

2.3.1 OFL, ABC and ACL Considerations for Actively Managed Species (p. 8 of H.2.a Attachment 1).

Alternative 1 – Status Quo – Maintain the existing harvest control rules as modified to specify the new management reference points.

OFL	BIOMASS x FRACTION x DISTRIBUTION
ABC	(BIOMASS - CUTOFF) x FRACTION x DISTRIBUTION
ACL	Equal to ABC or reduced by OY considerations.

***Alternative 2* –Scientific Uncertainty Buffer – Modify the existing harvest control rules to include a buffer or reduction in ABC relative to OFL to account for scientific uncertainty. This reduction would be in addition to the precautions built into the FRACTION term in the existing rule. Because the CUTOFF term is intended to address economic and ecological issues (OY considerations) it is proposed as a reduction from ABC to ACL.**

- Rationale:*** Analysis consistent with the SSC guidance suggests this alternative is appropriate to deal with scientific uncertainty for both species. In the case of Pacific sardine the lesser value of ABC and ACL will depend on BIOMASS, temperature and the P* policy. For Pacific Mackerel the lesser value of ABC and ACL will depend on BIOMASS and the P* policy.

OFL	BIOMASS x F_{msy} x DISTRIBUTION
ABC	(BIOMASS x BUFFER) x F_{msy} x DISTRIBUTION
ACL	[(BIOMASS)-CUTOFF] x FRACTION x DISTRIBUTION. Or ABC as defined above, whichever is less