

## Atlantic States Marine Fisheries Commission

### Atlantic Menhaden Technical Committee Meeting Summary

Raleigh, NC – 6/25/12

#### Attendance

- **TC Members** – Matt Cieri, Alexei Sharov, Behzad Mahmoudi, Joey Ballenger, Derek Orner, Micah Dean, Rob Latour, Jay McNamee, Erik Williams, Trish Murphey, Joe Smith, Amy Schueller, Jeff Brust, Bill Windley
- **ASMFC Staff** – Mike Waine
- **Public** – Mike Prager, Ron Lukens, Jud Crawford, Bill Goldsborough, Joe Grist, Shaun Gehan, Jim Sulikowski, Doug Butterworth, Dick Brame, Steve Meyers, Helen Takade-Heumacher

#### Intro/Review Agenda

- Jeff – There will be opportunities for public input at start, at lunch and at end of meeting.
- Jeff – *[reviews tasks to TC from recent board chair memo]*
- Jeff – task #3 is a request to provide additional information that will provide insight on the status of the stock...keep that in mind as we go through today's meeting.

#### Stock Assessment Update

- Amy – *[goes through assessment update presentation]*
- Alexei – *[regarding weight-at-age plots]* - there is density-dependent growth in this species...high weights-at-age corresponds with low abundance period. This could be an additional piece of information with which to evaluate the current status of the stock.
- Behzad – which age class is dominant? Where would you expect this relationship to be most pronounced?
- Joe S – the contemporary fishery is dominated by age 2, but in the past it has been age 0s and 1s
- Rob – *[regarding plots comparing the update to previous benchmark]* - are benchmark fits reflective of incorrect PRFC effort data?
- Amy – yes, we did not go back and re-run benchmark plots with corrected data
- Alexei – *[regarding retrospective plots]* – percent of relative change is calculated with respect to 2011?
- Amy – yes.
- Behzad – we need to revisit how dome-shaped selectivity is estimate in the BAM. Seems like a very steep decline from age of full recruitment to maximum age. Best to visit this thoroughly through a benchmark
- Rob – *[to Amy]* any insight why the model doesn't want to fit index data?
- Amy – in the sensitivity analysis, we explored dropping each data source in turn, but with no improvement in fits...it is likely more than one data source is causing this issue

8

comprised upwards of 20% in some years and now contribute less than 1%. As a result, we would expect to see a higher proportion of age 1s

- Erik – we need to step back and discuss board charge #3. This is the 11<sup>th</sup> hour, it seems way too late to come up with meaningful alternative advice to inform the status of the stock
- Matt – we need to come to a decision as to whether this model is useful for management first before we discuss alternate sources of information
- Jeff – let's let Amy finish her presentation, and then discuss what additional information can be provided to address board task #3
- Mike – *[regarding the assessment timeline]* – the intent is to finalize the document today. But we do have time before the next meeting to have another conference call, if necessary
- Amy – *[shows projection slides]*
- Alexei – it's too late to do this, but we should probably eliminate any runs where  $F > 10$  (or even 5)...simply because these are wildly unreasonable numbers
- Mike – *[regarding allocation between reduction and bait fleets]* - the board is discussing possible scenarios, how simple it is to re-run the projections?
- Amy – depending on the number of scenarios, it might take a couple of days
- Matt – there could be spatial considerations to the allocation scenarios as well
- Rob – we should figure out whether we feel the projections are informative at all before we discuss new scenarios to be run
- Alexei – *[regarding the assessment update document]* - overall, I feel that it is very well written and reflective of the TC deliberations

### Review Conclusions and Recommendations

- Jeff – *[goes through presentation]*
  - *Overweighting of the age comp data - yields lower F and higher SSB; down-weighting did not improve fit to indices*
  - *Lack of spatial modeling – needed to address changes in fishery over time; dome-shaped selectivity runs attempt to account this*
  - *Lack of a coast-wide adult abundance index - will not be resolved anytime soon*
  - *Poor PRFC fit - upward trend in index is not fit, even under sensitivity runs*
  - *Strong retrospective pattern (in both F and SSB) - suggests the model is not stable with addition to new data*
  - *Overall – casts significant doubt on the accuracy of the assessment & should not be used for management*
  - *TC did not choose nor endorse current reference points*
  - *Projections are not useful for setting TAC*
  - *Expedited benchmark appears necessary*

### Reference Points

- Rob – the recommendation from the last peer review was to come up with reference points that tied back to virgin biomass. The TC put up %SPR as the

8

most obvious way to achieve this...this functionally is an endorsement of the methodology

- Erik – but the TC was never asked what a chosen SPR level was meant to be a proxy for...MSY? Ecosystem reference points?
- Rob – but we did offer SPR as a valid method. And we offered a choice of SPR levels and the potential cuts to landings that each represented.
- Alexei – the TC put out a document that laid out our SPR methodology, which we can't back away from now.
- Rob – With the board's selected reference points, they have for the first time elected a management regime that is substantially different from the past
- Amy – the board tasked us with providing options, and we did...it was not an endorsement
- Erik – in the federal realm, the job of selecting reference points lies with the scientists, not the managers. We endorsed the methodology, not the actual choices, because we were never told what the objectives/goals were.
- Alexei – the board's stated goal was to reduce F for consideration of ecosystem services. Even with a more clearly defined goal, there is still no single magic number
- Rob – do we even have to make a statement in the report about the chosen reference points and whether we endorse them?
- Rob – we can't divorce ourselves from the chosen F15% threshold, because we offered up 9% as where we were at, 30% as an appropriate target for a pelagic forage species, and 15% as the "middle ground"
- Behzad – can't we just lay out the sequence of events that got us to where we are?
- Matt – keep in mind that the SPR method was always intended to be an interim measure on the road to ecosystem based reference points
- Jeff – I'm hearing that the wording needs to be changed to simply lay out the evolution of the current reference points
- TC - agreed

#### *Model Usefulness for Management*

- Alexei – we need to keep in mind the time scale, when we say it shouldn't be used for management
- Jeff – but it's really the terminal year that the board is interested in
- Alexei – disagree
- Rob – the statement that the model is not useful is not necessarily true...the problems identified in this assessment were there in the last benchmark
- Erik – while the last benchmark did pass, significant issues were identified...it feels like it could have easily gone the other way (i.e. not passed). Now that the model has been updated with new data, thinking has evolved
- Matt – the flip-flopping retrospective pattern was not evident in the last benchmark. A similar situation occurred in Atlantic herring which caused a peer-reviewed assessment to be dropped during an update

- Erik – the retrospective pattern in recruitment also shows serious structural problems with the model...the oldest retrospective run shows the largest deviation, whereas you would expect to see the opposite
- Alexei – given the uncertainty, the question is: can the model still tell us where we are in relation to the threshold?
- Erik – this gets at the other major source of uncertainty: the possible dome shaped selectivity. If this is true, the reference points are off
- Rob – we are going into a pretty deep review of our own work here...is this appropriate?
- Erik – what's the purpose of an update?
- Matt – feels an update is an opportunity to see if your model still working...and it doesn't appear to be working
- Amy – agrees with Erik & Matt, the retrospective pattern wasn't really apparent/discussed/understood in the previous benchmark...now it has become a major concern.
- Matt – personally feels that if we wait for a benchmark, that we will be in a better position to produce an appropriate TAC that can be carved up by fleet/region
- Micah – this discussion sounds familiar...didn't we already go over this topic on the last conference call? It seems like we can't come to a consensus on a "thumbs up" or "thumbs down" determination on the model usefulness for management. Can't we just lay out all the issues we've identified?
- Jeff – but the board put us on the spot to say whether It's useful or not
- Jay – agree with Micah on the whole, but the selectivity runs all appear to achieve the same stock status, albeit with large differences in magnitude.
- Erik – the dome-shaped selectivity runs did not recalculate the reference points, which would be affected by the altered selectivity
- Amy – keep in mind that we've only done 3 sensitivity runs (if you omit the dome-shaped selectivity runs)
- Matt – need to be clear that overfishing status is a function of the choice of reference point.
- Rob – it is true that we are overfishing because of a philosophical change in management, but that was the board's choice & our task is to determine status in relation to that threshold.
- Jeff – is the group OK with making the following statement: that current status is likely correct (i.e. overfishing is occurring), but the magnitude of the  $F/F_{\text{threshold}}$  ratio is highly uncertain.
- TC – agreed

### Public Comment

- Doug B – [to Erik's and Rob's earlier comments] - this information [likelihood components table] was not available at the last assessment. The likelihood table for the selectivity runs shows that dome-shaped selectivity achieves 120 pts lower negative log-likelihood, which appears to reject the base run model.
- Matt – for procedural reasons, we can't support an alternative model in an update