

Georges Bank Yellowtail Flounder Empirical Approach

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Outline

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What is an Empirical Approach?

- An attempt to derive catch advice based on a detailed review of the survey estimates and the assumptions used to derive swept area estimates of abundance.
- An examination of the changes in abundance estimates over time and estimation of total mortality.
- An explicit consideration of the implications of missing mortality on catch advice.
- Similar approach is used to set regulations for GOM winter flounder.



Why are we doing this? (1)

- Stock assessment for Georges Bank yellowtail flounder suffers from a severe retrospective pattern.
- Potential causes of the retrospective pattern include inaccurate reporting of landings, underestimation of discards, or increases in natural mortality.
- Neither the model nor ancillary evidence is sufficient to distinguish among these competing hypotheses.
- In the absence of unequivocal evidence, there is no expectation that an update of the current assessment approach will alleviate any of the concerns raised about this assessment.



Why are we doing this? (2)

- ICES review of alternative models in July 2013 revealed no suitable alternatives that could explain the retrospective pattern.
- Conflicting signals in the data
 - Rapid rise ('90-early '00) and then rapid fall in survey indices
 - Age distributions truncated
 - Declining weight at length
 - But catches have declined even faster leading to low rates of relative fishing mortality (catch/survey indices)
- Where are the missing fish?
 - Landings, Discards, Natural Mortality (including disease), Migration



What are we doing?

- Empirical approach looks at the problem of abundance estimation from the component pieces
 - An in-depth review of survey indices
 - Comparisons among gear types
 - Inclusion of Cooperative Research Results
 - Inclusion of new technologies
 - Comparisons with short and long-term tagging studies
 - Investigate effects of alternative assumptions
 - Full exploration of uncertainty of estimates



How will you develop catch advice?

- Consider “best” abundance estimates
 - “Best” reflects estimate most consistent with underlying hypotheses. i.e. Are the assumptions met?
- Apply existing or updated fishing mortality reference points.
 - Updating might occur if natural mortality is demonstrated to be higher
- Consider the historical set of abundance estimates and responses to fishing.



Who will be involved?

- TRAC Benchmark Assessment
 - US and Canadian Scientists
 - External Reviewers
- Government, academic scientists
 - Stock assessment
 - Survey
 - Cooperative Research
- Fishermen and their consultants
- Managers



When are we doing this?

- TRAC Benchmark will held week of April 14-18
- Meeting with industry prior to Benchmark
- Informal meetings with industry and other partners in planning stages.
- Note—2013 catch data will not be available until May 2013.



What is the Assessment Process?

- TRAC Benchmark in April
 - Will evaluate methodology and make recommendations on use, particularly with respect to the existing VPA model
- TRAC Assessment in June
 - Will follow recommendations of Benchmark
 - Update with 2013 landings, discards, and 2014 US and Canada survey data
 - Will update VPA
- SSC Review (TBD)
- TMGC recommendations (TBD)



Will this meet the requirements of Magnuson Stevens Act?

- Overfishing determination is possible.
- Catch over biomass will give measure of overfishing
- Fishing mortality reference point may be updated if analyses suggest a change in M
- Biomass reference points not likely to be revised
- Progress toward rebuilding may be unknown



Questions?

