

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON 2014
PACIFIC SARDINE STOCK ASSESSMENT AND MANAGEMENT,
INCLUDING TRIBAL SET-ASIDE

The Coastal Pelagic Species Management Team (CPSMT) and the Coastal Pelagic Species Advisory Panel (CPSAS) received a presentation from Dr. Kevin Hill concerning the Pacific sardine stock projection conducted in 2013. The CPSMT recommends that the Pacific Fishery Management Council (Council) adopt the catch-only projection for management of the 2014 sardine fishery (Agenda Item E.5.b, Supplemental Attachment 2). Based upon the January 2014 age 1+ biomass estimate of 378,120 metric tons (mt), the harvest control rule produces a harvest guideline (HG) of 29,770 mt (Table 1 below). The 2014 biomass estimate represents a 42 percent decrease from the updated stock assessment previously adopted by the Council in November, 2012. The CPSMT recognizes the results of the catch update do not include the 2013 survey results. Although a biomass estimate, overfishing limit (OFL), acceptable biological catch (ABC), annual catch limit (ACL) and HG will be set for the full year, due to the change in fishery start date, the allocation will only be set for the January 1- June 30 (interim) period. To inform management for the new fishing season starting on July 1, 2014, a full stock assessment is scheduled for the spring of 2014. At that time, harvest control rule values will be reset for the new fishing season July 2014 – June 2015.

Harvest Specifications for 2014

Table 1 (below) contains the resulting OFL and a range of acceptable biological catch (ABC) values based on various P* (probability of overfishing) values. The CPSMT recommends that the ACL equal the ABC resulting from the Council's P* choice, and that the annual HG/annual catch target be set equal to 29,770 mt. Considering the results of the full stock assessment conducted in 2011, the Council chose a P* of 0.40 for the 2012 and 2013 fisheries.

The CPSMT concurs with the CPSAS that the incidental catch for CPS fisheries for the interim allocation period be set to 500 mt and that the incidental landing allowance for CPS fisheries be no more than 45 percent Pacific sardine by weight. Accounting for the incidental set aside, and for a Quinault Indian Nation request for 1,000 mt (Agenda Item E.5.a, Attachment 1), the CPSMT recommends adoption of the allocation scheme in Table 2 below.

The CPSMT reviewed Dr. Hill's projection of the stock and deems it provides the best available estimate to inform the current harvest control rule. The CPSMT recognizes that Pacific sardine recruitment is low and the stock has declined in recent years. However, an important characteristic of the HG control rule is that the effective harvest rate declines with biomass. This is evidenced in that the 2014 HG results in an effective harvest rate of eight percent. Additionally, the HG is approximately half the OFL and below the ABC at all P* levels.

Table 1. Pacific sardine harvest formula parameters for 2014.

Harvest Control Rule Formulas										
OFL = BIOMASS * F_{MSY} * DISTRIBUTION										
ABC _{P-star} = BIOMASS * BUFFER _{P-star} * F_{MSY} * DISTRIBUTION										
HG = (BIOMASS - CUTOFF) * FRACTION * DISTRIBUTION										
Harvest Formula Parameters										
BIOMASS (ages 1+, mt)	378,120									
P-star	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	
ABC Buffer	0.95577	0.91283	0.87048	0.82797	0.78442	0.73861	0.68859	0.63043	0.55314	
F_{MSY}	0.18									
FRACTION	0.15									
CUTOFF (mt)	150,000									
DISTRIBUTION (U.S.)	0.87									
Harvest Control Rule Values (MT)										
OFL =	59,214									
ABC =	56,595	54,052	51,544	49,027	46,448	43,736	40,774	37,330	32,753	
ACL =	Less than or equal to ABC									
HG =	29,770									

Table 2. Preliminary Pacific sardine allocation scheme for January 1-June 30, 2014

Harvest Guideline	29,770mt
Seasonal Allocation (Jan 1-June 30)	10,420mt (35%)
Tribal Allocation	1,000mt
Incidental Set Aside	500mt
Adjusted (Directed) Allocation	8,920mt

PFMC
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