

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
DEEP-SET BUOY GEAR AUTHORIZATION

The Scientific and Statistical Committee (SSC) reviewed the “National Marine Fisheries Service (NMFS) Report on Deep-Set Buoy Gear (DSBG) Authorization” ([Agenda Item J.6.a, NMFS Report 1](#)), which presents a preliminary analysis of data from observed sets for DSBG exempted fishing permits operations from 2015 through February 2019. The SSC also received a briefing from the authors of the report, Dr. Stephen Stohs (NMFS SWFSC) and Mr. Karter Harmon (NMFS contractor). The analyses conducted to date have been limited to standard DSBG, but the analyses supporting the preliminary version of the Draft Environmental Impact Statement that will be developed for the September 2019 Council meeting will also include data from linked buoy gear. The analysis employs a Bayesian approach similar to one that the SSC reviewed previously in connection with “Swordfish Management and Monitoring Plan Hardcaps” ([Agenda Item E.3.a, Supplemental SSC Report, June 2015](#)).

The SSC, which is generally supportive of the approach used in the analysis, notes the following:

- The underlying Poisson probability model assumes that catch events are fully independent, which would not be the case for species that tend to occur in aggregations.
- Although the report provided predictions from the Bayesian analysis, it did not include fits to the observed data or diagnostics to support the assumed probability model.
- Predictions from the model may not apply in the future if there are changes in fishing behavior.
- The current analysis makes rigid assumptions about fishing effort (Table 3). If these assumptions were represented as probability distributions, uncertainty regarding future effort could be incorporated into the resulting model predictions.
- Data from observed sets of linked buoy gear, which have not yet been analyzed, may be limited and have characteristics that are different from the standard DSBG. It is not clear how best to analyze data from the linked buoy gear, e.g., whether or not to pool them with the standard DSBG.