Draft SSC Report
January 2020

C2 Norton Sound Red King Crab Assessment and CPT Report

Norton Sound Red King Crab Assessment

- The SSC ***supports*** the CPTs recommended base model 19.0
- The SSC ***supports*** the Tier 4b calculation:
  - **Retained catch OFL = 0.287 million lbs (0.13 thousand t)**
- The CPT recommended increasing the buffer between OFL and ABC from 20% to 25% in 2020 because of very low summer fishery CPUE and unusually large numbers of old-shell males in the fishery in 2019
- However, **the SSC is quite concerned about this stock and instead recommends a more conservative 30% buffer resulting in an ABC of 0.201 million lbs (0.09 thousand t) for 2020**

SSC's Justification for 30% Buffer

1. Considerations of other stocks with similar levels of uncertainty
2. Concerns with model specification (retrospective pattern)
3. Sparse discard data and resultant inability to manage the stock based on total catch, which is the standard for federal fisheries
4. Unresolved issues associated with high M for the largest size class
5. Discrepancies between ADF&G and NMFS survey estimates, and concerns about crab spatial distribution relative to the survey footprint
6. Very low fishery CPUE and inability of the fishery to attain 2019 ABC
7. Large numbers of old-shell males in the fishery in 2018-2019
8. High proportions of barren females indicating reproductive failures in 2019 (lack of sufficient mature males)

SSC's Justification for 30% Buffer (continued)

9. Below-average numbers of prerecruits (<94 mm CL) in 2015-2018 suggesting below-average recruitment to the fishery for several more years
10. High uncertainty in the most recent year class (prerecruits in 2019), tentatively estimated to be large. However, these small crab are several years away from recruiting to the fishery and they are challenged by unprecedented recent increases in Pacific cod, a major crab predator

- The SSC ***provides*** recommendations to the authors on the following topics: (1) total catch OFL and ABC, (2) discards, (3) spatial analyses, (4) incorporation of LK and TK, (5) maturity, (6) retrospective analysis, (7) data weighting, (8) survey area, and (9) catchability coefficient.

Crab Plan Team Report (1/2)

- The SSC ***supports*** the catch time series revisions for all crab stocks
- The SSC ***supports*** further work on existing ESPs and potential new ESP (BBRKC)
- The SSC ***reiterates*** request for more accurate projections based on estimated catches
- The SSC ***supports*** evaluation of catch variances from state observer programs to examine tradeoffs with amounts of observer effort
- The SSC ***recommends*** continued adoption and improvements to GMACS assessment model

Crab Plan Team Report (2/2): AIGKC

- 4 new models expected in May
  - Various explorations of standardizing fishery CPUE and survey time series
  - Choice of recruitment time series for reference points
- The SSC ***agrees*** with CPT choice of models
- The SSC ***agrees*** that maturity analyses did no justify changing maturity at length
- The SSC ***recommends*** further analysis of cooperative survey data
- The SSC ***requests*** clarification of rationale for choice of recruitments to include in estimating reference points
- The SSC ***requests*** spatial maps of the CPUE data over time to look evaluate the fishery footprint and the areas in the standardization