

**COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON PACIFIC
 MACKEREL ASSESSMENT AND MANAGEMENT MEASURES**

The Coastal Pelagic Species Management Team (CPSMT), the Coastal Pelagic Species Advisory Subpanel (CPSAS), and the Scientific and Statistical Committee (SSC) jointly received a presentation via webinar on June 23, 2021, from Dr. Kevin Hill on the catch-only projection of Pacific mackerel (with addendum) for use in management. The CPSMT commends the Stock Assessment Team (STAT) and supports the approval of the catch-only projection as put forward by the STAT based on the 2019 ALT_19 assessment model and endorsed by the SSC.

The catch-only projection provides harvest guidelines (HGs) for managing the Pacific mackerel resource for fishing years 2021-22 and 2022-23. The next benchmark assessment and review will take place during spring 2023 for management in two consecutive fishing years, 2023-24 and 2024-25.

Harvest and Management Specifications

The CPSMT recommends the overfishing limit (OFL), acceptable biological catch (ABC), and HG as presented in Tables 1 and 2 below. These values are based on a Tier 3 assessment (Table 3) as specified by the SSC ([Agenda Item H.2.a, Supplemental SSC Report 1](#)). The Council has previously adopted a P-star value of 0.45, which the CPSMT believes is still appropriate. The CPSMT also recommends an incidental set aside of 1,000 mt each fishing year, with associated annual 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 Table 3.

The CPSMT further recommends that for each separate fishing year, should the directed fishery realize the ACT, the National Marine Fisheries Service (NMFS) 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 2021-22 Pacific Mackerel Harvest Specifications (mt)

Biomass	57,832
OFL	12,145
ABC _{0.45} (Tier 3)	9,446
ACL (=ABC)	9,446
HG	8,323
ACT	7,323
Incidental	1,000

Table 2. CPSMT Proposed 2022-2023 Pacific Mackerel Harvest Specifications (mt)

Biomass	45,925
OFL	9,644
ABC _{0.45} (Tier 3)	7,501
ACL (=ABC)	7,501
HG	5,822
ACT	4,822
Incidental	1,000

Consideration of Update Assessments versus Catch-only Projections

The CPSMT is aware of the SSC’s suggestion of conducting ‘update’ assessments as opposed to catch-only projections for Pacific mackerel going forward. Conducting an update assessment during the interim year’s assessment schedule would provide more data for the management of Pacific mackerel relative to the catch-only projections. The CPSMT recognizes, however, that the value of this may be limited given the catch history in U.S. fisheries for this stock. Additionally, there would be workload considerations for the Southwest Fisheries Science Center as it relates to CPS for such a change.

As an administrative issue, the CPSMT notes that currently COP 9, Schedule 3 calls for an update assessment at 2-year intervals between full assessments for Pacific mackerel, rather than a catch-only projection. This does not reflect the Council action from June 2013 (Agenda Item I.2.e) and the corresponding assessment schedule for Pacific mackerel since that time. The CPSMT recommends editing the COP to make it consistent.

Table 3. Pacific Mackerel Harvest Control Rules (HCR) for Fishing Years from the Base Model: A) 2021-22; and B) 2022-23. ABC buffers for Tiers 1 and 2 have been corrected to account for years from last assessment.

(From Agenda Item H.2, Supplemental Attachment 2 – Pacific mackerel catch-only update, with revised Table 3.)

A) Fishing year 2021-22

Harvest Control Rule Formulas										
OFL = BIOMASS * E_{MSY} * DISTRIBUTION										
ABC _{P-star} = BIOMASS * BUFFER _{P-star} * E_{MSY} * DISTRIBUTION										
HG = (BIOMASS - CUTOFF) * FRACTION * DISTRIBUTION										
Harvest Formula Parameters										
BIOMASS (ages 1+, mt)	57,832									
P-star	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	
ABC BufferTier 1	0.9303	0.8644	0.8013	0.7397	0.6785	0.6164	0.5510	0.4786	0.3884	
ABC BufferTier 2	0.8654	0.7473	0.6420	0.5471	0.4604	0.3799	0.3036	0.2291	0.1508	
ABC BufferTier 3	0.7778	0.6025	0.4627	0.3504	0.2595	0.1858	0.1258	0.0771	0.0373	
EMSY=FRACTION	0.30									
CUTOFF (mt)	18,200									
DISTRIBUTION (U.S.)	0.70									
Harvest Control Rule Values (MT)										
OFL =	12,145									
ABCTier 1 =	11,298	10,498	9,731	8,983	8,241	7,485	6,692	5,812	4,717	
ABCTier 2 =	10,511	9,075	7,797	6,645	5,591	4,614	3,688	2,782	1,832	
ABCTier 3 =	9,446	7,317	5,620	4,255	3,152	2,256	1,528	936	453	
HG =	8,323									

Table 3. Continued.

B) Fishing year 2022-23

Harvest Control Rule Formulas										
OFL = BIOMASS * E_{MSY} * DISTRIBUTION										
ABC _{P-star} = BIOMASS * BUFFER _{P-star} * E_{MSY} * DISTRIBUTION										
HG = (BIOMASS - CUTOFF) * FRACTION * DISTRIBUTION										
Harvest Formula Parameters										
BIOMASS (ages 1+, mt)	45,925									
P-star	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	
ABC BufferTier 1	0.9259	0.8563	0.7898	0.7253	0.6616	0.5972	0.5300	0.4561	0.3651	
ABC BufferTier 2	0.8573	0.7332	0.6237	0.5260	0.4377	0.3567	0.2809	0.2081	0.1333	
ABC BufferTier 3	0.7778	0.6025	0.4627	0.3504	0.2595	0.1858	0.1258	0.0771	0.0373	
EMSY=FRACTION	0.30									
CUTOFF (mt)	18,200									
DISTRIBUTION (U.S.)	0.70									
Harvest Control Rule Values (MT)										
OFL =	9,644									
ABCTier 1 =	8,930	8,258	7,617	6,995	6,380	5,760	5,112	4,399	3,522	
ABCTier 2 =	8,268	7,071	6,016	5,073	4,221	3,440	2,709	2,007	1,286	
ABCTier 3 =	7,501	5,811	4,463	3,379	2,503	1,792	1,213	743	359	
HG =	5,822									

PFMC
06/26/21