

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON FINAL ACTION ON SARDINE ASSESSMENT, SPECIFICATIONS, AND MANAGEMENT MEASURES

The Coastal Pelagic Species Management Team (CPSMT), Coastal Pelagic Species Advisory Subpanel (CPSAS) and Scientific and Statistical Committee (SSC) jointly received a presentation from Drs. Kevin Hill and Paul Crone concerning the Pacific sardine full stock assessment conducted in 2017. The CPSMT recommends that the Pacific Fishery Management Council (Council) adopt the Alternative Stock Assessment (ALT) model within the full assessment for management of the 2017-2018 sardine fishery (Agenda Item G.5.a, Stock Assessment Report). The age 1⁺ biomass estimated from this assessment for July 1, 2017 is 86,586 metric tons (mt).

Similar to the 2016-2017 biomass estimate of 106,137 mt, the 2017-2018 biomass estimate of 86,586 mt is below the CUTOFF value of 150,000 mt. Accordingly, the Fishery Management Plan dictates a closure of the primary directed fishery for Pacific sardine for the upcoming fishing year (July 1, 2017 - June 30, 2018). This closure, however, does not preclude the allowance for incidental catch in other CPS and non-CPS fisheries as well as directed live bait, recreational and tribal harvest fisheries.

Harvest Specifications for 2017-2018

Table 1 (below) contains the overfishing limit (OFL) and a range of acceptable biological catch (ABC) values based on various P* (probability of overfishing) values. The CPSMT recommends use of a P* value of 0.40, consistent with previous sardine management specifications. The SSC designated the 2017 assessment as a Tier 1. The P* value of 0.40 applied to the 2016-2017 OFL of 16,957 mt, using a Tier 1 sigma of 0.36, produces an acceptable biological catch (ABC) of 15,479 mt.

During the 2015-2016 fishing season, the CPSMT evaluated the potential needs for incidental allowances for other CPS fisheries when the primary directed sardine season is closed (April 2015 Agenda item G.1.b, Supplemental CPSMT Report). That evaluation considered the historical levels of incidental sardine catch under a range of species and fishery dynamics. Consistent with that evaluation, the CPSMT again recommends an annual catch limit (ACL) of 8,000 mt (Table 2) to allow other fisheries to proceed. The CPSMT also recommends the same accountability measures as 2016-2017, presented following Table 2.

The Quinault Indian Nation request of 800 mt, the live bait fishery, and other minimal sources of mortality, such as recreational take, will be accounted for against the ACL. Coastwide incidental non-tribal landings for the 2016-2017 season through March 30, 2017 total 358 mt, while the Quinault Indian Nation reports 85 mt.

Table 1. Pacific sardine harvest formula parameters for 2017-2018.

Harvest Control Rule Formulas										
OFL = BIOMASS * E_{MSY} * DIST RIBUT ION; where E_{MSY} is bounded 0.00 to 0.25										
ABC _{P-star} = BIOMASS * BUFFER _{P-star} * E_{MSY} * DIST RIBUT ION; where E_{MSY} is bounded 0.00 to 0.25										
HG = (BIOMASS - CUT OFF) * FRACTION * DIST RIBUT ION; where FRACTION is E_{MSY} bounded 0.05 to 0.20										
Harvest Formula Parameters										
BIOMASS (ages 1+, mt)	86,586									
P-star	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	
ABC Buffer _{Tier 1}	0.95577	0.91283	0.87048	0.82797	0.78442	0.73861	0.68859	0.63043	0.55314	
ABC Buffer _{Tier 2}	0.91350	0.83326	0.75773	0.68553	0.61531	0.54555	0.47415	0.39744	0.30596	
CalCOFI SST (2014-2016)	15.9999									
E_{MSY}	0.225104									
FRACTION	0.200000									
CUT OFF (mt)	150,000									
DIST RIBUT ION (U.S.)	0.87									
Harvest Control Rule Values (MT)										
OFL =	16,957									
ABC _{Tier 1} =	16,207	15,479	14,761	14,040	13,301	12,525	11,676	10,690	9,380	
ABC _{Tier 2} =	15,490	14,130	12,849	11,625	10,434	9,251	8,040	6,739	5,188	
HG =	0									

Table 2. 2017-2018 Calculated OFL, ABC and CPSMT-Recommended ACL.

Biomass	86,586 mt
OFL	16,957 mt
P* buffer	0.4
ABC _{0.4}	15,479 mt
ACL	8,000 mt

List of CPSMT-Recommended Accountability Measures

The following would be automatic in season actions for CPS fisheries:

- An incidental per landing allowance of 40 percent Pacific sardine in non-treaty CPS fisheries until a total of 2,000 mt of Pacific sardine are landed.
- When the 2,000 mt is achieved the incidental per landing allowance would be reduced to 20 percent until a total of 5,000 mt of Pacific sardine have been landed.
- When 5,000 mt have been landed, the incidental per landing allowance would be reduced to 10 percent for the remainder of the 2017-2018 fishing year.

A 2 mt incidental per landing allowance in non-CPS fisheries.