 Jun 12 Jul 26 Jul (10 h each)	22 Jun 6 Jul 20 Jul (10 h each)	24 Jun 8 Jul (10 h each)	25 Jun 9 Jul (10 h each)	26 Jun 10 Jul (10 h each)	27 Jun 11 Jul (10 h each)	29 Jun 13 Jul (10 h each)
USA: 2A Commercial Incidental	Salmon 15 Apr–30 Sep (WA – 168) 15 Apr–31 Oct (OR - 199) 1 Aug–30 Sep (CA - 60) Sablefish 1 Apr – 15 Nov (228)	Salmon 20 Apr - 30 Sep (WA, CA - 163) 20 Apr - 31 Oct (OR - 194) Sablefish 1 Apr- 31 Oct (213)	Salmon 24 Mar - 8 Aug (137) Sablefish 24 Mar – 7 Nov (228)	Salmon 1 Apr–3 Aug (124) Sablefish 1 Apr– 31 Oct (213)	Salmon 1 Apr – 31 Oct (213) Sablefish 1 Apr – 31 Oct (213)	Salmon 1 Apr–21 Aug (142) Sablefish 1 Apr– 31 Aug (152)	Salmon 1 Apr–11 Sep (163) Sablefish 1 Apr– 31 Oct (213)	Salmon 1 May–10 Aug (101) Sablefish 1 May– 31 Oct (184)	Salmon 1 May – 3 Jul (64) Sablefish 1 May– 31 Oct (184)	Salmon 1 May–28 May (28) 29 Jul-31 Oct (94) Sablefish No fishery
USA: Alaska (2C, 3A, 3B, 4A, 4B, 4CDE)	14 Mar- 15 Nov (246)	15 Mar- 14 Nov (244)	24 Mar– 7 Nov (228)	11 Mar– 7 Nov (241)	19 Mar–7 Nov (233)	14 Mar–7 Nov (238)	8 Mar–7 Nov (244)	23 Mar–7 Nov (230)	17 Mar–7 Nov (236)	12 Mar–18 Nov (252)

Directed Commercial Landings

Directed commercial landings and fishery limits by IPHC Regulatory Area for the 2020 fishing season are shown in Table 2. Directed commercial fishery limit, as referred to here, is the IPHC 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, the Use of Fish allocation are not presented. Historical landings and fishery limits are available on the IPHC website (https://www.iphc.int/data).

The 2020 directed commercial fishery landings were spread over nine months of the year in the USA and ten months in Canada (Table 4). On a month-to-month comparison, April took the lead as the busiest month for total poundage (17%) landed from IPHC Regulatory Area 2B. On a month-to-month comparison, August was the busiest month for total poundage (19%) 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

Table 4. 2020 directed commercial landings (tonnes, net weight, preliminary) of Pacific halibut for Alaska, USA and British Columbia, Canada by IQ fisheries,IPHC Regulatory Area and month.

IPHC Regulatory Area	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2B[1]	185	369	274	288	272	260	258	197	106	10	2,219
2C[2]	104	145	239	204	134	242	175	162	49		1,452
3A[2]	95	276	485	449	349	453	424	426	136		3,093
3B[2]	-	30[3]	174	120	122	177	219	141	37		1,019
4A[2]		-	53[3]	46	-	201[3]	140	81[4]	-		520
4B[2]		-	95[3]	195[4]	-	-	-	116[3,4]	-		406
4CDE[2]			10	23	149	335	212[4]	-			728
Alaska, USA Total	199	451	1,055	1,037	753	1,407	1,170	926	221		7,218
Grand Total	383	820	1,329	1,325	1,025	1,667	1,428	1,123	327	10	9,437

[1] Based on landings from DFO Fishery Operations System (FOS).
[2] Based on landings from NOAA Fisheries Restricted Access Management (RAM) Program.
[3] Weight combined with the previous month(s) for confidentiality purposes.
[4] Weight combined with the following month for confidentiality purposes.

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 143 in 2020. In addition, Pacific halibut can be landed as incidental catch in other licensed groundfish fisheries. Therefore, Pacific halibut was landed from a total of 210 active licences in 2020, with 66 of these licences from other fisheries. The 2020 directed commercial landings represented 2,219 tonnes (4,891,833 pounds) of Pacific halibut (Table 2).

Directed commercial trips from IPHC Regulatory Area 2B were delivered into 16 different ports in 2020. 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 52% while Prince Rupert received 40% 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 2020, and only in Canadian ports: 45 landings (25 tonnes; 55,779 net lb) reported frozen-at-sea head-off product from 25 vessels.

In IPHC Regulatory Area 2B, 1.2 tonnes (2,648 pounds) of Pacific halibut were caught with pot gear and landed within the directed commercial fishery representing 0.05% of the total landings for which logs were collected by the IPHC.

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

The 2020 IPHC Regulatory Area 2A fisheries and respective fishery limits are listed in Table 2. The total IPHC Regulatory Area 2A directed commercial landings of 373 tonnes (822,000 pounds) are 5% below the fishery limit. The total directed commercial non-treaty Indian landings of 110 tonnes (243,000 pounds) were 5% under the fishery limit of 115 tonnes (254,426 pounds) after five 58-hour openers. The fishing period limits by vessel size class for each opening in 2020 are listed in Table 5.

The salmon troll fishery season began on 15 April with an allowable incidental landing ratio of one Pacific halibut per two Chinook (*Oncorhynchus tshawytscha*), plus an "extra" Pacific halibut per landing, and a vessel trip limit of 35 fish. The incidental Pacific halibut retention in Washington and California remained open through 30 September and in Oregon, through 31 October. Total landings of 13 tonnes (29,012 pounds) was 35% under the fishery limit (20 tonnes (44,899 pounds)).

Incidental Pacific halibut retention during the limited-entry sablefish (*Anoplopoma fimbria*) fishery remained open from 1 April to noon on 15 November. 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 19 October, 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 29 tonnes (63,358 pounds) were 12% under the fishery limit (32 tonnes (70,000 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 were one unrestricted, open access fishery, not to exceed 55 hours, 14 March to 30 September, and one restricted fishery opening not to exceed 222 hours, including a vessel per day limit of 0.23 tonnes (500 pounds) and limit of 10 landings for 14 March to 30 September. A late season fishery was open 5 October to 18 October and included a per calendar day per vessel limit of 0.3 tonnes (800 pounds). Estimated total landings, of 222 tonnes (488,915 pounds), were less than 1% under the fishery limit (224 tonnes (492,800 pounds)).

Table 5. The fishing periods and limits (tonnes, dressed, head-on with ice/slime) by vessel class used in the 2020 directed commercial fishery in IPHC Regulatory Area 2A.

Vessel Class		Fishing Period (dates) & Limits (t)		
Letter	Feet	22-24 June	6-8 July	20-22 July, 3-5 August, 17-19 August
A	1-25	0.41	0.82	1.03
B	26-30	0.41	0.82	1.03
C	31-35	0.41	0.82	1.03
D	36-40	0.62	1.24	1.55
E	41-45	0.62	1.24	1.55
F	46-50	0.82	1.65	2.06
G	51-55	0.82	1.65	2.06
H	56+	0.93	1.86	2.32

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 2020, RAM reported that 2,297 persons/entities held QS.

The total 2020 landings from the IFQ/CDQ Pacific halibut fishery for the waters off Alaska, USA were 7,218 tonnes (15,913,000 pounds), 7% under the fishery limit (Table 2). By IPHC Regulatory Area, the landings were under the fishery limit by 6% for Area 2C, 3% for Area 3A, 7% for Area 3B, 19% for Area 4A and Area 4B and 7% for 4CDE/Closed (Table 2).

Homer received approximately 18% (1,282 tonnes (2,826,000 pounds)) of the directed commercial landings of Alaskan catch making it the port that received the greatest number of pounds thus far in 2020. Dutch Harbor received the second and Kodiak the third largest landing volume at 12% (867 tonnes (1,912,000 pounds)) and 11% (804 tonnes (1,773,000 pounds)) of the Alaskan commercial landings, respectively. In Southeast Alaska, the two largest landing volumes were received in Juneau (602 tonnes (1,327,000 pounds)), and Sitka (503 tonnes (1,109,000 pounds)), and their combined landings represented 15% of the directed commercial Alaskan landings. The Alaskan QS catch that was landed outside of Alaska, USA was 2%.

In the IFQ fishery is Alaska, 27 tonnes (60,447 pounds) of Pacific halibut were caught with pot gear and landed within the directed commercial fishery representing 0.6% of the total 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 eight two-day openings between 12 June and 20 September for total landings of 11 tonnes (24,119 pounds) (Table 6). The fishery closed on 1 October.

Table 6. Metlakatla community fishing periods, number of vessels, and Pacific halibut landings (net weight) in IPHC Regulatory Area 2C, 2020.

Fishing Period Dates	Landings		Number of Vessels
	(Tonnes)	(Pounds)	
12 – 14 June	1.16	2,562	2
26 – 28 June	2.02	4,461	7
10 – 12 July	1.54	3,391	6
24 – 26 July	2.06	4,535	10
07 – 09 August	1.93	4,255	8
21 – 23 August	1.01	2,224	7
04 – 06 September	0.93	2,059	4
18 – 20 September	0.29	631	3
Total	10.94	24,119	8 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 commercial Pacific halibut fishery are summarized by IPHC Regulatory Area in Table 2.

RECREATIONAL FISHERIES

The 2020 recreational removals of Pacific halibut, including discard mortality, was estimated at 2,723 tonnes (6,002,478 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 126 cm (49.6 inch) maximum size limit and one Pacific halibut had to be between 90 – 126 cm (35.4 - 49.6 inches) or both under 90 cm (35.4 inch) when attaining the two fish possession limit with an annual limit of six per licence holder. On 14 August the daily limit was matched to the possession limit. The IPHC Regulatory Area 2B recreational harvest was 41% under the recreational allocation at 235 tonnes (518,639 pounds)

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

The 2020 IPHC Regulatory Area 2A recreational allocation was 275 tonnes (605,675 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 185 tonnes (408,538 pounds), 33% under the recreational allocation.

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

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

A reverse slot limit allowing for the retention of Pacific halibut, if ≤ 114 cm (45 inches) or ≥ 203 cm (80 inches) in total length, was continued by the IPHC for the charter fishery in IPHC Regulatory Area 2C. During the 7th Special Session (SS07) on the 20 May the reverse slot limit was changed to allow retention if ≤ 102 cm (40 inches) or ≥ 203 cm (80 inches) in total length. In IPHC Regulatory Area 3A, charter anglers were allowed to retain two fish, but only one could exceed 66 cm (26 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 Tuesdays or Wednesdays. During the 7th Special Session (SS07) on the 20 May the maximum length of the second fish was changed to 81 cm (32 inches) and all day closures were removed as well as the annual limit.

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 2020 is 482 tonnes (1,063,450 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. The 2019 final estimate of C&S was 14.6 tonnes (32,200 pounds) and this catch estimate became the 2020 C&S allocation. The estimate of the 2020 removals is 18 tonnes (39,726 pounds). This estimate is higher than previous years due to an increased usage for food security as a result of the COVID-19 pandemic.

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 136.1 tonnes (300,000 pounds) annually until 2006, and since 2007, the yearly estimate has been provided as 183.7 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. 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 of fishers conducted by mail or phone, with some onsite visits. The 2018 estimate has been carried forward for 2019 and 2020.

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 2020 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), with CVRF reporting no removals.

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 equally at Dillingham and King Salmon, with a small amount landed in Togiak and Naknek. BBEDC reported 13 harvesters landed 91 U32 Pacific halibut (0.45 tonnes; 995 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 wash nor was the head removed. The U32 Pacific halibut were then returned to the harvester. NSEDC reported 196 U32 Pacific halibut weighing 0.9 tonnes (1,940 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 2020 are yet to be reported and will be 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 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. A breakout of these removals 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 the NOAA Fisheries, following advice and recommendations developed by the Pacific Fishery Management Council.

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.

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.

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. 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 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.

IPHC Regulatory Area 4 (Bering Sea and Aleutian Islands)

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.

Within the Bering Sea, non-directed commercial discard mortality estimates have typically been the highest in IPHC Regulatory Area 4CDE (Table 2). This is due to the groundfish fisheries which operate in the area, i.e., those for flatfish.

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 407 tonnes (897,000 pounds) of Pacific halibut were landed from the FISS and other research in 2020 with the amount landed from each IPHC Regulatory Area documented in Table 2. For additional information on the FISS see **IPHC-2021-AM097-06**.

RECOMMENDATION/S

That the Commission **NOTE** paper IPHC-2021-AM097-05 Rev_1 which provides an overview of the key fishery statistics regarding Pacific halibut removals from fisheries catching Pacific halibut during 2020, including the status of landings compared to fishery limits implemented by the Contracting Parties of the Commission.

APPENDICES

Nil