

Rebuilding Consequences of Delaying the Yelloweye Rockfish Ramp-down and Maintaining an OY of 17 mt in 2010

At the April 2008 PFMC meeting, the Council requested analysis of an additional rebuilding alternative for yelloweye rockfish. In this new alternative, the OY would be set at 17 mt in both 2009 and 2010, rather than being reduced to 14 mt in 2010. This option has been evaluated using Dr. Andre Punt's *Rebuilding Analysis* program and the 2007 assessment update, and the results are summarized in Table 1, below.

Columns one and two of Table 1 replicate columns one and four of Table 3a in the 2007 yelloweye rebuilding analysis. The third column of Table 1 reports the results for setting a 17 mt in 2010 and keeping the ramp-down's constant Spawning Potential Rate (SPR) after 2010 equal to 71.9%. This option extends the 'Median Year to Rebuild' by one-tenth of a year, and the probability of rebuilding by the current T_{Target} of 2084 is reduced by two-tenths of one percent.

Results presented in the last column of Table 1 are based on maintaining the 'Median Year to Rebuild' at 2082.0, by allowing the constant harvest rate after 2010 to decrease. This results in an SPR of 71.94%, which translates into a two-hundreds of a metric ton reduction in the 2011 and 2012 OY's. Over the long rebuilding times, this reduced fishing rate results in a probability of rebuilding that is *slightly* higher than the other two scenarios.

Table 1. Rebuilding parameters for the increased tonnage ramp-down scenario. Results obtained by applying the *Rebuilding Analysis* program to the 2007 assessment update data.

Alternative	(From the 2007 rebuilding doc., with increased precision reported inside the brackets.) 3. SPR = 0.719 (From Amendment 16-4)	Increased Ramp-down Same Constant SPR after 2011	Increased Ramp-down Same Median Year to Rebuild (to the tenth of a year)
Ramp-Down Used	Yes	Yes	Yes
SPR (Constant, starting in 2011)	0.719	0.719	0.7194
1 - SPR	0.281	0.281	0.2806
2009 (Rampdown)	17	17	17
2010 (Rampdown)	14	17	17
2011 OY/ABC (mt)	13.9/ 32.5	13.89/ 32.40	13.87/32.40
2012 OY/ABC (mt)	14.2/ 33.1	14.17 / 33.07	14.15/33.07
Median Year to Rebuild	2082 [2082.0]	2082.1	2082.0
Percent Prob. to Rebuild by: 2046 (T _{MIN})	0.0	0.0	0.0
2050	0.0	0.0	0.0
2060	2.6	2.5	2.5
2070	17.7	17.5	17.7
2080	45.1	44.8	45.0
2084 (T _{TARGET})	54.9	54.7	55.0
2090 (T _{MAX})	68.9	68.6	68.9