Footnote 6

Atlantic States Marine Fisheries Commission

Menhaden SAS/TC Conference Call

5/29/12

Attendance

TC/SAS – Matt Cieri, Trish Murphy, Joey Ballenger, Alexei Shirov, Amy Schueller, Erik Williams, Joe Smith, Jeff Brust, Rob Latour, Behzad Mahmoudi, Micah Dean, Jay McNamee
ASMFC – Genny Nesslage, Mike Waine
Others – Judd Crawford, Dick Brame, Ron Lukens, Bill Goldsborough, Alison Fairbrother, Doug Butterworth, Shaun Gehan, Bill Windley, Helen T. , Jeff Kaelin, Mike Prager

Monte Carlo Bootstrap (MCB) Runs

- *[Amy reviews methods for full time series MCB runs]*
  - *uncertainty was added to: PRFC, JAI, reduction + bait landings, reduction + bait age composition*
  - *BRPs based on 1955-2011: F30% = 0.62; F15% = 1.34; SSB@F30% = 61,100; SSB@F15% = 30,550*
- *[Amy review plots of F/target & SSB/target]*
  - Rob – overfishing the entire time, but not overfished? What are your thoughts? Is this a model based thing, or is this a data thing?
  - Erik – caused by a choice of a proxy BRP
- *[Amy review plots of F/threshold & SSB/threshold -]*
  - Amy - majority of years are above F thresh (overfishing)…and majority of years below SSB thresh (overfished)
  - Matt – interesting choice of ref points…it seems odd that the BRP chosen by the board puts stock in overfishing/overfished state for almost entire time series
- *[Amy reviews MCB plots of F/target, SSB/target, F/thresh, SSB/thresh with at BRPs calculated from truncated time series]*
  - *[BRPs based on 1990-2011: F30% = 0.70; F15% = 1.53; SSB@F30% = 49,537; SSB@F15% = 24,767]*
  - Amy – with different BRP time period…results look pretty much the same.
  - Matt – appears there is a very long tail in the distribution of outcomes…any ideas?
  - Amy/Erik – F is getting really big in some cases. You see more variation in F than SSB, because of non-linearity at really high Fs…with big changes in F, there is a relatively minor increase in landings
  - Amy – we end up with SSB/thresh > 1 (not overfished) more often using this time period

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  - Erik – believes this caused by changes in q
- Matt – so is there something that we've changed/added that has caused this retrospective pattern…added data, or changed an assumption?
- Alexei – or was there a change in the fishery?
- Alexei – speculate that this could be caused by spatial shifts in either the fishery, or the stock, or in the portion of the age comp that the fishery harvests
- Matt – or could be caused by a change in M
- Behzad - well, it appears something happened in 2005
- Joe – One of the reduction companies (Wheatly?) closed in 2005, and he used to catch significantly more peanuts…combined with an increase in fishing off NJ, which includes more older fish…this could cause a shift in the fishery age comps.
- Matt – looks like there is a 200% retrospective pattern in F in the terminal year
- Alexei – but even if you did proportional correction, we would likely still be overfishing
- Matt – normally in favor of a correction, but with such a recent pattern switch (2005), this seems inappropriate
- Erik – keep in mind there is not time to correct the base run, we can only explore the model's performance at this point
- Alexei – if the base run indicates that F is 2-3 times Ftarget, but the model is also overshooting F by 200% in terminal year, what message does this send to management?
- Erik – without actually making the correction, all we can do is state the evidence…perhaps the managers will push for an expedited benchmark
- Matt – we're basically telling the managers we don't know if we're overfishing or not
- Erik – or you could say that the base run indicates we are overfishing, but the sensitivity run indicates that the model tends to have a bias towards an overfishing status
- Matt – we might want to come to a consensus on whether we want a benchmark sooner rather than later
- Genny – without better data, it is unlikely that a new benchmark will drastically improve performance
- Matt – but getting the model in front of a review panel can force the decision as to whether this model is appropriate to use, given the bias/uncertainty
- Alexei – not sure this is really a solution…we're basically just passing the decision on to a group of 3 semi-random individuals
- Matt – disagree, believes there needs to be a peer review to make this call
- Behzad – can we explore this retrospective issue ourselves?
- Matt – not for this update, and realistically we won't do it until there is a peer-review on the horizon. After we play/tweak with the model to explore these issues, the model will likely be so changed that it would require a peer-review anyway.

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- Erik – We also need to decide whether this is useful for management right now…unfortunately we don't have the time to fully understand what is going on, but we can convey the troubling diagnostics we're looking at
- Genny/Erik – bottom line, we don't have the time to tinker with the model, but we need to convey the amount of uncertainty that exists
- Behzad – believes this is a pretty unique situation…the fact that retro pattern switched
- Matt – agreed

PROJECTIONS

- Amy – what do we want to do for 2012 landings for reduction/bait fisheries?…mean of 2009-2011 landings?
- Alexei – what's happening after 2012 in the projections?
- Amy – well whatever management action gets decided…constant landings approach? Assumes the board will have other requests to evaluate as well.
- Matt – given the retro pattern, are you going to just start with the terminal year?
- Matt – would go with the base run/terminal year starting point…just need to communicate that there appears to be a retro bias. Perhaps could do a correction for terminal year bias, and show how this affects the projections.
- Amy – going to go with a 3-yr avg (2009-2011) to estimate 2012 landings
- Jeff - do we foresee the bait fishery landings to continue to increase?
- Joe – Jeff Kaelin did not think this was the case
- Matt – would agree with this
- Alexei – but we don't have reason to expect it to be less than previous year either
- Amy – how do we want variability specified?…landings are considered hard numbers in the projections…basically assumes "perfect" managment
- Matt – given the other sources of variability, landings variability will likely be minor
- Amy – agreed
- Alexei – could just go with 2011 landings, since there appears to be an increasing trend
- Matt – better to go with 3 yrs, given variability of conditions
- Erik – concurs with Matt
- *[SAS agrees to go with 3 yr avg 2009-2011 to represent 2012 landings in projections]*
- Mike – Amy, will we expect to see a similar table as was produced for PID, only out to 10 yrs?
- Amy – correct

FUTURE CONFERENCE CALLS

- Erik – appears a june 7 call is necessary…9AM-Noon, but hopefully shorter than that