

Catch Only Projections for Black Rockfish (*Sebastes melanops*) off Oregon in 2021

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October 13th 2021.

This document provides two catch-only projections of the 2015 assessment of black rockfish (*Sebastes melanops*) off Oregon, with updated catch data through 2020. Total catches for years 2015 – 2018 were unchanged from those used in the previous 2019 catch-only projection. Current Groundfish Expanded Mortality Multiyear (GEMM) estimates of total fishing mortality across those four years show similar numbers to those used in 2019, with the total difference across those four years well within 0.1%. Catches for the years 2019 and 2020 were provided by the Oregon Department of Fish and Wildlife (ODFW) and matched the GEMM estimates of total mortality. Two projection series are presented here; one for which ACL catches of 512 metric tons were assumed for two years, 2021 and 2022; and the second, for which ACL catches of 512 mt were assumed for four years, from 2021-2024.

For these projections, Trawl fishery catches are assumed to be 0 in all years, given recent negligible catch, and catches in the Shoreside Recreational fishery are assumed to be 13.7 mt, reflecting the 5-year average of the shoreside catch from 1998-2002, the last 5 years of the Marine Recreational Fisheries Statistics Survey (MRFSS). The remainder of the catch is partitioned among the other three fisheries according to catch proportions in 2019 and 2020 (Non-Trawl Live: 13.7%, Non-Trawl Dead: 12.6%, Ocean Recreational: 73.7%). The Scientific Uncertainty Buffer Fractions in these tables are based on the number of years since the last assessment was conducted in 2015, given that the Oregon black rockfish assessment is a Category-2 assessment with $\sigma = 1$ and $P^* = 0.45$. Those Buffer Fractions, along with previous and updated catches, OFLs and depletions, and updated biomass, spawning output and ABCs are given in Table 1 for the case with two years of fixed 512 mt ACLs, and in Table 2 for the case with four years of fixed 512 mt ACLs.

Table 1. Catch-only projection given fixed 512 mt ACLs in 2021 and 2022.

Year	OFLs from 2019 Projection (mt)	Updated OFL Projection (mt)	Scientific Uncertainty Buffer Fraction	Updated ABC Projection (mt)	Assumed Catch in 2019 Projection (mt)	Actualized Catch and Projection (mt)	Summary (Age 3+) Biomass (mt)	Spawning Output (billion eggs)	Depletion (%) from 2019 Projection	Depletion (%)
2015	609				599				0.603	
2016	592				537				0.590	
2017	582				547				0.580	
2018	573				418				0.569	
2019	577				515	439			0.565	
2020	573				511	437			0.558	
2021	570	587			479	512	7636	739	0.551	0.561
2022	569	582			474	512	7575	733	0.547	0.556
2023	569	578	0.826	477	470	477	7517	726	0.544	0.551
2024	569	576	0.818	471	466	471	7496	722	0.542	0.548
2025	570	576	0.810	466	461	466	7483	719	0.541	0.546
2026	570	575	0.803	462	458	462	7477	717	0.541	0.544
2027	571	576	0.795	458	454	458	7474	716	0.541	0.543
2028	571	576	0.788	454	450	454	7476	715	0.541	0.542
2029	572	577	0.780	450	446	450	7481	715	0.542	0.542
2030	573	578	0.773	447	443	447	7488	715	0.543	0.543
2031		579	0.766	443		443	7498	716		0.543
2032		580	0.758	439		439	7510	718		0.544

Table 2. Catch-only projection with fixed 512 mt ACLs 2021-2024.

Year	OFLs from 2019 Projection (mt)	Updated OFL Projection (mt)	Scientific Uncertainty Buffer Fraction	Updated ABC Projection (mt)	Assumed Catch in 2019 Projection (mt)	Actualized Catch and Projection (mt)	Summary (Age 3+) Biomass (mt)	Spawning Output (billion eggs)	Depletion (%) from 2019 Projection	Depletion (%)
2015	609				599				0.603	
2016	592				537				0.590	
2017	582				547				0.580	
2018	573				418				0.569	
2019	577				515	439			0.565	
2020	573				511	437			0.558	
2021	570	587			479	512	7636	739	0.551	0.561
2022	569	582			474	512	7575	733	0.547	0.556
2023	569	578			470	512	7517	726	0.544	0.551
2024	569	573			466	512	7464	720	0.542	0.546
2025	570	569	0.810	461	461	461	7415	713	0.541	0.541
2026	570	570	0.803	458	458	458	7418	710	0.541	0.539
2027	571	572	0.795	454	454	454	7426	709	0.541	0.537
2028	571	573	0.788	452	450	452	7436	708	0.541	0.537
2029	572	574	0.780	448	446	448	7447	709	0.542	0.538
2030	573	576	0.773	445	443	445	7460	710	0.543	0.539
2031		577	0.766	442		442	7474	712		0.540
2032		578	0.758	438		438	7489	714		0.541