SEDAR

SouthEast Data, Assessment, and Review

South Atlantic Fishery Management Council
Gulf of Mexico Fishery Management Council
Caribbean Fishery Management Council
NOAA Fisheries
Atlantic States Marine Fisheries Commission
Gulf States Marine Fisheries Commission

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SEDAR 25 South Atlantic Black Sea Bass
Terms of Reference

October 2010

Data Workshop Terms of Reference

1. Review stock structure and unit stock definitions and consider whether changes are required.
2. Review, discuss, and tabulate available life history information if new information is available.
   - e.g., Age, growth, natural mortality, reproductive characteristics
   - Provide appropriate models to describe growth, maturation, and fecundity by age, sex, or length as applicable.
   - Evaluate the adequacy of available life-history information for conducting stock assessments and recommend life history information for use in population modeling.
3. Recommend discard mortality rates.
   - Review available research and published literature
   - Consider research directed at black sea bass as well as similar species from the Atlantic and other areas.
   - Provide estimates of discard mortality rate by fishery, gear type, depth, and other feasible or appropriate strata.
   - Include thorough rationale for recommended discard mortality rates.
   - Provided justification for any recommendations that deviate from the range of discard mortality provided in the last benchmark and update (SEDAR2, 2005 Update).
4. Provide measures of population abundance that are appropriate for stock assessment.
   - Consider and discuss all available and relevant fishery dependent and independent data sources.
   - Document all programs evaluated; address program objectives, methods, coverage, sampling intensity, and other relevant characteristics.
   - Provide maps of survey coverage.
   - Develop CPUE and index values by appropriate strata (e.g., age, size, area, and fishery) and include measures of precision and accuracy.
   - Discuss the degree to which available indices adequately represent fishery and population conditions.
   - Recommend which data sources are considered adequate and reliable for use in assessment modeling.

5. Provide commercial catch statistics, including both landings and discards in both pounds and number.
    - Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species and fishery sector or gear.
    - Provide length and age distributions if feasible.
    - Provide maps of fishery effort and harvest.
6. Provide recreational catch statistics, including both landings and discards in both pounds and number.
    - Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species and fishery sector or gear.
    - Provide length and age distributions if feasible.
    - Provide maps of fishery effort and harvest.
7. Provide recommendations for future research in areas such as sampling, fishery monitoring, and stock assessment. Include specific guidance on sampling intensity (number of samples including age and length structures) and appropriate strata and coverage.
8. Develop a spreadsheet of assessment model input data that reflects the decisions and recommendations of the Data Workshop. Review and approve the contents of the input spreadsheet by TBD.
9. Develop a list of tasks to be completed following the workshop.
10. No later than TBD, prepare the Data Workshop report providing complete documentation of workshop actions and decisions (Section II. of the SEDAR assessment report).

Assessment Workshop Terms of Reference

Assessment Process I

1. Review any changes in data following the data workshop and any analyses suggested by the data workshop. Summarize data as used in each assessment model. Provide justification for any deviations from Data Workshop recommendations.
2. Develop BAM and ASPIC assessment models.
   - Document all input data, assumptions, and equations for each model.
   - Include a model configuration consistent with the SEDAR 2 benchmark as subsequently updated ("Continuity run") incorporating additional data observations.
3. Provide estimates of stock population parameters.
   - Include fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship, etc
   - Include appropriate and representative measures of precision for parameter estimates.
4. Characterize uncertainty in the assessment and estimated values.
   - Consider uncertainty in input data, modeling approach, and model configuration.
   - Consider other sources as appropriate for this assessment.
   - Provide appropriate measures of model performance, reliability, and 'goodness of fit'
5. Provide evaluations of yield and productivity.
   - Include yield-per-recruit, spawner-per-recruit, and stock-recruitment models.
6. Provide estimates for SFA criteria consistent with applicable FMPs, proposed FMPs and Amendments, other ongoing or proposed management programs, and National Standards.
   - Evaluating existing or proposed SFA benchmarks as specified in the management summary.
   - Recommend proxy values when necessary.
7. Provide declarations of stock status relative to SFA benchmarks.
8. Perform a probabilistic analysis of proposed reference points, stock status, and yield.
   - Provide the probability of overfishing at various harvest or exploitation levels.
   - Provide a probability density function for biological reference point estimates.
   - If the stock is overfished, provide the probability of rebuilding within mandated time periods as described in the management summary or applicable federal regulations.
9. Project future stock conditions (biomass, abundance, and exploitation) and develop rebuilding schedules if warranted; include estimated generation time. Stock projections shall be developed in accordance with the following:

   A) If stock is overfished:
   F=0, F=current, F=Fmsy, Ftarget (OY),
   F=Frebuild (max that rebuild in allowed time)

   B) If stock is overfishing
   F=Fcurrent, F=Fmsy, F= Ftarget (OY)

   C) If stock is neither overfished nor overfishing
   F=Fcurrent, F=Fmsy, F=Ftarget (OY)
10. Provide recommendations for future research and data collection.
    - Be as specific as practicable in describing sampling design and sampling intensity.

- Emphasize items which will improve future assessment capabilities and reliability.
- Consider data, monitoring, and assessment needs.

11. Prepare an accessible, documented, labeled, and formatted spreadsheet containing all model parameter estimates and all relevant population information resulting from model estimates and any projection and simulation exercises. Include all data included in assessment report tables and all data that support assessment workshop figures.
12. No later than TBD complete the Assessment Workshop Report (Section III of the SEDAR Stock Assessment Report).

Review Workshop Terms of Reference

1. Evaluate the adequacy, appropriateness, and application of data used in the assessment.
2. Evaluate the adequacy, appropriateness, and application of methods used to assess the stock.
3. Recommend appropriate estimates of stock abundance, biomass, and exploitation.
4. Evaluate the methods used to estimate population benchmarks and management parameters (*e.g., MSY, Fmsy, Bmsy, MSST, MFMT, or their proxies*); recommend appropriate management benchmarks, provide estimated values for management benchmarks, and provide declarations of stock status.
5. Evaluate the adequacy, appropriateness, and application of the methods used to project future population status; recommend appropriate estimates of future stock condition (e.g., exploitation, abundance, biomass).
6. Evaluate the adequacy, appropriateness, and application of methods used to characterize uncertainty in estimated parameters. Provide measures of uncertainty for estimated parameters. Comment on the degree to which methods used to evaluate uncertainty reflect and capture the significant sources of uncertainty. Ensure that the implications of uncertainty in technical conclusions are clearly stated.
7. Ensure that stock assessment results are clearly and accurately presented in the Stock Assessment Report and that reported results are consistent with Review Panel recommendations.*
8. Evaluate the SEDAR Process as applied to the reviewed assessment and identify any Terms of Reference which were inadequately addressed by the Data or Assessment Workshops.
9. Consider the research recommendations provided by the Data and Assessment workshops and make any additional recommendations or prioritizations warranted. Clearly denote research and monitoring needs that could improve the reliability of future assessments. Recommend an appropriate interval for the next assessment, and whether a benchmark or update assessment is warranted.
10. Prepare a Peer Review Summary summarizing the Panel's evaluation of the stock assessment and addressing each Term of Reference. Develop a list of tasks to be completed following the workshop. Complete and submit the Peer Review Summary Report no later than TBD.

* The panel shall ensure that corrected estimates are provided by addenda to the assessment report in the event corrections are made in the assessment, alternative model configurations are recommended, or additional analyses are prepared as a result of review panel findings regarding the TORs above.

Black Sea Bass Update 2010 – Data Webinar

Sept 7, 2010

Brief Summary

1 – 3 pm

Prepared by Kari Fenske

General Information

At the data scoping call in July, 2010 it was identified that 40,000+ new age samples were now available for black sea bass. This information could not be used in an update because it would change the model structure. In light of these new data, the panel recommended that the 2010 black sea bass update be changed to a full benchmark assessment. This would require a data workshop be held to discuss all data. A memo stating the panel's request for a benchmark will be sent to the South Atlantic Fishery Management Council for their September meeting.

Update Data

The panel proceeded to give recommendations on outstanding data decisions that would need to be made if the assessment continued as an update. A separate list was compiled for data decisions and discussions that would be needed if the update was switched to a benchmark assessment.

Decisions:

- Alan Bianchi at the NC DMF investigated a different way of splitting commercial landings at Cape Hatteras. He presented two methods – the "S2" method used in the last update and the new "water body" method. Both methods produced similar results. The panel recommended proceeding with the "S2" method for the update.
- There was a concern with how to handle commercial mixed gear (handline and trap) landings from Florida. Many trips report multiple gears, but we don't know the precise landings for each gear. For the 2005 update the commercial landings used a handline priority in compiling landings. Steve Brown compared the handline priority method for compiling landings to a trap priority method. The two methods had different results for Florida. The panel recommended using the trap priority method for the update.
- The recreational headboat index for 1974-2009 was examined using two methods: a lognormal GLM using positive trips and a delta-lognormal GLM using the Stephens and MacCall method to determine effort. The panel recommended using the GLM based on positive trips for the update.
- MARMAP maturity data time periods were discussed but not presented.
- The MARMAP chevron trap abundance index used in the last update could not be recreated. The data were examined using depth and soak time. The panel recommended using the abundance index that used data with depth up to 40 m and traps with 45-150 minute soak times.

Data requests

The panel also discussed several requests for data exploration and additional analyses.

- Requests for sample size data by year, state, and sector will be available by mid-September for TIP, headboat, and MRFSS data. MARMAP data will also be provided.
- It is not possible to separate Florida and Georgia commercial landings due to confidentiality issues, but Charlie Phillips has offered to work with the panel and waive confidentiality rights to the data where possible.
- There was a request for headboat data broken down by year with area, depth, and size data. Headboat data does not regularly have depth information. There are confidentiality issues with headboat data, but it may be possible to look at proportional catch by blocks.
- Commercial logbook and observer data could be examined for a benchmark, but would not be included in an update.
- The headboat index was examined with a delta-lognormal GLM as requested.
- Nobody was aware of new literature that specifically addresses protogyny and production models.

Issues identified that would need to be discussed if the current update is switched to a benchmark

1. Trap priority/multiple gear issues for Florida commercial data (other states too?). Multiple gears are listed on some reports and landings for each gear are not specified. Apportioning the landings to a specific gear has implications for discard mortality and selectivity, as they are applied to landings.
2. Splitting of commercial data for North Carolina would need to be discussed at a data workshop. Alan Bianchi investigated a new method for splitting the landings ("water body" method).
3. Commercial landings could possibly be looked at by year & state. A confidentiality release will be pursued so that this can be done.
4. The recreational headboat index for 1974-2009 was examined using two methods: a lognormal GLM using positive trips and a delta-lognormal GLM. There would need to be further exploration of the delta-lognormal method at a data workshop and potentially examination of headboat data by year, area, depth, and size.
5. MARMAP data:
    - Re-examine maturity time blocks
    - Re-examine sex ratios
    - Review the 30,000 ages now available (also ~11,000 from Beaufort and 7,000 from NC DMF)
    - Review the MARMAP abundance index calculations
6. Examination of changes in black sea bass size at age over time was suggested.

South Atlantic Black sea bass
Data webinar
September 7, 2010

Webinar Attendees:

ASSESSMENT PANEL
John Boreman
Chip Collier
Frank Hester
Amy Schueller
Marcel Reichert
Doug Vaughan

COUNCIL REPRESENTATIVES
Charlie Phillips
George Geiger

COUNCIL AND AGENCY STAFF
John Carmichael
Kari Fenske
Julie Neer
Rick DeVictor
Jack McGovern
Jennifer Potts
Tom Sminkey

DATA PROVIDERS
Joey Ballenger
Alan Bianchi
David Player
Jessica Stephen
Dave Wyanski
Laurie DiJoy

OBSERVERS
Jimmy Hull
Rusty Hudson
Yan Jiao

Appointed participants who were not present:
Zach Bowen
Bobby Cardin
Andy Cooper
Andy High
Kenny Fex