

Appendix C DESCRIPTION OF CATCH PROJECTION MODELS

[NOTE: All of the model structures, except for the Open Access Nearshore Model, remain structurally unchanged from the 2009-2010 Harvest Specifications and Management Measures EIS. Those descriptions will be included in the FEIS, however since the Open Access Nearshore Model structure has changed since 2009-2010 the model description is provided here.]

Open Access: Nearshore Fishery Model

Nearshore commercial fisheries in waters off Oregon and California are modeled separately from offshore efforts targeting sablefish. The nearshore commercial model incorporates fleet-wide discard estimates by depth from West Coast Groundfish Observer Program (WCGOP) data, landings data from PacFIN, and depth-specific discard mortality rates derived by the Groundfish Management Team (GMT). The WCGOP began pilot coverage of vessels targeting nearshore rockfish and associated species, such as cabezon and kelp greenling, in January 2003 for the California nearshore fishery and in May 2004 for the Oregon nearshore/rockfish fisheries. Data from these vessels from January 2003 – December 2006 were averaged for analyses (refer to [2009/2010 Harvest Specifications and Management Measures FEIS](#) for full description of model).

In 2009-10, projected overfished species impacts were estimated based on the previous years landings data in two areas (north and south of 40°10' N lat). Unlike other fisheries, nearshore overfished species impacts is not modeled based on full attainment of the target species harvest guidelines. Low target landings in a previous year (due to weather or management action) decrease the estimate of overfished species impacts and opportunity for target species for the following year, creating a use-it or lose-it fishery.

In 2009-10, any management action taken to stay within projected overfished species impacts had to be applied to an entire area (north or south of 40°10' N lat) regardless of the location of impact within a particular area. As such, the GMT was unable to incorporate fine scale management actions (i.e., closing just part of an area) and some areas which may have not had high overfished species impacts were affected because they fell within the larger management area.

For 2011-12, the GMT is proposing to modify the structure of the nearshore model to include finer area stratifications and modify landings data used to project overfished species impacts. These proposed modifications would facilitate management, provide

greater protection to stocks while minimizing adverse impacts to communities, and provide the best estimate of fishery needs.

The GMT received WCGOP data (2003-2008) stratified into three areas: (1) north of 42° N lat; (2) between 42° and 40°10' N lat; and (3) south of 40°10' N lat. The GMT is proposing to modify the nearshore model to facilitate overfished species impact projections based on these finer area stratifications. The additional area stratification would allow the GMT to estimate and react to overfished species impacts on a smaller scale, reducing adverse actions to non-problem areas. The finer area stratification will also allow the GMT to incorporate more state specific management measures. In 2009-10, a 20 fm depth restriction was applied to the area between 43° N lat and 40°10' N lat to reduce yelloweye impacts. Had finer area stratification been available at that time, Oregon could have chosen to reduce yelloweye impacts by reducing trip limits instead of modifying the 20 fm depth contour. Under the proposed new modifications, these types of management actions could be accommodated.

Instead of using a single previous year landings data to project overfished species impacts, the GMT proposes to use an average as the best estimate of fishery needs. As a starting point, Oregon is proposing to use average landings from 2007-2009. California is proposing to use average landings from 2006-2008 since catches in 2009 were anomalously low and not likely representative of future needs. Landings data can be adjusted from this starting point based on new information (i.e., higher black rockfish and cabezon ACLs) or based on increased availability in overfished species (i.e., higher nearshore allocation of yelloweye). Opportunities will be maximized for this fishery where available while staying within available overfished species impacts.

Allocation of Overfished Species (Canary and Yelloweye Rockfish) between States

Currently, WCGOP provides aggregated data for the entire area north of 40°10' N lat and as such, the GMT was unable to attribute overfished species impacts to an individual state. Therefore, California and Oregon “co-manage” this area to ensure that the fishery stays within the allowable overfished species impacts.

The finer area stratification of the proposed nearshore model would provide an opportunity for California and Oregon to independently manage their nearshore fisheries since overfished species impacts could be estimated for each state. To facilitate modeling, it would be beneficial to provide an informal or formal split of the allowable overfished species (canary and yelloweye) between California and Oregon for the nearshore fishery.

To inform any formal or informal catch sharing agreements of canary and yelloweye rockfish between the two states, the GMT examined WCGOP Total Mortality Reports, WCGOP Data Report of the Nearshore Fixed Gear Groundfish Fishery, and individual stock assessments. Since data are not reported in the WCGOP reports on the same scale as the proposed new model, the GMT was unable to use this information to inform potential catch sharing.

Yelloweye Rockfish

Although the yelloweye stock assessment (Stewart et al. 2009) did provide data to inform catch sharing, the SSC cautioned against making use of these trends as the sole basis for the spatial allocation of harvest guidelines because the trend in abundance at the coastwide level was much more robust than those at the regional level (Agenda Item E.2.c, Supplemental SSC Report, September 2009). Data provided by Stewart et al. (2009) suggest a 53% - 61% allocation for Oregon and 39% - 47% allocation for California (Table 1). This range is supported by Wallace et al (2006) which estimated that the 2005 yelloweye rockfish biomass was 581 mt (Oregon) and 484 mt (California; Table 1).

Table 1. State-specific contributions of spawning output, commercial and recreational catch, and biomass for yelloweye rockfish. The Oregon: California contribution (percentage) is shown in the right-hand column.

Source	Description	State		Percent Contribution (OR:CA)
		OR	CA	
Stewart et al. (2009)	Yelloweye Spawning Output (million eggs)	93	75	55:45
	Total Commercial Catch (mt) 2000 – 2008	22.1	17.5	56:46
	Total Commercial Catch (mt) 1990 – 1998	1,048	667	61:39
	Total Recreational Catch (mt) 2000 – 2008	38.6	34.0	53:47
	Total Recreational Catch (mt) 1990 – 1998	174	147	54:46
Wallace et al. (2006)	Yelloweye Rockfish biomass (mt) of Age 3+	581	484	55:45

In addition to any potential catch sharing informed by the stock assessment, the Council could also consider an equal sharing (50:50) between the states for 2011-12 only. The GMT could continue to work with the SSC to examine data which may be used for future catch sharing arrangements.

Canary Rockfish

Canary rockfish has typically been modeled on a coastwide basis; hence, information on distribution of biomass and catch is not available by state. Similar to yelloweye rockfish, the Council could consider an equal sharing (50:50) between the states for 2011-12 and

the GMT could continue to work with the SSC to examine data to inform future catch sharing arrangements.