

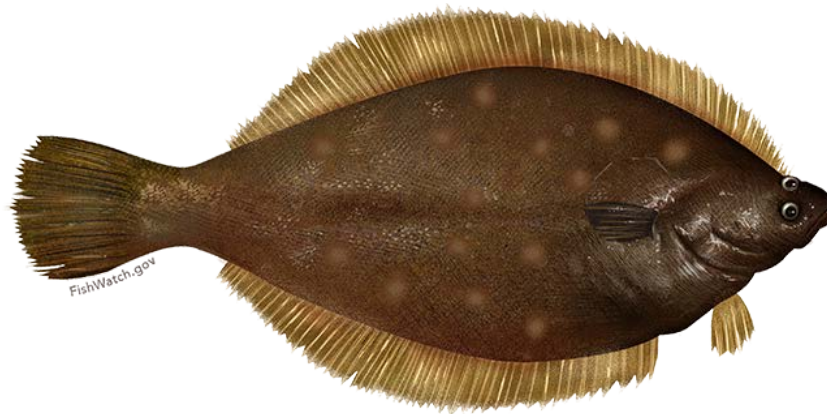
**SSC Report to NEFMC:
George's Bank Yellowtail Flounder,
Monkfish, Red Crab**

Danvers, MA
September 21, 2016

Jason McNamee, Vice Chair SSC

George's Bank Yellowtail Flounder TOR

- Provide the OFL and an ABC for each year for fishing years 2017 and 2018 that will meet management objectives and prevent overfishing



SSC Comments/Discussion

- Stock assessed using empirical approach (FI surveys conducted by DFO and NOAA (spring and fall))
- Precludes formal estimation of reference points and status of the stock, OFL remains unknown
- 2014 assessment recommended ABC be set based on exploitation rate ranging from 2% to 16% applied to the mean swept-area biomass estimate from the three surveys.
 - SSC accepted and selected upper end of range 354 mt

SSC Comments/Discussion

- 2015, SSC recommended status quo for FY2016
 - Biomass estimate had not changed substantially
 - SSC expressed concerns about uncertainties inherent in approach (high variance, inconsistencies among surveys)
 - SSC did not specify what would constitute a “substantial” change
- Suggested that basing ABC on three-year moving average of biomass estimates might dampen both noise in survey data and resulting inter-annual fluctuations in catch

SSC Comments/Discussion

- 2016 TRAC assessment reports larger change in average biomass estimate from 2015 to 2016 (-32%) than change from 2014 to 2015 (<1%)
- PDT recommended 245 mt for FY2017, based on previously accepted control rule
- SSC decided to recommend that the status quo ABC of 354 mt be retained as the upper limit
 - Primary reason: considerable uncertainties in survey-based estimates suggest one-year change might not reflect meaningful change in stock needing management response

SSC Comments/Discussion

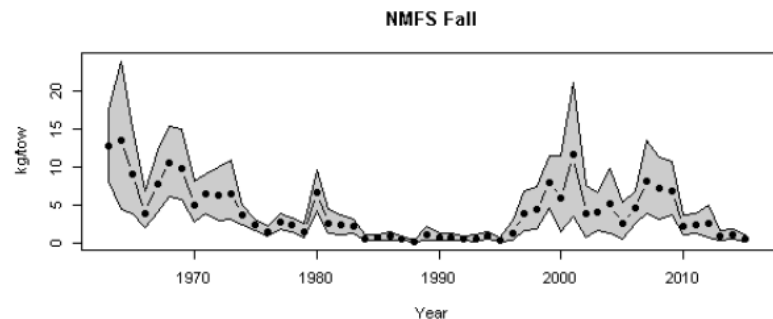
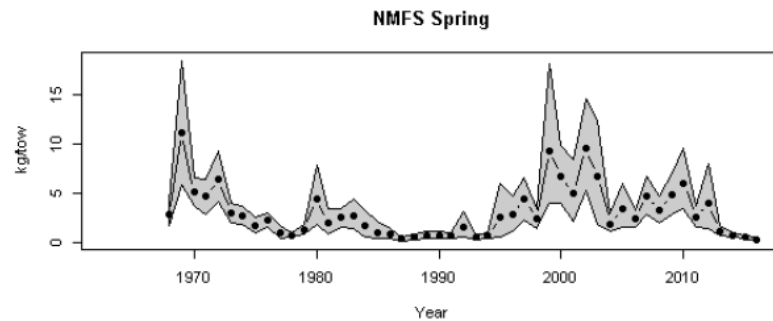
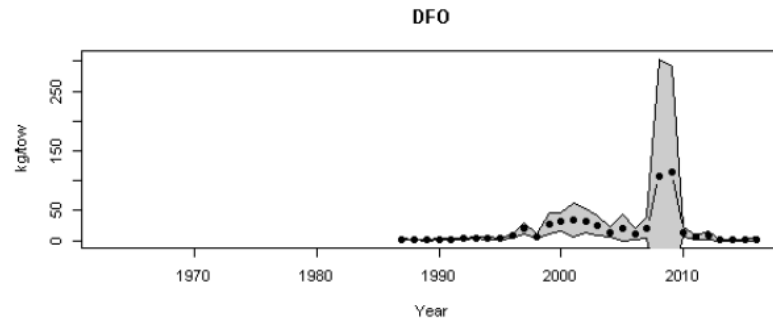
- SSC discussed in detail some of the risk considerations accompanying our advice, particularly the likelihood that the advice will result in overfishing
- SSC identified several factors suggesting risks associated with status quo ABC are low:
 - catch limits and actual catches are lowest on record; market factors, avoidance by fishermen providing buffer against the risks of overfishing
 - Relative exploitation rates lowest on record, suggests fishing mortality rate is low
 - Despite reductions in catch and low relative exploitation rates, biomass has not shown a positive response, suggests environmental factors having strong effect

SSC Comments/Discussion

- SSC identified several factors suggesting risks associated with status quo ABC are low (cont.):
 - Proportion in age classes 6+ is highest observed in many years (catch and DFO survey); recovery of older/reproductively valuable fish could be the precursor of future biomass response (age expansion not observed in NOAA surveys)
 - TRAC assessment of GB yellowtail flounder and specs conducted annually, therefore advice will be revisited, potentially adjusted for FY2018
- It is important to reiterate that if full ABC is caught, the risk profile may change (difficult to determine the scale of this change)
- 354 mt proportionally greater than catches from 2013-2015, however would remain lower than catches prior to 2013, therefore maintaining recent reduction in removals

Catch Advice

- OFL:
 - **2017 = unknown**
 - Prev OFL = unknown
 - **2018 = unknown**
- ABC:
 - **2017 = 354 mt**
 - Prev ABC = 354 mt
 - **2018 = 354 mt**



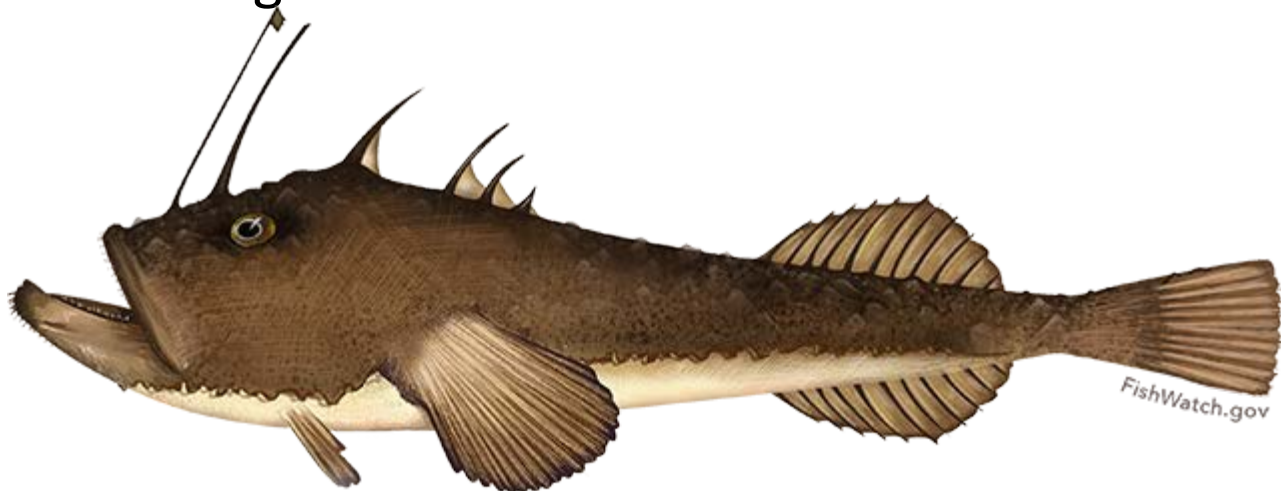
- **FY2018 catch specifications will be revisited and possibly adjusted following the 2017 TRAC assessment**

Sub Committee

- SSC was limited by the absence metrics to define “substantial” changes in the stock to trigger a change in ABC, therefore recommending subgroup to develop metrics
- These might include (not necessarily be limited to):
 - A threshold (i.e., percentage) change in the average biomass estimate
 - Use of 3 year moving average of biomass estimates (rather than 1 year estimate), with or without a threshold to trigger a change
 - Trend in biomass estimates instead of or in addition to single year or multi-year estimates
 - Use of the 95% confidence interval or other measures of spread to determine whether interannual changes are significant and warrant a change
 - Changes in other relevant metrics beyond the biomass estimates and trends
- SSC will likely request time on upcoming SSC agenda to review sub-group advice and develop recommendations as appropriate, establishing greater transparency in development of catch advice for Georges Bank yellowtail flounder stock

Monkfish TOR

- Review information from the June 2016 operational assessment for monkfish and provided by the Monkfish Plan Development Team (PDT)
- Specify OFLs and develop ABC recommendations for both the northern and southern management areas for fishing years 2017-2019. ABC recommendations should be provided under the current control rule and/or under any new control rule that the SSC might recommend



SSC Comments/Discussion

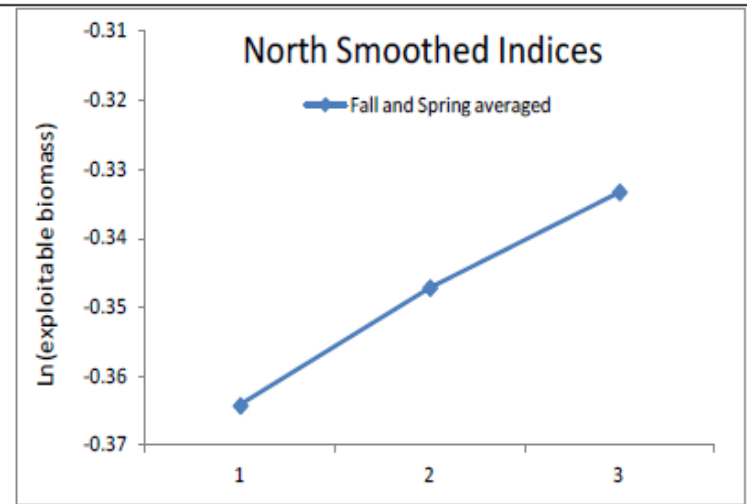
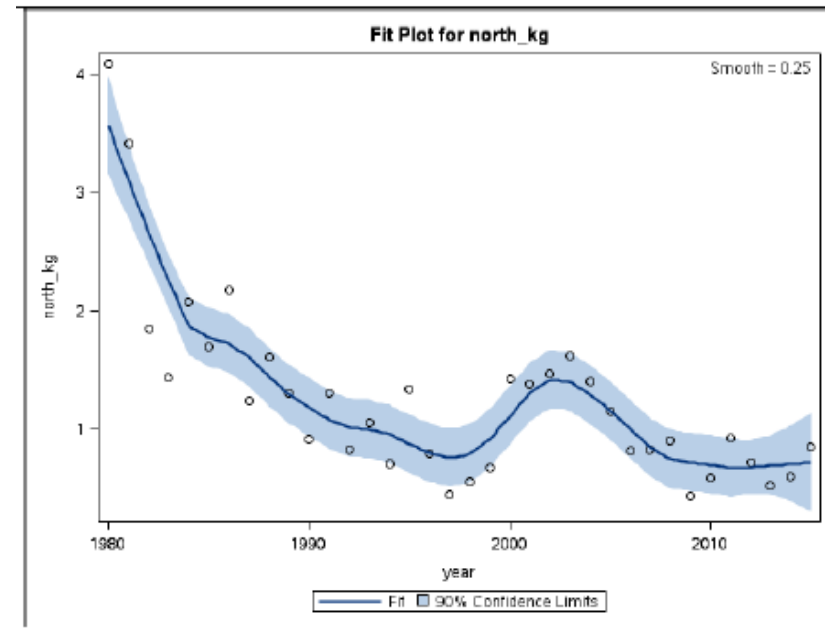
- Previous model used to calculate stock status was not updated for operational assessment
 - Due to new information that indicating growth information used previous was inaccurate (does not follow a linear assumption)
 - Additionally, current aging technique was invalidated
- An index-based assessment was conducted for both the Southern and Northern management areas as alternative source of catch advice information
- SSC recommends status quo for both the OFL and ABCs for the two monkfish management areas for fishing years 2017-2019
 - Follows the advice of the PDT

SSC Comments/Discussion

- Advice based on the trend in stock size; flat in the north, declining in the south (within inter-annual variance), signal of strong recruitment in 2015
- SSC noted that not all recruitment events observed in the past have recruited to the fishery so was unclear as to effect of this recruitment event
 - recommend closely monitoring
 - recruitment event will be relevant for the time period covered by this action
- Signals viewed as indicating a stable population with potential stock growth
- As added buffer the fishery has not harvested its TAL in recent history
- Above warrants status quo OFLs and ABCs as being adequate to keep these stocks from declining to a poor status

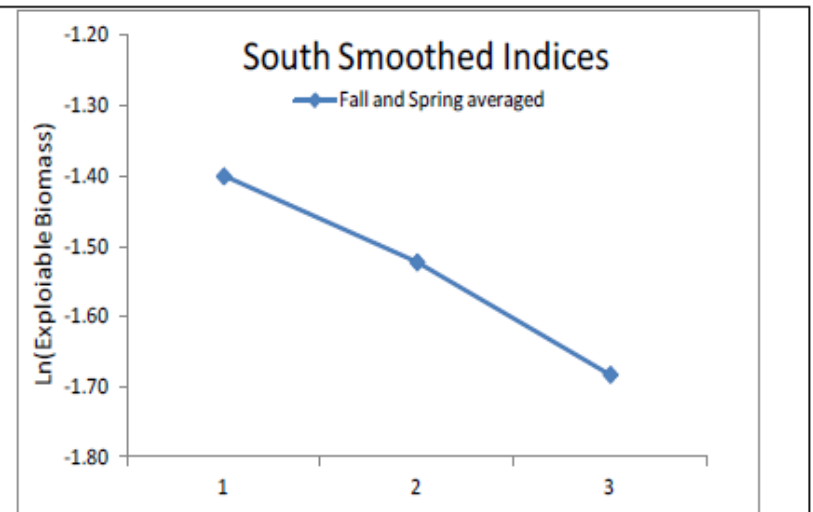
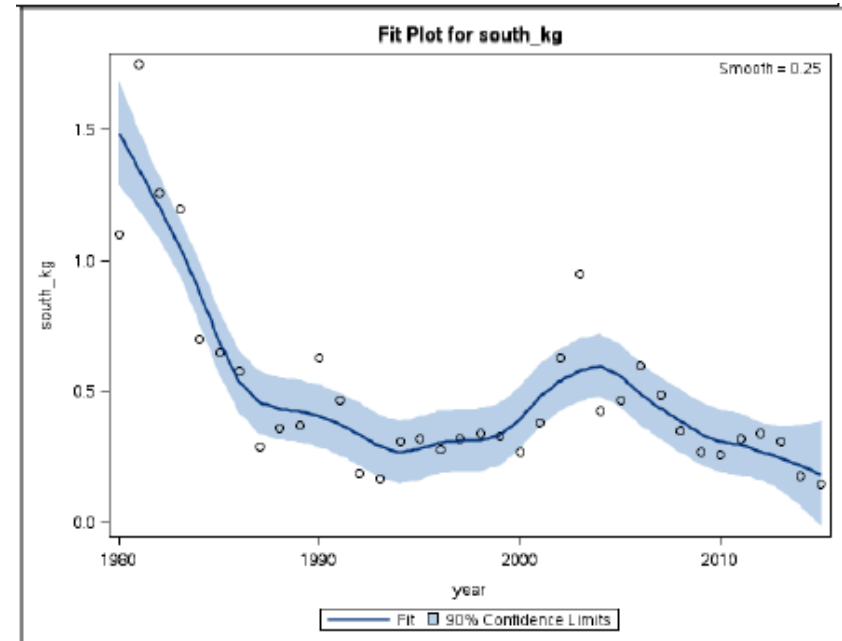
Catch Advice – Northern Area

- OFL:
 - **2017- 2019 = 17,805 mt**
 - Prev 2016 OFL 17,805 mt
- ABC:
 - **2017 - 2019 = 7,592 mt**
 - Prev 2016 ABC 7,592 mt



Catch Advice – Southern Area

- OFL:
 - **2017- 2019 = 23,204 mt**
 - Prev 2016 OFL 23,204 mt
- ABC:
 - **2017 - 2019 = 12,316 mt**
 - Prev 2016 ABC 12,316 mt



Additional SSC Discussion

- Recommendation to move towards returning to analytical assessment
 - new information available soon which may help inform analytical assessment
- Interaction with other fisheries (groundfish, skates) should be investigated and defined as interactions could have implications for specification setting
- SSC requests a data update in 2017 to help determine if the 2015 year-class is recruiting and to provide updated advice if warranted
- A more systematic process for selecting fallback assessment methodology is needed in event that an analytical model is not utilized/doesn't perform well
- SSC notes the fishery performance report was a helpful document in understanding broader context of the fishery, especially attributes that determine risk profile

Red Crab TOR

- Review red crab landings, discard and discard data and analyses provided by the Red Crab Plan Development Team (PDT)
- Review interim acceptable biological catch (ABC) control rule for and develop ABC recommendations for fishing years 2017-2019



SSC Comments/Discussion

- Catch advice has been based on a data-limited approach using the depletion-adjusted average catch (DCAC) method
- Available fishery-independent surveys suggest that depletion of the red crab stock has been minimal, so DCAC outcome is simply the time series average landings
- DCAC does not allow estimation of reference points needed to calculate OFL, information previously provided led SSC to conclude that status likely below OFL

SSC Comments/Discussion

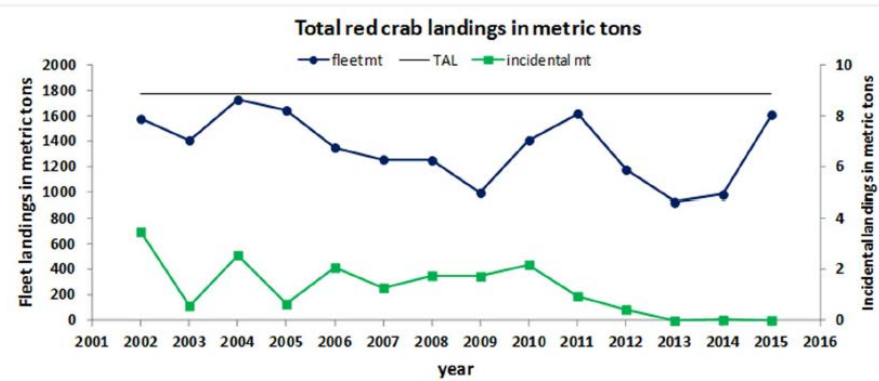
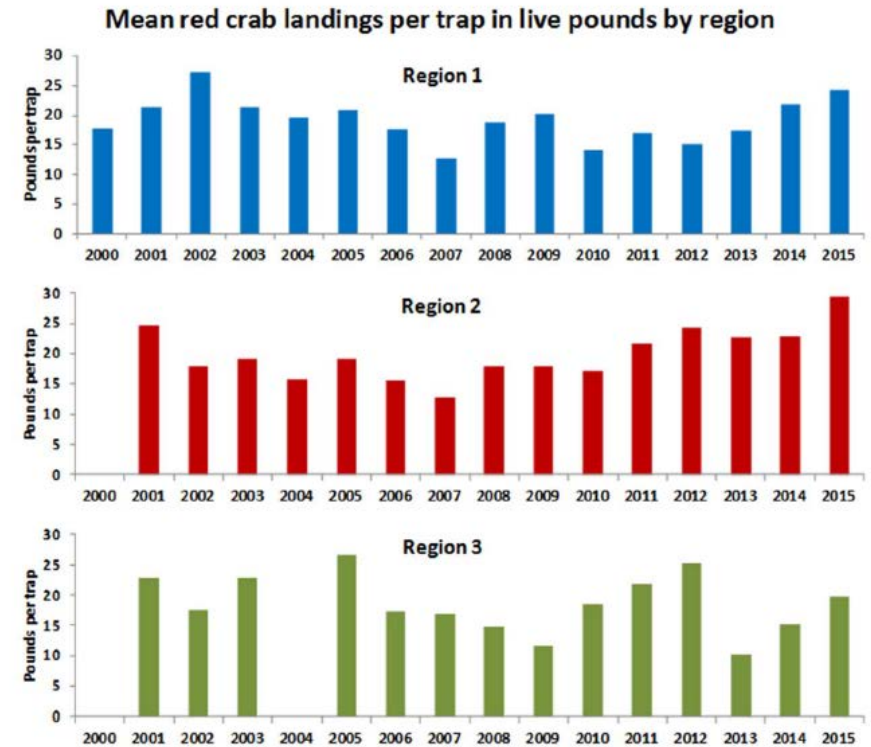
- Updated information shows the fishery continues to be data poor, but available indicators suggest biological and economic stability
- Risk policy matrix and supporting information illustrate that risk factors associated with the fishery (small fleet size, geographic isolation from other fisheries, etc.) do not suggest cause for concern
- SSC does not recommend a change in the approach to developing catch advice
- OFL for the stock remains unknown, and ABC should remain status quo

SSC Comments/Discussion

- Industry representative noted that fleet has made multiple investments in research and monitoring
 - incentive to continue if outcomes could be incorporated into mngmnt
 - Example, surplus-production models developed but not yet used for catch advice
 - Advantage, production models can provide MSY-based reference points
- Similarly, the SSC sees potential to incorporate other information (e.g., CPUE, mean size or size frequency, etc.) into a refined control rule
- 5 yr review of Council research priorities presents opportunity to formally evaluate approaches to develop catch advice incorporating additional info
 - SSC suggests that this be considered as a potential research priority

Catch Advice

- OFL:
 - 2017- 2019 = unknown
 - Prev 2016 OFL unknown
- ABC:
 - 2017 - 2019 = 1,775 mt
 - Prev 2016 ABC 1,775 mt





Questions?

