Catch only Rebuilding Projection: Status of Yelloweye Rockfish (*Sebastes ruberrimus*) Along the U.S. West Coast in 2023

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This document provides an extension of the 2017 rebuilding analysis for Yelloweye Rockfish (*Sebastes ruberrimus*). When a fish stock is official under rebuilding, the rebuilding plan provides guidance on future catches and hence the rebuilding analysis is updated with past catches in lieu of updating SS3 forecasting. Updated catches for years 2017−2022 were derived from GEMM reports (Table 1). The projected 2023 and 2024 catches were provided by the Groundfish Management Team (GMT). For years 2025 and beyond, the rebuilding model projected catches were assumed equal to the SPR of 65% estimated removals. All catches are representative of total mortality equaling landings plus discards by year.

Starting in 2021, scientific uncertainty buffer fractions have been based on the number of years since the last assessment; here built upon a Category-1 assessment conducted in 2017 with a legacy buffer implementation. Using a SPR of 65% starting in 2019, the historical buffer fraction used in 2019 and 2020 (P* = 0.40, sigma = 0.36), and the new time-varying buffer fractions (P* = 0.40, sigma = 0.5) along with previous and updated OFLs, ABCs, and ACLs are all given in Table 1. Note that in 2017 the buffer between the OFL in the rebuilding paper and ABC in the rebuilding runs was a fixed value of ~0.96, based upon a planned 4.4% reduction for category 1 assessments in the 2019-2020 management cycle.

This catch-only rebuilding analysis projection predicts a greater than 50% chance of rebuilding by 2028, given ACL catches from 2025 forward.

Council Action

The initially adopted 2023-24 harvest specifications were incorrect and a technical corrective action was taken at the September Council meeting to correct the 2024 harvest specifications (Agenda Item G.8., Supplemental REVISED Attachment 1, September 2023). The OFL, ABC and ACL values for 2023 and 2024 in Table 1 represent the correct values based upon the 2017 rebuilding analysis and the time-varying scientific uncertainty buffers given the selected P* of 0.4.

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Table 1. Catch only rebuilding based projections through 2034.

Year	OFLs from 2017 (mt)	Updated OFL Projection (mt)	ABC from applying buffer column to 2017 OFL (mt)	Updated ABC Projection (mt)	Assumed ACL Catch in 2017 (mt)	Updated ACL Projection (mt)	Actualized Total Mortality (mt)	Buffer^ (Based on years since assessment)	Spawning Output (millions of eggs)	Percent. of Unfished Spawning Output
2017	56.9#		47.4#		20.0		19.25	-	323.1	28.4%
2018	57.5#		47.9#		20.0		18.22	-	337.2	29.6%
2019	81.2		74.1		47.4		29.45	*0.913*	351.7	30.9%
2020	83.5		76.2		48.8		18.24	*0.913*	365.6	32.1%
2021	85.7		73.4		50.0		18.35	0.856	380.9	33.4%
2022	87.7		74.4		51.2		35.22	0.848	396.4	34.8%
2023	89.6		75.3		52.3		42.95*	0.840	410.2	36.0%
2024	91.2		75.9		53.3		42.95*	0.832	422.8	37.1%
2025	92.8	105.8	76.5	87.2	54.2	55.8		0.824	434.9	38.2%
2026	94.3	108.3	77.0	88.5	55.0	56.6		0.817	444.9	39.1%
2027	95.6	110.9	77.3	89.7	55.8	57.4		0.809	454.0	39.9%
2028	96.9	113.5	77.6	90.9	56.6	58.1		0.801	462.2	40.6%
2029	98.2	115.9	78.0	92.0	57.3	58.8		0.794	469.8	41.2%
2030	99.4	118.4	78.1	93.0	58.0	59.5		0.786	476.7	41.9%
2031	100.5	120.7	78.3	94.0	58.7	60.1		0.779	483.2	42.4%
2032	101.6	123.2	78.3	95.0	59.3	60.8		0.771	489.3	43.0%
2033	102.6	125.5	78.4	95.9	59.9	61.3		0.764	495.1	43.5%
2034	103.7	127.9	78.5	96.8	60.6	61.9		0.757	500.6	44.0%

Council adopted values
^ Using time-varying buffers starting with their implementation in 2021
* GMT projections of total mortality