

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON PACIFIC
MACKEREL ASSESSMENT, HARVEST SPECIFICATIONS, AND
MANAGEMENT MEASURES – FINAL ACTION

The Coastal Pelagic Species Management Team (CPSMT), the Coastal Pelagic Species Advisory Subpanel (CPSAS) and Scientific and Statistical Committee (SSC) received a presentation from Dr. Paul Crone and Dr. Juan Zwolinski on the most recent stock assessment of Pacific mackerel proposed for use in management. In April 2019, a Stock Assessment Review (STAR) Panel at the Southwest Fisheries Science Center in La Jolla, CA reviewed this proposed benchmark assessment. The CPSMT commends the Stock Assessment Team (STAT) on their efforts, and supports the approval of final base model ALT_19 as put forward by the STAT and recommended by the SSC.

The 2019 benchmark assessment is the second completed since the Council decided in June 2013 on a four-year assessment cycle for Pacific mackerel that alternates full assessments and catch-only projection estimates on a biennial basis. Consequently, at this meeting, management measures for both the 2019-2020 and 2020-2021 fishing years will be based on the benchmark assessment (model ALT_19).

Model ALT_19 incorporates the Southwest Fisheries Science Center acoustic-trawl (AT) survey as an index of abundance. This is the first use of this index for Pacific mackerel and is consistent with the AT methodology review (Agenda Item C.3, Attachment 2, April 2018) that approved the use of AT estimates of coastal pelagic species (CPS) biomass within an integrated stock assessment. The CPSMT agrees that utilizing the AT survey data as an index of abundance is an improvement over the previous commercial passenger fishing vessel (CPFV) logbook-based index.

The CPSMT notes that the biomass estimates produced by model ALT_19 are markedly lower than those that have informed management in recent years and that the SSC expressed concern primarily about catchability, which leads to uncertainty in the resulting biomass estimates. Therefore, the CPSMT suggests that an assessment, rather than a catch-only projection, should be conducted in two years. The STAR panel meeting report outlines research recommendations regarding Pacific mackerel assessments and the CPSMT concurs that these should be pursued.

Harvest and Management Specifications

The CPSMT recommends the overfishing limit (OFL), acceptable biological catch (ABC), and harvest guideline (HG) as presented in Tables 1 and 2 below. These values are based on a Tier 2 assessment as specified by the SSC, and a P-star value of 0.45, which the CPSMT recommends (Attachment 1). The CPSMT also recommends an incidental set aside of 1,000 mt each fishing year, with associated acceptable catch targets (ACTs) 1,000 mt less than the HG. These values are included below. Should the Council select a P-star value other than 0.45, the harvest specifications would follow from the appropriate values presented in the tables found in Attachment 1.

The CPSMT further recommends that for each separate fishing year, should the directed fishery realize the ACT, the National Marine Fisheries Service should close the directed fishery and shift to an incidental-only fishery for the remainder of the fishing season, with a 45 percent incidental landing allowance when Pacific mackerel are landed with other CPS, with the exception that up to 3 mt of Pacific mackerel per landing could be landed in non-CPS fisheries.

Table 1. CPSMT Proposed 2019-2020 Pacific Mackerel Harvest Specifications

Biomass	71,099
OFL	14,931
ABC _{0.45} (Tier 2)	13,169
ACL (=ABC)	13,169
HG	11,109
ACT	10,109
Incidental	1,000

Table 2. CPSMT Proposed 2020-2021 Pacific Mackerel Harvest Specifications

Biomass	56,058
OFL	11,772
ABC _{0.45} (Tier 2)	10,289
ACL (=ABC)	10,289
HG	7,950
ACT	6,950
Incidental	1,000

Attachment 1

Table 1. Pacific mackerel harvest control rules and associated management metrics for final base model ALT_19: a) 2019-2020 fishing year; and b) 2020-2021 fishing year, from Pacific mackerel (*Scomber japonicus*) stock assessment for U.S. management in the 2019-2020 and 2020-2021 fishing years.

a) HCRs for 2019-20

Harvest Control Rule Formulas						
OFL = BIOMASS * E_{MSY} * DISTRIBUTION						
ABC = BIOMASS * BUFFER _{P-star} * E_{MSY} * DISTRIBUTION						
HG = (BIOMASS - CUTOFF) * E_{MSY} * DISTRIBUTION						
Harvest Formula Parameters						
BIOMASS (ages 1+, mt)	71,099					
P-star	0.45	0.40	0.35	0.30	0.25	
ABC Buffer(Tier 1 Sigma=0.5)	0.939	0.881	0.825	0.769	0.714	
ABC Buffer(Tier 2 Sigma=1.075)	0.882	0.776	0.680	0.592	0.509	
E_{MSY}	0.3					
CUTOFF (mt)	18,200					
DISTRIBUTION (U.S.)	0.7					
Harvest Control Rule Values (MT)						
OFL =	14,931					
ABCTier 1 =	14,020	13,154	12,318	11,482	10,661	
ABCTier 2 =	13,169	11,586	10,153	8,839	7,600	
HG =	11,109					

b) HCRs for 2020-21

Harvest Control Rule Formulas						
OFL = BIOMASS * E_{MSY} * DISTRIBUTION						
ABC = BIOMASS * BUFFER _{P-star} * E_{MSY} * DISTRIBUTION						
HG = (BIOMASS - CUTOFF) * E_{MSY} * DISTRIBUTION						
Harvest Formula Parameters						
BIOMASS (ages 1+, mt)	56,058					
P-star	0.45	0.40	0.35	0.30	0.25	
ABC Buffer(Tier 1 Sigma=0.5)	0.935	0.873	0.813	0.754	0.696	
ABC Buffer(Tier 2 Sigma=1.075)	0.874	0.762	0.661	0.569	0.484	
E_{MSY}	0.3					
CUTOFF (mt)	18,200					
DISTRIBUTION (U.S.)	0.7					
Harvest Control Rule Values (MT)						
OFL =	11,772					
ABCTier 1 =	11,007	10,277	9,571	8,876	8,193	
ABCTier 2 =	10,289	8,970	7,781	6,698	5,698	
HG =	7,950					