

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

The Coastal Pelagic Species Management Team (CPSMT), Coastal Pelagic Species Advisory Subpanel (CPSAS) and the CPS subcommittee of the Scientific and Statistical Committee (SSC) jointly received, via webinar, on March 6, 2018 a scientific review of the draft 2018 Pacific sardine stock assessment update from Drs. Kevin Hill, Paul Crone, and Juan Zwolinski. The CPSMT commends the Stock Assessment Team (STAT) on their efforts to update the 2017 assessment model, and supports the approval of the acoustic-trawl survey methodology estimates as put forward by the STAT and reviewed by the SSC on April 5, 2018. The CPSMT recommends that the Pacific Fishery Management Council (Council) adopt the update assessment for management of the 2018-2019 sardine fishery (April 2018 Agenda Item G.5.a, Stock Assessment Report). The age 1⁺ biomass estimated from this assessment is projected to be 52,065 metric tons (mt) on July 1, 2018.

Harvest and Management Specifications

Similar to the 2017-2018 biomass estimate of 86,586 mt, the 2018-2019 biomass estimate of 52,065 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, 2018 - June 30, 2019). This closure, however, does not preclude the allowance for exempted fishing permits, incidental catch in other CPS and non-CPS fisheries as well as directed live bait, small scale, recreational, and tribal harvest fisheries.

Harvest Specifications for 2018-2019

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 Team recommends use of a P* value of 0.40, consistent with previous sardine management specifications. The SSC designated the 2018 update assessment as a Tier 2. The P* value of 0.40 applied to the 2018-2019 OFL of 11,324 mt, using a Tier 2 sigma of 0.72, produces an acceptable biological catch (ABC) of 9,436 mt. Per the CPS FMP an ACL could be set equal to the ABC without risk of overfishing.

The CPSMT evaluated the potential needs for incidental allowances for other CPS fisheries when the primary directed sardine season is closed. That evaluation considered the levels of incidental sardine catch during the most recent years when the directed fishery was closed. The team also considered the risk of setting the ACL nearer the ABC to avoid closing other fisheries while simultaneously discouraging any targeted harvest. The ACLs (7,000-8,000 mt) during this period have not been attained. Consistent with this evaluation, the CPSMT recommends an annual catch limit (ACL) of 7,000 mt (Table 2) to allow other fisheries to proceed. The CPSMT also recommends the accountability measures presented following Table 2.

The Quinault Indian Nation request of 800 mt, the EFP research set-asides, the live bait fishery, and other minimal sources of mortality, such as recreational take and minor directed fishing, will be accounted for against the ACL. The Council previously approved the EFP requests for Pacific sardine research set-aside of 600 mt and 10 mt (April 2018 Agenda Item C.2).

Coastwide incidental non-tribal landings for the 2017-2018 season through April 5, 2018 total 280.8 mt, while the Quinault Indian Nation reports zero catch.

Table 1. Pacific sardine harvest formulae for 2018-2019

Harvest Control Rule Formulas										
OFL = BIOMASS * E_{MSY} * DISTRIBUTION; where E_{MSY} is bounded 0.00 to 0.25										
ABC _{P-star} = BIOMASS * BUFFER _{P-star} * E_{MSY} * DISTRIBUTION; where E_{MSY} is bounded 0.00 to 0.25										
HG = (BIOMASS - CUTOFF) * FRACTION * DISTRIBUTION; where FRACTION is E_{MSY} bounded 0.05 to 0.20										
Harvest Formula Parameters										
BIOMASS (ages 1+, mt)	52,065									
P-star	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	
ABC Buffer _(Sigma a 0.415)	0.94924	0.90030	0.85237	0.80462	0.75609	0.70548	0.65074	0.58787	0.50568	
ABC Buffer _{Tier 2}	0.91350	0.83326	0.75773	0.68553	0.61531	0.54555	0.47415	0.39744	0.30596	
CalCOFI SST (2015-2017)	16.6435									
E_{MSY}	0.25									
FRACTION	0.20									
CUTOFF (mt)	150,000									
DISTRIBUTION (U.S.)	0.87									
Harvest Control Rule Values (MT)										
OFL =	11,324									
ABC _(Sigma a 0.415) =	10,749	10,195	9,652	9,112	8,562	7,989	7,369	6,657	5,726	
ABC _{Tier 2} =	10,345	9,436	8,581	7,763	6,968	6,178	5,369	4,501	3,465	
HG =	0									

Table 2. 2018-19 calculated OFL and ABC and CPSMT recommended ACL

Biomass	52,065 mt
OFL	11,324 mt
P* Buffer	0.4
ABC _{0.4}	9,436 mt
ACL	7,000 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 2,500 mt of Pacific sardine are landed.

- When 2,500 mt have been landed, the incidental per landing allowance would be reduced to 20 percent for the remainder of the 2018-2019 fishing year.

Additionally, a 2 mt incidental per landing is allowed in non-CPS fisheries.

PFMC
04/07/18