Stock projections and the harvest decision table for 2026-2028

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PURPOSE

To provide the Commission with 3-year stock projections and the harvest decision table for 2026-2028.

METHODS

Three-year tactical stock projections under varying levels of constant fishing mortality are conducted using the results from the 2025 stock assessment (IPHC-2026-AM102-10). Standard projections are based on existing Catch Sharing Agreements/Plans (CSPs) for directed commercial and recreational fisheries where they exist, as well as summaries of the 2025 and earlier directed and non-directed fisheries.

Specifically, the projected mortality levels are based on the three-year running average non-directed discard mortality[1] through the most recent year (2025), per the decision made during AM096 para. 97). Subsistence harvest is assumed to be constant at the most recent year's estimates. The discard mortality for the directed commercial fisheries is assumed to occur at the same rate observed in the most recent year, and to scale up or down with the projected landings.

The harvest decision table provides a comparison of the relative risk (in times out of 100), using stock and fishery metrics (rows), against a range of coastwide alternative harvest levels for 2026 (columns). The block of rows entitled "Stock Trend" provides for evaluation of the risks to the 3-year trend in spawning biomass, independent of all harvest policy calculations, based on fixed levels of fishing mortality. The remaining rows portray risks relative to the spawning biomass reference points ("Stock Status") and fishery performance relative to the approaches identified in the interim management procedure (see the 2026 Harvest Strategy Policy). The alternatives (columns) include several levels of mortality intended for evaluation of stock and management procedure dynamics including:

- No fishing mortality (useful to evaluate the stock trend due solely to population processes)

- The mortality consistent with repeating the coastwide TCEY set for 2025 (the *status quo*)

- Bracketing alternatives 5 and 10% above and below the *status quo*

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[1] The North Pacific Fishery Management Council adopted a new method for setting the Prohibited Species Catch (PSC) limit for Pacific halibut mortality in the Amendment 80 (A80) trawl sector in 2024. This approach adjusts PSC limits based on the NOAA Fisheries Eastern Bering Sea trawl survey and the modelled FISS index of abundance for IPHC Regulatory Areas 4A, 4B, and 4CDE. This new approach resulted in a 20% reduction to the A80 sector's PSC limit in 2024 and an additional 5% reduction for 2025-2026. However, the actual halibut mortality has been below the aggregate PSC limit for all sectors in the Bering Sea and Aleutian Islands (70% in 2025). Therefore, it is unclear whether any future adjustments to the 3-year running average approach might be warranted, as actual mortality could still go up or down from the three year-average under current conditions. Recent actual non-directed discard mortality estimates in both IPHC Regulatory Areas 2A and 2B and in the Gulf of Alaska are similarly far below full regulatory limits (25% in 2025).

- The mortality at which there is less than or equal to a 50% chance that the spawning biomass will be smaller in 2029 than in 2026 ("*3-year surplus*")

- The mortality consistent with the current "Reference" SPR ($F_{43\%}$) level of fishing intensity

- The mortality consistent with the Maximum Economic Yield (*MEY*) proxy SPR ($F_{40\%}$) level of fishing intensity

- The mortality consistent with the Maximum Sustainable Yield (*MSY*) proxy SPR ($F_{35\%}$) level of fishing intensity. This SPR is also the overfishing limit as defined in the 2026 Harvest Strategy Policy.

- Other levels of mortality are spaced between the above alternatives to provide for continuous evaluation of the change in risk across alternative yields

For each column of the decision table, the projected total fishing mortality (including all sizes and sources), the coastwide TCEY and the associated level of estimated fishing intensity projected for 2026 (median value with the 95% credible interval below) are reported.

RESULTS

Spawning biomass estimates in 2025 (last year) from the 2025 stock assessment are similar to than those from last year's stock assessment (7% higher) and increasing slowly. The 2012, 2016, and 2017 year-classes (all larger than all those occurring from 2006-2011) are highly important in the 3-year stock projections as they will be continuing to mature over the next several years.

Projections indicate that the spawning biomass would increase in the absence of any fishing mortality, with risks of stock decline over one and three years both less than 1/100 (Table 1, Figure 1). At the *status quo* coastwide TCEY (29.72 million pounds; Table 2), risks of stock decrease over one and three years are 15/100 and 18/100. For all harvest levels that exceed the three-year surplus (38.95 million pounds) risks of stock decline are larger than 50/100 and reaching 91/100 for the coastwide TCEY that is projected to correspond to the $F_{35\%}$ Overfishing limit/*MSY* proxy harvest level in 2026. Alternative harvest levels around the *status quo* (+/- 5 and 10%) are projected to result in levels of fishing intensity ranging from $F_{54\%}$ to $F_{48\%}$, at or lower than those estimated in recent years. The reference level of fishing mortality ($F_{43\%}$) corresponds to a TCEY equal to the three-year surplus, which is approximately 30% greater than the current status quo. The probability of a reduction in the coastwide TCEY in order to maintain a fishing intensity no greater than $F_{43\%}$ over the next three years is projected to be 53/100.

All projections result in a probability of the relative spawning biomass dropping below the $SB_{30\%}$ threshold over the next three years of 5-27/100. The probability of dropping below the $SB_{20\%}$ limit is estimated to be <1-6/100.

Table 1. Harvest decision table for 2026-2028 mortality limits. Columns correspond to yield alternatives and rows to risk metrics. Values in the table represent the probability, in "times out of 100" (or percent chance) of a particular risk.

| 2026 Alternative						Status quo -10%	Status quo -5%	Status quo	Status quo +5%	Status quo +10%	$F_{46\%}$	3-Year Surplus / $F_{43\%}$	MEY proxy	Overfishing limit	
Total mortality (M lb)			0.0	21.9	28.6	30.1	31.6	33.1	34.6	37.0	40.8	45.1	53.7	
TCEY (M lb)			0.0	20.0	26.8	28.2	29.7	31.2	32.7	35.1	39.0	43.3	51.9	
2026 fishing intensity			$F_{100\%}$	$F_{62\%}$	$F_{54\%}$	$F_{52\%}$	$F_{51\%}$	$F_{49\%}$	$F_{48\%}$	$F_{46\%}$	$F_{43\%}$	$F_{40\%}$	$F_{35\%}$	
Fishing intensity interval			--	47-77%	39-71%	37-70%	36-69%	34-68%	33-67%	31-65%	28-62%	26-59%	22-54%	
Stock Trend (spawning biomass)	in 2027	is less than 2026	<1	3	10	12	15	18	22	28	40	54	80	a
		is 5% less than 2026	<1	<1	1	1	2	2	3	4	8	14	32	b
	in 2028	is less than 2026	<1	2	8	10	13	16	19	26	38	54	82	c
		is 5% less than 2026	<1	<1	2	3	4	5	7	10	17	28	55	d
	in 2029	is less than 2026	<1	3	11	14	18	22	27	35	50	68	91	e
		is 5% less than 2026	<1	1	5	6	8	11	13	19	30	46	77	f
Stock Status (Spawning biomass)	in 2027	is less than 30%	24	25	26	26	26	26	26	26	26	26	27	g
		is less than 20%	<1	<1	<1	1	1	1	1	1	1	1	2	h
	in 2028	is less than 30%	14	22	23	24	24	24	24	25	25	26	27	i
		is less than 20%	<1	<1	<1	<1	<1	1	1	1	1	2	3	j
	in 2029	is less than 30%	5	17	20	21	22	22	23	23	24	25	27	k
		is less than 20%	<1	<1	<1	<1	1	1	1	1	2	3	6	l
Fishery Trend (TCEY)	in 2027	is less than 2026	0	<1	11	16	20	25	30	37	49	60	75	m
		is 10% less than 2026	0	<1	4	9	10	14	18	25	35	47	65	n
	in 2028	is less than 2026	0	<1	11	15	20	24	29	37	50	61	78	o
		is 10% less than 2026	0	<1	4	10	10	14	18	25	36	49	68	p
	in 2029	is less than 2026	0	1	11	15	10	25	30	39	53	65	82	q
		is 10% less than 2026	0	<1	5	10	11	15	19	26	39	53	73	r
Fishery Status (Fishing intensity)	in 2026	is above $F_{43\%}$	0	<1	13	18	23	27	32	39	50	60	73	s
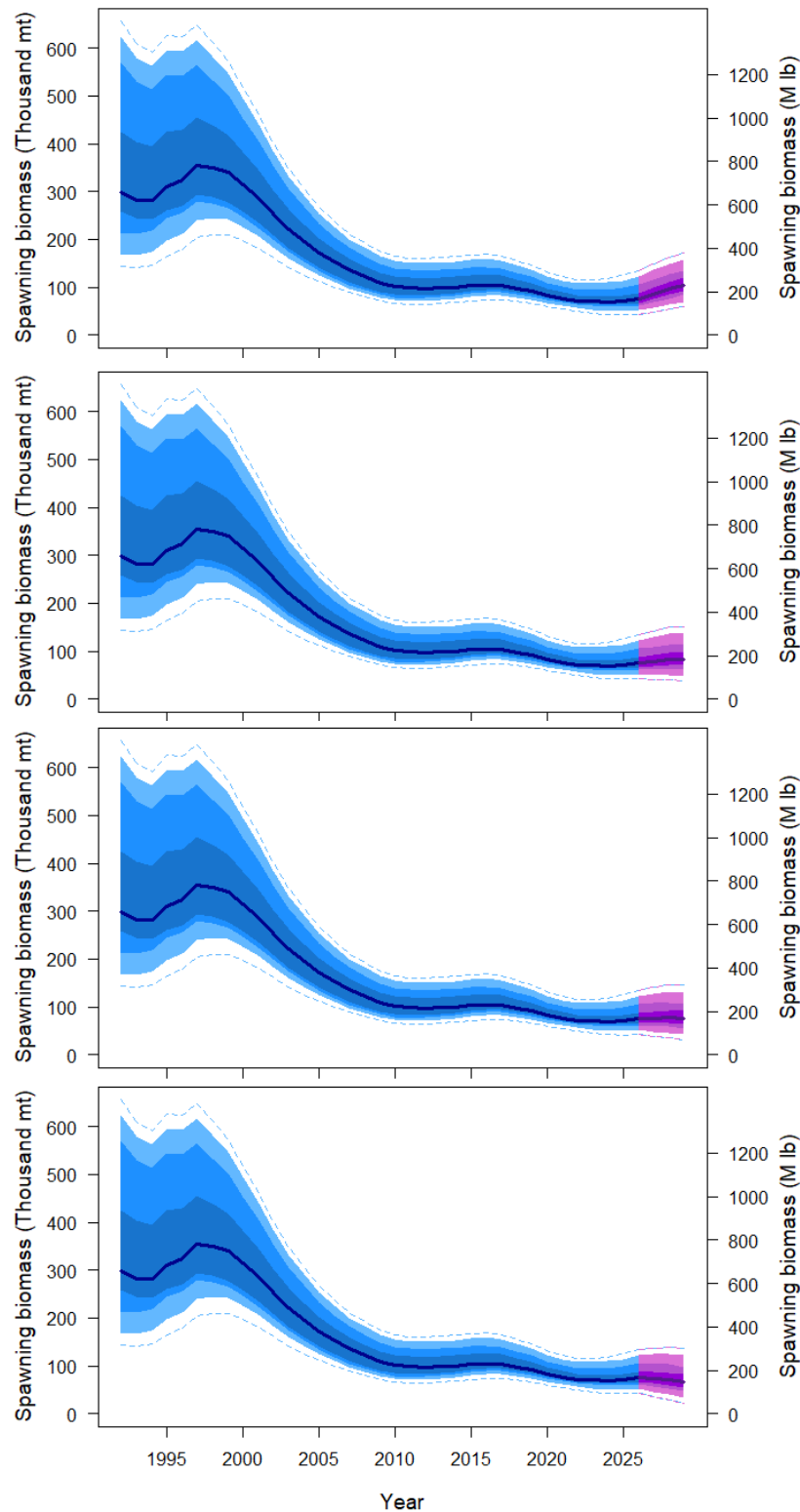
Figure 1. Three-year projections of stock trend under alternative levels of mortality: no fishing mortality (upper panel), the *status quo* coastwide TCEY set in 2025 (29.72 million pounds; second panel), the 3-year surplus and equivalent TCEY projected for the $F_{43\%}$ reference level of fishing intensity (38.95 million pounds, third panel) and the TCEY projected for the $F_{35\%}$ MSY proxy level of fishing intensity / overfishing limit (51.88 million pounds, bottom panel).

Table 2. Recent adopted TCEYs by IPHC Regulatory Area and coastwide (M lbs net).

Year	2A	2B	2C	3A	3B	4A	4B	4CDE	Total
2013	1.11	7.78	5.02	17.07	5.87	2.43	1.93	4.28	45.48
2014	1.11	7.64	5.47	12.05	3.73	1.56	1.49	3.58	36.65
2015	1.06	7.91	6.20	13.00	3.72	1.96	1.53	4.27	39.63
2016	1.26	8.24	6.54	12.75	3.41	1.95	1.37	4.07	39.59
2017	1.47	8.32	7.04	12.96	3.98	1.80	1.34	3.84	40.74
2018	1.32	7.10	6.34	12.54	3.27	1.74	1.28	3.62	37.21
2019	1.65	6.83	6.34	13.50	2.90	1.94	1.45	4.00	38.61
2020	1.65	6.83	5.85	12.20	3.12	1.75	1.31	3.90	36.60
2021	1.65	7.00	5.80	14.00	3.12	2.05	1.40	3.98	39.00
2022	1.65	7.56	5.91	14.55	3.90	2.10	1.45	4.10	41.22
2023	1.65	6.78	5.85	12.08	3.67	1.73	1.36	3.85	36.97
2024	1.65	6.47	5.79	11.36	3.45	1.61	1.25	3.70	35.28
2024	1.65	5.45	5.22	9.08	2.86	1.34	1.04	3.08	29.72

RISKS NOT INCLUDED IN THE HARVEST DECISION TABLE

The IPHC's current management procedure uses threshold and limit reference points in relative spawning biomass (current estimate compared to the spawning biomass estimated to have occurred in that year in the absence of any fishing mortality). This calculation measures the effects of fishing on the stock. Other factors affecting the spawning biomass (i.e., trends in recruitment and weight-at-age) have resulted in the absolute spawning biomass in 2020-2026 estimated to be lower than at any time in the last 34 years. Although this does not represent a conservation concern at this time, low stock size results in additional risks to the IPHC's Fishery Independent Setline Survey (FISS) design objective of revenue neutrality and to fishery efficiency and economic viability. Increased environmental/climate-related variability in the marine ecosystems comprising the Pacific halibut species range in Convention waters lead to little expectation that historical productivity patterns may be relevant for future planning. Specifically, it is unclear whether long-term productivity levels are likely to occur under continued climate change, or whether increases or decreases may be likely for critical life-history stages of Pacific halibut. Recent poor recruitment (2006+) seems to suggest that the stock continues in a state of low productivity with no indication of when this prevailing condition may change.

ADDITIONAL INFORMATION

Estimates of non-directed discard mortality based on end-of-year information for 2025 will be available in early Janaury 2026. At that time, detailed mortality projection tables (reporting allocations to specific fishing sectors within individual IPHC Regulatory Areas) will be available on request and the mortality projection tool (IPHC-2026-AM102-INF02) will be updated for 2026.

Detailed stock assessment (IPHC-2026-SA-01) and data overview (IPHC-2026-SA-02) documents will be published directly to the stock assessment page on the IPHC's website.

RECOMMENDATION/S

That the Commission:

    a) **NOTE** paper IPHC-2026-AM102-12, which provides a summary of projections and the harvest decision table for 2026-2028.
    b) **REQUEST** any additional harvest decision table alternatives for evaluation during AM102.
    c) **REQUEST** any detailed mortality projections[2] for 2026 (by IPHC Regulatory Area and fishery sector) for evaluation during AM102.

REFERENCES

IPHC. 2020. Report of the 96th Session of the IPHC Annual Meeting (AM096). Anchorage, Alaska, USA, 3-7 February 2020. IPHC-2020-AM096-R. 51 p.

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[2] Detailed projections will include revised non-directed discard estimates through the end of 2025, available in early January 2026.