

INTERNATIONAL PACIFIC



HALIBUT COMMISSION

Stock projections and harvest decision table for 2026-2028

Agenda item: 7.1
IPHC-2025-IM101-12 Rev_1
(I. Stewart & A. Hicks)



Projections and harvest decision table for 2026

- Project a constant TCEY for the next 3 years
- Implement all catch sharing plans/agreements; use 3-year average non-directed discard mortality
- Include a range of mortality levels:
 - No fishing
 - *Status quo +/- 5 and 10%*
 - *3-year surplus production*
 - $F_{43\%}$ *Reference*
 - $F_{40\%}$ Maximum Economic Yield (MEY) proxy
 - $F_{35\%}$ Maximum Sustainable Yield (MSY) proxy
- Calculate the probabilities of: stock decline, dropping below stock reference points, fishery decline (to get to $F_{43\%}$ in the future), exceeding the reference $F_{43\%}$ fishing intensity in 2026



Reading the decision table

2026 Alternative

Total mortality (M lb)

TCEY (M lb)

2026 fishing intensity

Fishing intensity interval

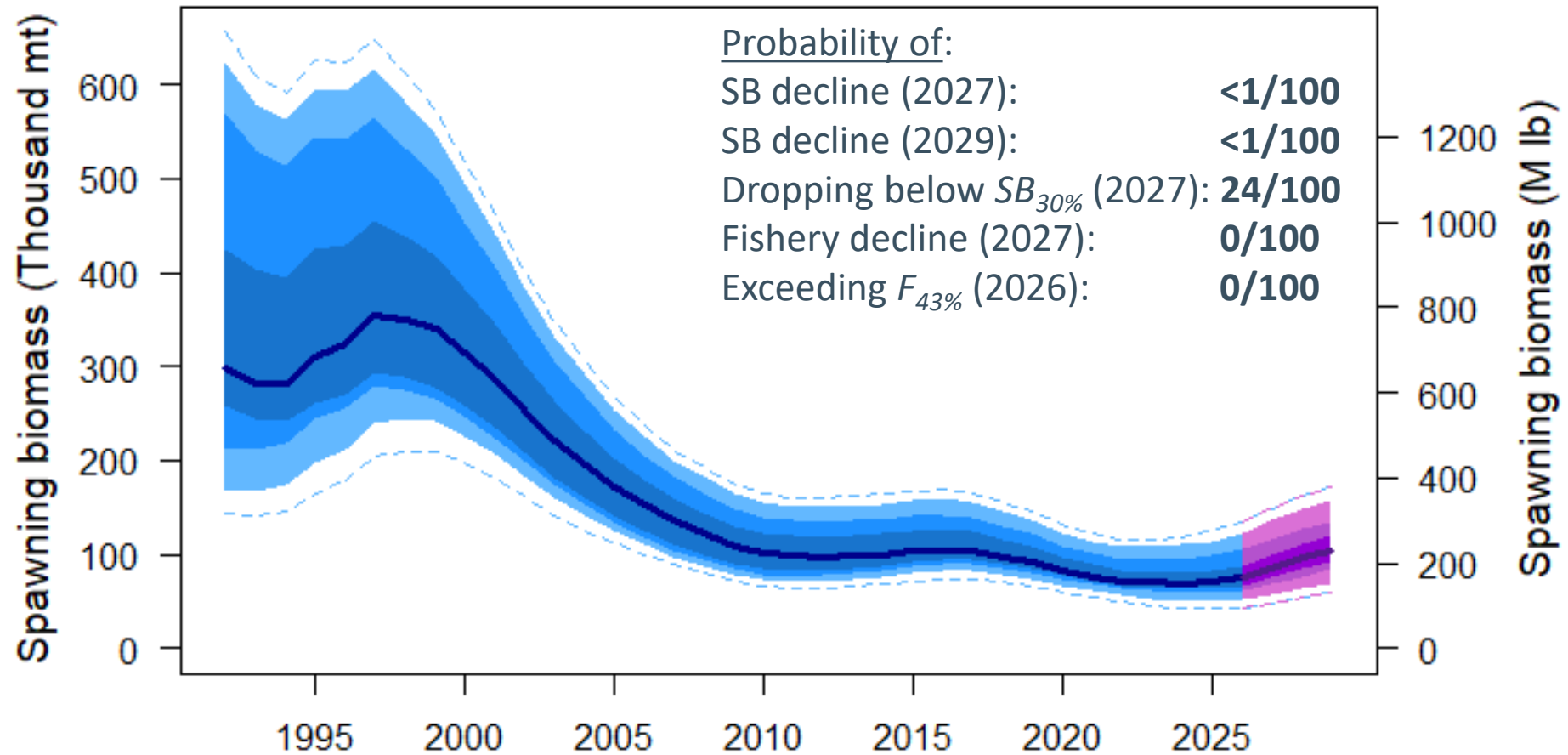
			Yields: low → high										a	
					Status quo -10%	Status quo -5%	Status quo	Status quo +5%	Status quo +10%	F _{46%}	3-Year Surplus / F _{43%}	MEY proxy	Overfishing limit	
			0.0	21.9	28.5	30.1	31.6	33.1	34.6	37.0	40.0	41.1	53.7	
			0.0	20.0	26.3	28.0	29.7	31.2	32.7	35.1	38.0	43.3	51.9	
			F _{100%}	F _{62%}	F _{54%}	F _{52%}	F _{51%}	F _{49%}	F _{48%}	F _{46%}	F _{43%}	F _{40%}	F _{35%}	b
			--	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	c
		is 5% less than 2026	<1	<1	1	1	2	2	3	4	8	14	32	
	in 2028	is less than 2026	<1	2	8	10	13	16	19	26	38	54	82	
		is 5% less than 2026	<1	<1	2	3	4	5	7	10	17	28	55	
	in 2029	is less than 2026	<1	3	11	14	18	22	27	35	50	68	91	
		is 5% less than 2026	<1	1	5	6	8	11	13	19	30	46	77	
Stock Status (Spawning biomass)	in 2027	is less than 30%	24	25	26	26	26	26	26	26	26	26	27	d
		is less than 20%	<1	<1	<1	1	1	1	1	1	1	1	2	
	in 2028	is less than 30%	14	22	23	24	24	24	24	25	25	26	27	
		is less than 20%	<1	<1	1	<1	1	1	1	1	1	2	3	
	in 2029	is less than 30%	5	17	20	22	22	23	23	23	25	25	27	
		is less than 20%	<1	<1	<1	<1	1	1	1	1	2	3	6	
Fishery Trend (TCEY)	in 2027	is less than 2026	0	<1	11	16	20	25	30	37	49	60	75	e
		is 10% less than 2026	0	<1	4	9	10	14	18	25	35	47	65	
	in 2028	is less than 2026	0	<1	11	15	20	24	29	37	50	61	78	
		is 10% less than 2026	0	<1	4	10	10	14	18	25	36	49	68	
	in 2029	is less than 2026	0	1	11	15	10	25	30	39	53	65	82	
		is 10% less than 2026	0	<1	5	10	11	15	19	26	39	53	73	
Fishery Status (Fishing intensity)	in 2026	is above $F_{43\%}$	0	<1	13	18	23	27	32	39	50	60	73	f

Risk metrics

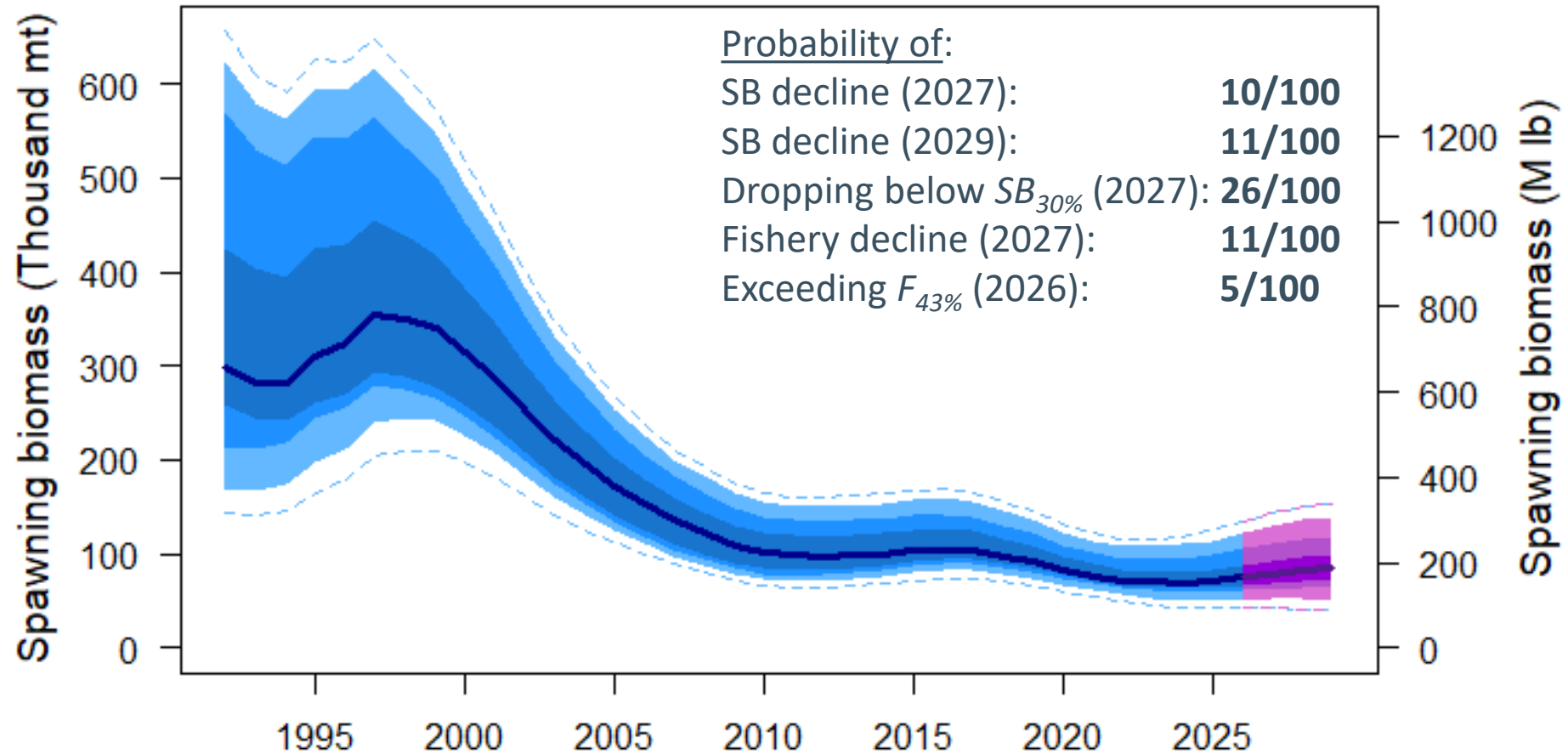
Estimated risks



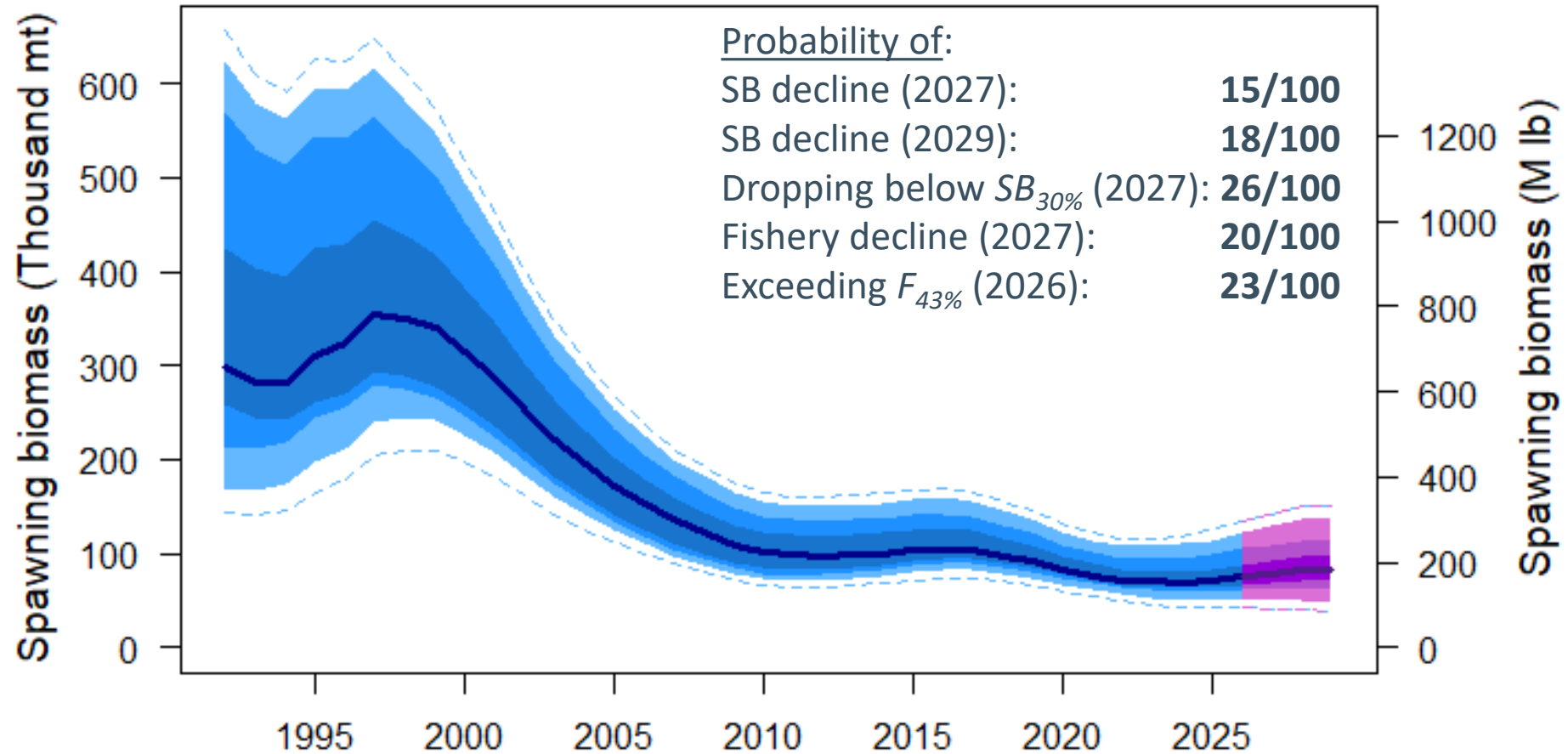
Projections: no fishing mortality (TCEY = 0; SPR = 100%)



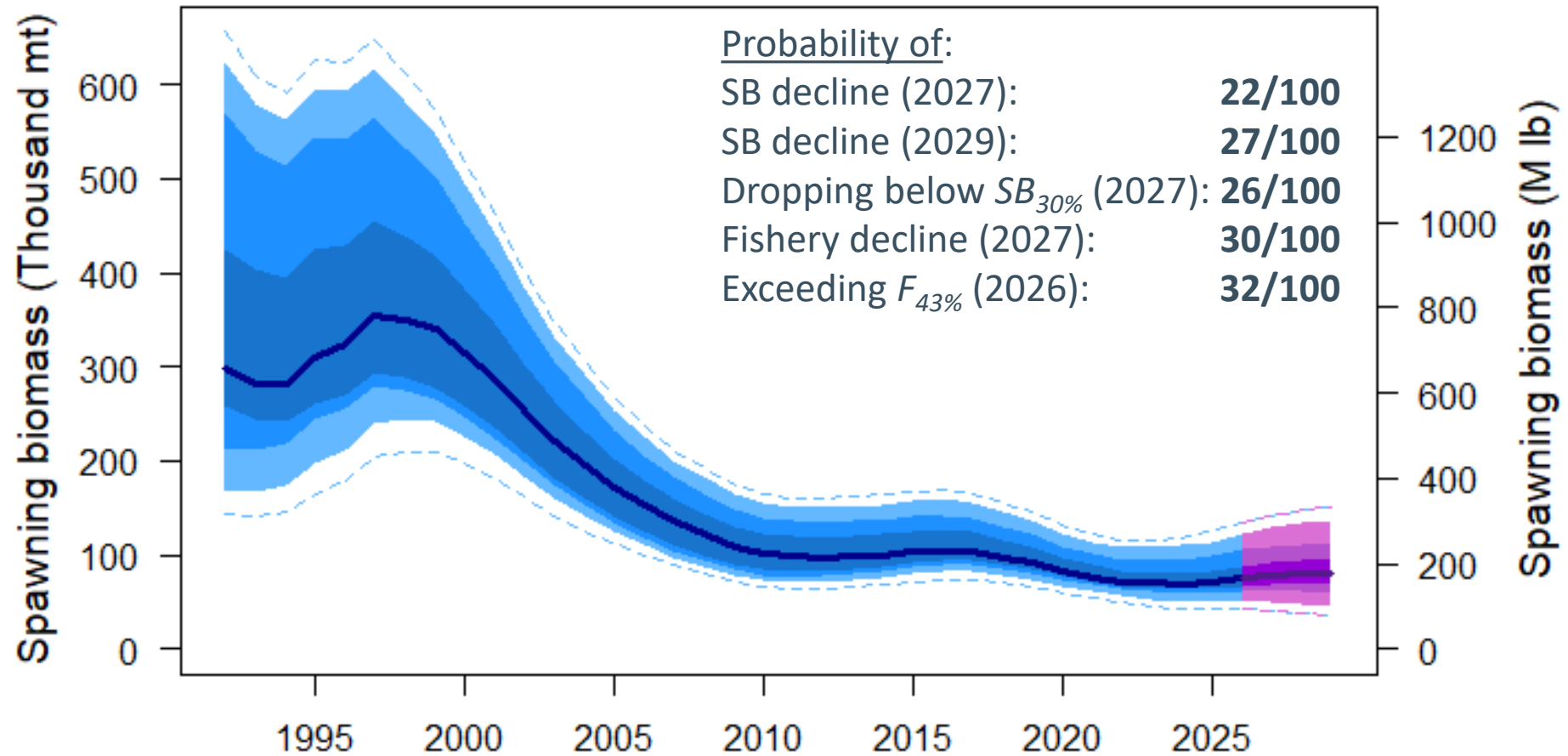
Projections: status quo -10% (TCEY = 26.75 Mlb; SPR = 54%)



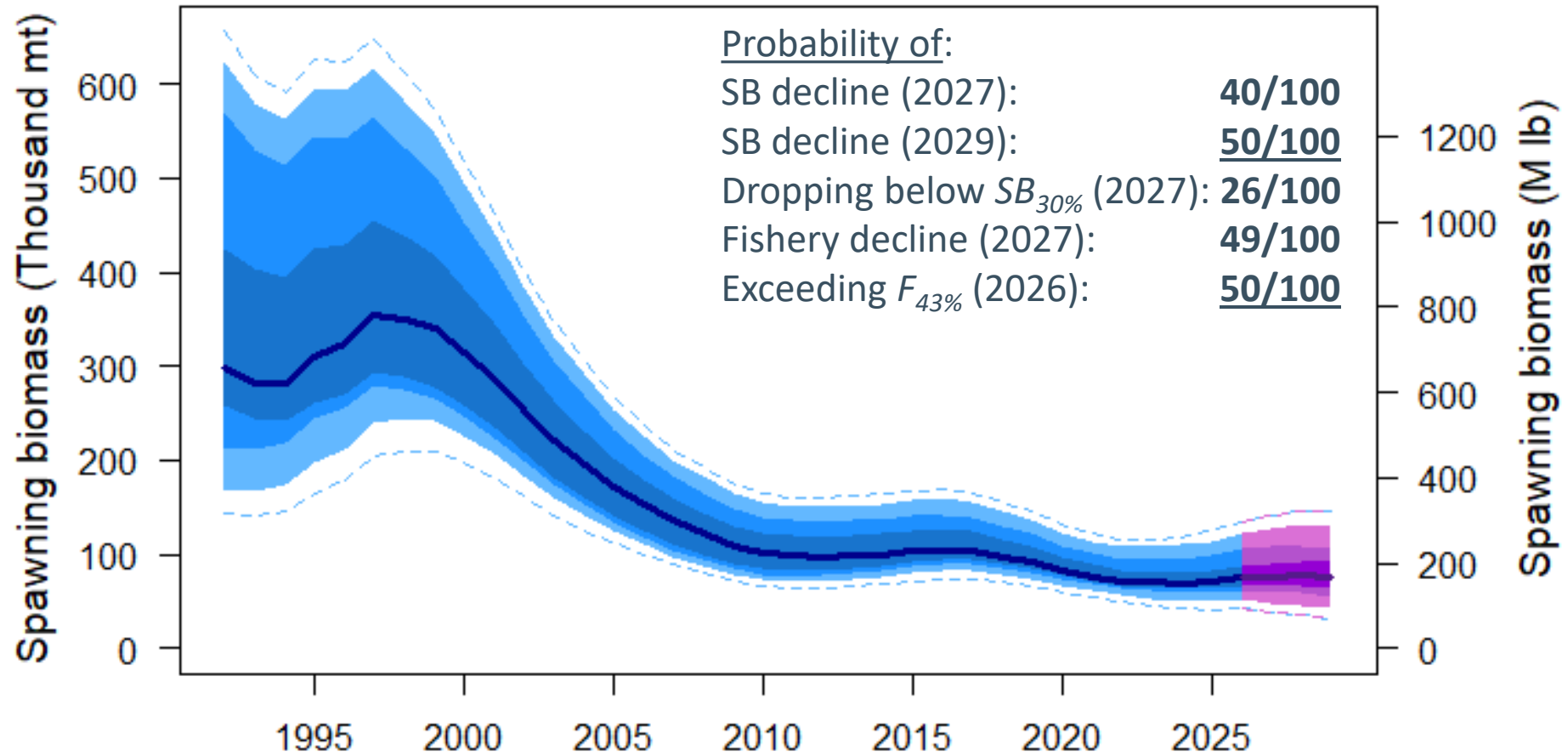
Projections: status quo (TCEY = 29.72 Mlb; SPR = 51%)



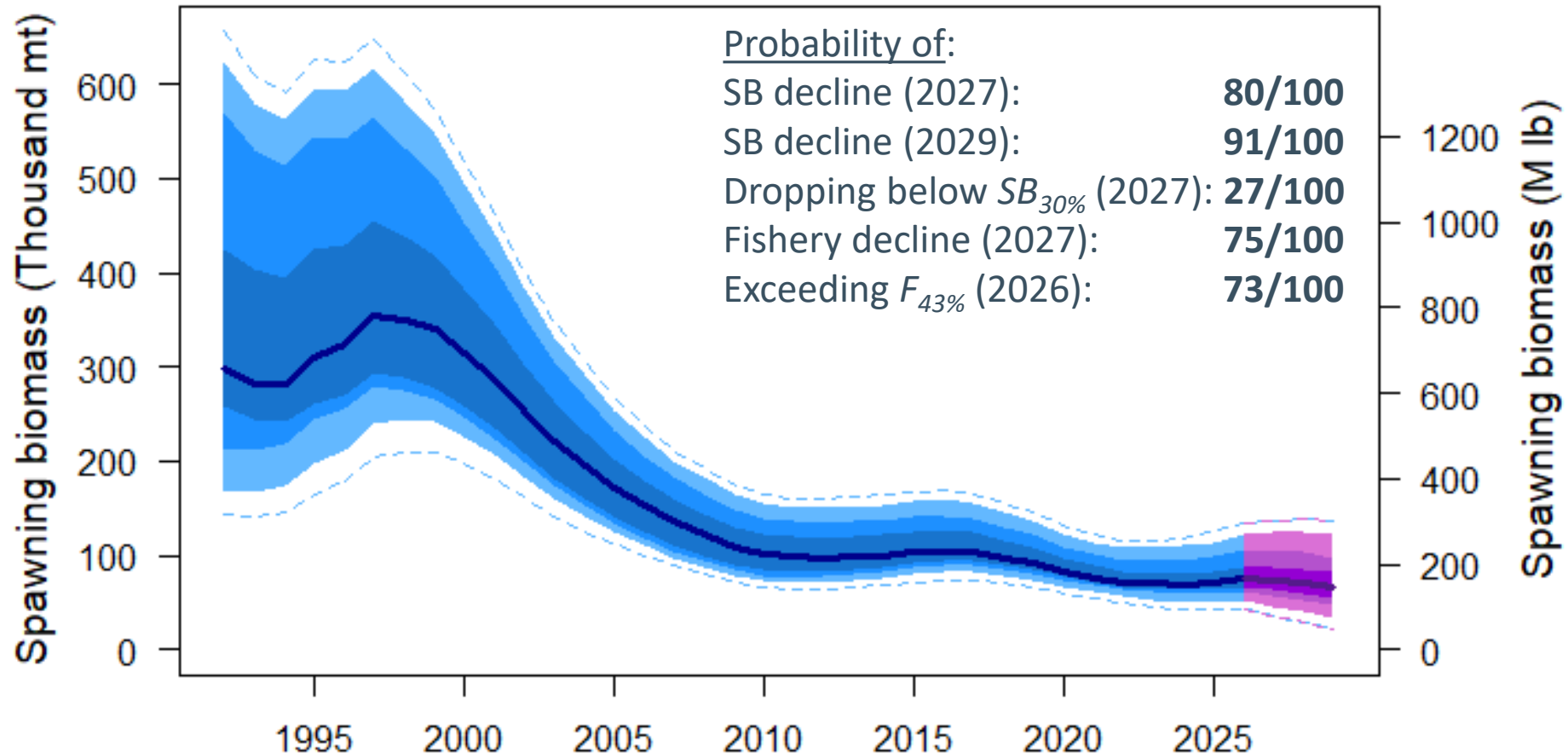
Projections: status quo + 10% (TCEY = 32.69 Mlb; SPR = 48%)



Projections: 3-Year surplus/Reference (TCEY = 38.95 Mlb; SPR = 43%)



Projections: MSY proxy (TCEY = 51.88 Mlb; SPR = 35%)



Harvest decision table

2026 Alternative				<i>Status quo -10%</i>	<i>Status quo -5%</i>	<i>Status quo</i>	<i>Status quo +5%</i>	<i>Status quo +10%</i>	<i>F</i> _{46%}	<i>3-Year Surplus / F</i> _{43%}	<i>MEY proxy</i>	<i>Overfishing limit</i>	
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
		is 5% less than 2026	<1	<1	1	1	2	2	3	4	8	14	32
	in 2028	is less than 2026	<1	2	8	10	13	16	19	26	38	54	82
		is 5% less than 2026	<1	<1	2	3	4	5	7	10	17	28	55
	in 2029	is less than 2026	<1	3	11	14	18	22	27	35	50	68	91
		is 5% less than 2026	<1	1	5	6	8	11	13	19	30	46	77
Stock Status (Spawning biomass)	in 2027	is less than 30%	24	25	26	26	26	26	26	26	26	26	27
		is less than 20%	<1	<1	<1	1	1	1	1	1	1	1	2
	in 2028	is less than 30%	14	22	23	24	24	24	24	25	25	26	27
		is less than 20%	<1	<1	<1	<1	1	1	1	1	1	2	3
	in 2029	is less than 30%	5	17	20	21	22	22	23	23	24	25	27
		is less than 20%	<1	<1	<1	<1	1	1	1	1	2	3	6
Fishery Trend (TCEY)	in 2027	is less than 2026	0	<1	11	16	20	25	30	37	49	60	75
		is 10% less than 2026	0	<1	4	9	10	14	18	25	35	47	65
	in 2028	is less than 2026	0	<1	11	15	20	24	29	37	50	61	78
		is 10% less than 2026	0	<1	4	10	10	14	18	25	36	49	68
	in 2029	is less than 2026	0	1	11	15	10	25	30	39	53	65	82
		is 10% less than 2026	0	<1	5	10	11	15	19	26	39	53	73
Fishery Status (Fishing intensity)	in 2026	is above <i>F</i> _{43%}	0	<1	13	18	23	27	32	39	50	60	73



Projection summary

- Poor recruitment and low weight-at-age continue and are limiting 3-yr yields, even if strong year-classes emerge in the future
- These projections include the rapidly-maturing 2016 & 2017 year-classes
- *Additional risks not included in the decision table:*
 - Stock remains at or near historically low spawning biomass
 - Continued low catch rates in the FISS and directed commercial fishery
 - Causes of ongoing low productivity remain unknown



Recent adopted TCEYs

	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
2025	1.65	5.45	5.22	9.08	2.86	1.34	1.04	3.08	29.72



Recent adopted TCEYs

'Reference'
TCEY

	2A	2B	2C	3A	3B	4A	4B	4CDE	Total	Coastwide
2013	1.11	7.78	5.02	17.07	5.87	2.43	1.93	4.28	45.48	36.63
2014	1.11	7.64	5.47	12.05	3.73	1.56	1.49	3.58	36.65	33.48
2015	1.06	7.91	6.20	13.00	3.72	1.96	1.53	4.27	39.63	35.48
2016	1.26	8.24	6.54	12.75	3.41	1.95	1.37	4.07	39.59	36.31
2017	1.47	8.32	7.04	12.96	3.98	1.80	1.34	3.84	40.74	39.10
2018	1.32	7.10	6.34	12.54	3.27	1.74	1.28	3.62	37.21	31.00
2019	1.65	6.83	6.34	13.50	2.90	1.94	1.45	4.00	38.61	40.00
2020	1.65	6.83	5.85	12.20	3.12	1.75	1.31	3.90	36.60	31.90
2021	1.65	7.00	5.80	14.00	3.12	2.05	1.40	3.98	39.00	39.00
2022	1.65	7.56	5.91	14.55	3.90	2.10	1.45	4.10	41.22	41.22
2023	1.65	6.78	5.85	12.08	3.67	1.73	1.36	3.85	36.97	51.95
2024	1.65	6.47	5.79	11.36	3.45	1.61	1.25	3.70	35.28	48.88
2025	1.65	5.45	5.22	9.08	2.86	1.34	1.04	3.08	29.72	39.83
2026										38.95

"Blue line"

$F_{46\%}$

$F_{43\%}$



Recommendations

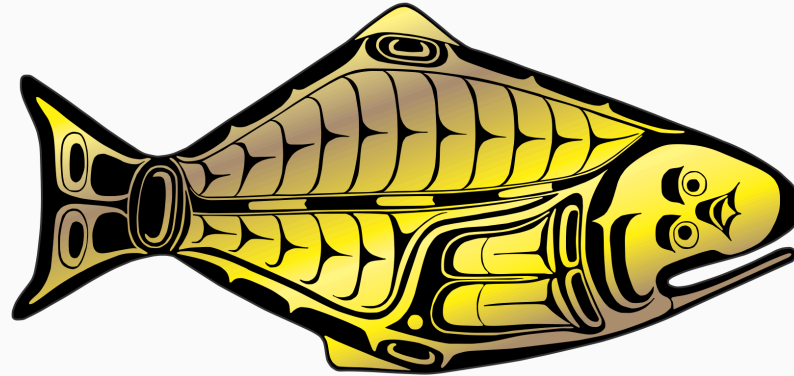
That the Commission:

- 1) **NOTE** paper IPHC-2025-IM101-12 Rev_1, which provides a summary of projections and the harvest decision table for 2026-2028.
- 2) **REQUEST** any additional harvest decision table alternatives for evaluation at AM101.
- 3) **REQUEST** any detailed mortality projections¹ for 2026 (by IPHC Regulatory Area and fishery sector) for evaluation at AM102.

¹Detailed projections will include revised non-directed discard estimates through the end of 2025, available in early January.



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