## HARVEST SPECIFICATION PROJECTIONS FOR SELECT WEST COAST GROUNDFISH STOCKS IN 2023 AND BEYOND INFORMED BY THE NEW SIGMAS IMPLEMENTED IN 2020

The following harvest projections are provided for stocks without new assessments or catch-only projections (see Agenda Item C.6). These projections are based on the most recent assessments (both full and update assessments) and assume default harvest control rules for 2023 and beyond.

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V	Category 1 (baseline $\sigma = 0.5$ )								
Year since assessment	P*								
	0.45	0.4	0.35	0.3	0.25				
1	6.1%	11.9%	17.5%	23.1%	28.6%				
2	6.5%	12.7%	18.7%	24.6%	30.4%				
3	7.0%	13.6%	19.9%	26.0%	32.1%				
4	7.4%	14.4%	21.0%	27.5%	33.8%				
5	7.8%	15.2%	22.2%	28.9%	35.5%				
6	8.3%	16.0%	23.3%	30.3%	37.1%				
7	8.7%	16.8%	24.4%	31.6%	38.7%				
8	9.1%	17.6%	25.5%	33.0%	40.2%				
9	9.6%	18.3%	26.5%	34.3%	41.7%				
10	10.0%	19.1%	27.6%	35.5%	43.2%				
11	10.4%	19.9%	28.6%	36.8%	44.6%				
12	10.8%	20.6%	29.6%	38.0%	46.0%				
13	11.3%	21.4%	30.7%	39.2%	47.3%				
14	11.7%	22.1%	31.6%	40.4%	48.6%				
15	12.1%	22.9%	32.6%	41.6%	49.9%				
	Category 2 (baseline $\sigma = 1.0$ )								
Year since assessment			<b>P</b> *						
	0.45	0.4	0.35	0.3	0.25				
1	11.8%	22.4%	32.0%	40.8%	49.1%				
2	12.6%	23.8%	33.9%	43.1%	51.6%				
3	13.5%	25.3%	35.8%	45.3%	54.0%				
4	14.3%	26.7%	37.6%	47.4%	56.2%				
5	15.1%	28.1%	39.4%	49.4%	58.4%				
6	15.9%	29.4%	41.1%	51.4%	60.4%				
7	16.7%	30.7%	42.8%	53.3%	62.4%				
8	17.4%	32.0%	44.4%	55.1%	64.2%				
9	18.2%	33.3%	46.0%	56.8%	66.0%				
10	19.0%	34.6%	47.6%	58.5%	67.7%				
11	19.7%	35.8%	49.0%	60.1%	69.3%				
12	20.5%	37.0%	50.5%	61.6%	70.8%				
13	21.2%	38.2%	51.9%	63.1%	72.2%				
14	22.0%	39.4%	53.3%	64.5%	73.6%				
15	22.7%	40.5%	54.6%	65.9%	74.9%				
	$Category 3 (constant \sigma = 2.0)$								
			P*	,					
I									
-	0.45	0.4	0.35	0.3	0.25				

 Table 1. Scientific uncertainty buffers recommended by the SSC in 2019 and implemented in 2020.

Table 2. Aurora rockfish harvest specification projections, 2023-2024. Projections based on the 2013 assessment using the new sigmas for 2020 and beyond. The portion of the coastwide stock north (19%) and south (81%) of 40°10' N lat. is based on average survey biomass.

Year	Buffer	OFL (mt)	ABC (mt)	North OFL	North ABC	South OFL	South ABC	Depletion
2023	0.900	91.6	82.5	17.41	15.67	74.21	66.79	0.640
2024	0.896	91.3	81.8	17.36	15.55	73.99	66.29	0.640

 Table 3. Blue and deacon rockfishes in Oregon harvest specification projections, 2023-2028.

 Projections based on the 2017 assessment using the new sigmas for 2020 and beyond.

Year	Buffer	OFL	ABC	SSB	Depletion
2023	0.841	100.593	84.599	260.718	0.605
2024	0.833	98.362	81.935	253.272	0.588
2025	0.826	96.443	79.662	247.014	0.573
2026	0.818	94.828	77.569	241.821	0.561
2027	0.810	93.473	75.713	237.512	0.551
2028	0.803	92.330	74.141	233.915	0.543

Noi	Northern California Model (N of 34°27' N lat.)			CA N	of 40°10'	N lat.	CA S	of 40°10'	N lat.		
Year	Buffer	OFL	ABC	ACL	Depletion	OFL	ABC	ACL	OFL	ABC	ACL
2023	0.795	42.29	33.62	33.04	0.376	9.39	7.46	7.34	32.90	26.16	25.71
2024	0.788	42.58	33.55	33.12	0.381	9.45	7.45	7.35	33.13	26.10	25.77
Sou	Southern California Model (S of 34°27' N lat.)										
Year	Buffer	OFL	ABC	ACL	Depletion						
2023	0.795	45.68	36.31	36.31	0.435						
2024	0.788	45.86	36.14	36.14	0.439						

Table 4. Greenspotted rockfish harvest specification projections, 2023-2024. Projections based on the 2011 assessment using the new sigmas for 2020 and beyond.

Table 5. Kelp greenling in Oregon harvest specification projections, 2023-2026. Projections based on the 2015 assessment using the new sigmas for 2020 and beyond.

Year	Buffer	OFL	ABC	SSB	Depletion
2023	0.909	147.569	134.140	175.484	0.442
2024	0.904	144.899	130.989	172.036	0.434
2025	0.900	142.997	128.697	169.560	0.428
2026	0.896	141.627	126.898	167.769	0.423

Table 6. Splitnose rockfish harvest specification projections, 2023-2024.	<b>Projections based</b>
on the 2009 assessment using the new sigmas for 2020 and beyond.	

Year	Buffer	Coas	twide	Depletion	<b>N of 40°</b>	10' N lat.	S of 40°1	l0' N lat.
rear	Dunier	OFL	ABC	Depletion	OFL	ABC	OFL	ABC
2023	0.883	2,808	2,479	0.9	1,005	888	1,803	1,592
2024	0.88	2,752	2,421	0.88	985	867	1,766	1,554

Table 7. Yelloweye rockfish harvest specification projections, 2023-2032. OFL and ABC projections based on the 2017 assessment using the new sigmas for 2020 and beyond. ACL projections based on an SPR harvest rate of 65%.

Year	Buffer	OFL	ABC	ACL (SPR=0.65)	Depletion under ACLs
2023	0.84	122.70	103.07	65.6	0.39
2024	0.832	123.37	102.64	66.1	0.39
2025	0.824	124.06	102.23	66.5	0.40
2026	0.817	124.77	101.94	67.0	0.40
2027	0.809	125.51	101.54	67.3	0.40
2028	0.801	126.28	101.15	67.6	0.41
2029	0.794	127.08	100.90	67.9	0.41
2030	0.786	127.92	100.54	68.1	0.42
2031	0.779	128.80	100.33	68.4	0.42
2032	0.771	129.70	100.00	68.7	0.42

Table 8. Yellowtail rock	fish north of 40°10' N	lat. harvest specifi	cation projections, 2023-
2024. Projections based	on the 2017 assessment	using the new sigm	nas for 2020 and beyond.

Year	Buffer	OFL	ABC	Depletion
2023	0.917	6178	5666	0.571
2024	0.913	6090	5560	0.557