

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
PACIFIC MACKEREL ASSESSMENT AND MANAGEMENT MEASURES

Dr. Kevin Hill (Southwest Fisheries Science Center) presented the results of the catch-only update to the Pacific mackerel stock assessment (Agenda Item H.2, Attachment 1). Pacific mackerel is currently managed with a benchmark assessment every four years with a catch projection conducted two years later and used for the last two years of the four-year cycle. The catch-only projection followed the Terms of Reference for catch-only projections.

The catch-only projection was based on the benchmark assessment conducted in 2019 (ALT_19), which provided the basis for overfishing limits, acceptable biological catches (ABCs), and annual catch limits (ACLs) for the 2019-20 and 2020-21 fishing seasons. No changes to the assessment were made except to update the catch series for 2017 through December 2020 and project catches through June 2022. Recruitment for the base model was taken from the stock-recruitment relationship. The baseline model projected 1+ biomass was 57,832 mt (July 2021) and 45,925 mt (July 2022) under the assumption that the total harvest guideline (HG) will be attained in the 2021-22 fishing year. Sensitivity was explored to alternative catch series and assumptions about recruitment strength.

The Scientific and Statistical Committee (SSC) endorses the catch-only projection as the best scientific information available for management of Pacific mackerel. The SSC further endorses the overfishing limits of 12,145 mt for 2021-22 and 9,644 mt for 2022-23. The 2022-23 overfishing limit could be recalculated if the ABC for 2021-22 is less than the harvest guideline for that year. This assessment is assigned to category 3 because of high uncertainty regarding the scale of the biomass, great sensitivity to assumptions, and the facts that almost all the biomass derives from year-classes that are currently poorly sampled or taken directly from the stock-recruitment relationship. The final ABCs depend on the Council's risk tolerance as reflected in the choice of P*.

Conducting benchmark assessments for a short-lived species every fourth year means that major changes in recruitment or stock biomass could occur but not be reflected in management advice. Past Stock Assessment Team, Stock Assessment Review Panel, and SSC advice has been that management be based on the results of the Acoustic Trawl Method survey, but this requires conducting a management strategy evaluation which is yet to occur for Pacific mackerel. An update assessment every year is ideal until the Acoustic Trawl Method survey estimate can be used directly for management purposes for Pacific mackerel. However, logistics and demands on staff time may make this infeasible for Pacific mackerel; update assessments every second year may balance workload demands and the desire to base management decisions on the most recent data. The SSC therefore recommends that Pacific mackerel assessments be conducted in a four-year cycle with benchmark and update assessments (rather than catch-only projections) every second year.