

**PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
SCIAENIDS MANAGEMENT BOARD**

**The Westin Crystal City  
Arlington, Virginia  
Hybrid Meeting  
May 1, 2023**

**Approved October 19, 2023**

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1. **Approval of Agenda** by consent (Page 1).
2. **Approval of Proceedings** of August 4, 2022 by consent (Page 1).
3. **Main Motion**  
**Move to accept the 2023 Black Drum Stock Assessment and Peer Review Report for management use** (Page 17). Motion by John Clark; second by Lynn Fegley. Motion approved by unanimous consent (Page 18).
4. **Main Motion**  
**Move to have the Technical Committee annually present the indicators, as described in the black drum 2023 Stock Assessment and Peer Review Report** (Page 18). Motion by Jeff Brust; second by Shanna Madsen. Motion amended (Page 19).  
  
**Motion to Amend**  
**Move to amend by adding to inform the need for a new stock assessment** (Page 19). Motion by Erika Burgess; second by Mel Bell. Motion carried without objection (Page 19).  
  
**Main Motion as Amended**  
**Move to have the Technical Committee annually present the indicators, as described in the black drum 2023 Stock Assessment and Peer Review Report to inform the need for a new stock assessment** (Page 19). Motion approved by unanimous consent (Page 19).
5. **Move to adjourn** by consent (Page 20).

**ATTENDANCE**

**Board Members**

Jeff Brust, NJ, proxy for J. Cimino (AA)	Chad Thomas, NC, proxy for Rep. Wray (LA)
Tom Fote, NJ (GA)	Mel Bell, SC (AA)
John Clark, DE (AA)	Malcolm Rhodes, SC (GA)
Roy Miller, DE (GA)	Chris McDonough, SC, proxy for Sen. Cromer (LA)
Craig Pugh, DE, proxy for Rep. Carson (LA)	Spud Woodward, GA (GA)
Lynn Fegley, MD, Administrative proxy	Carolyn Belcher, GA, proxy for Rep. Rhodes (LA)
Russell Dize, MD (GA)	Erika Burgess, FL, proxy for J. McCawley (AA)
Dave Sikorski, MD, proxy for Del. Stein (LA)	Gary Jennings, FL (GA)
Pat Geer, VA, proxy for J. Green (AA)	Jack McGovern, NMFS
Chris Batsavage, NC, proxy for K. Rawls (AA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Somers Smott, Chair, Atl. Croaker Technical Committee	Ethan Simpson, Chair, Red Drum Technical Committee
Harry Rickabaugh, Chair, Black Drum & Spot Technical Committees	Matthew Rogers, Law Enforcement Representative

**Staff**

Robert Beal	Lindsey Aubart	Chris Jacobs
Toni Kerns	Kurt Blanchard	Mike Rinaldi
Tina Berger	James Boyle	Chelsea Tuohy
Tracey Bauer	Emilie Franke	Anna-Mai Christmas Svajdlenka

**Guests**

Dennis Abbott, NH	Scott Curatolo-Wagemann	Angela Giuliano, MD DNR
Sydney Alhale, NOAA	Sarah Cvach, MD DNR	Kurt Gottschall, CT CEEP
Shanae Allen, FL FWC	Montgomery Deihl	Emerson Hasbrouck, NY (GA)
Steve Atkinson	Sam Duggan, NOAA	Jaclyn Higgins, TRCP
John Bello	Bill Dunn	Peter Himchak, Cooke Aqua
Alan Bianchi, NC DENR	Jacob Espittia, FL FWC	Harry Hornick, MD DNR
Andrew Button, VMRC	Julie Evans	Jesse Hornstein, NYS DEC
Debbie Campbell	Glen Fernandes	Todd Janeski, VCU
Benson Chiles	James Fletcher	Jeff Kaelin, Lund's Fisheries
Matt Cieri, ME DMR	Anthony Friedrich, SGA	TJ Karbowski
Haley Clinton, NC DENR	Erika Fuller, CLF	Keilin Gamboa-Salazar
Allison Colden, CBF	Alexa Galvan, VMRC	Blaik Keppler, SC DNR
Margaret Conroy, DE DFW	Matt Gates, CT DEEP	Adrienne Kotula, Ches. Bay Comm
Caitlin Craig, NYS DEC	Shaun Gehan, Gehan Law	Kris Kuhn, PA F&B
Robert Crockett	Lewis Gillingham, VMRC	Ben Landry, Omega Protein

**Guests (continued)**

Wilson Laney  
Tom Lilly, Forage Matters  
Brooke Lowman, VMRC  
Pam Lyons Gromen, Wild Oceans  
Patrice McCarron, ME Lobstermen  
Genine McClair, MD DNR  
Joshua McGilly, VMRC  
Jack McGovern, NOAA  
Dan McKiernan, MA (AA)  
Kevin McMenamin, Annapolis  
Jason McNamee, RI (AA)  
Nichola Meserve, MA DMF  
Steve Meyers  
Chris Moore, CBF  
Thomas Newman

Thomas Newman  
Jeff Nichols, ME DMR  
Gerry O’Neill, CapeSeafoods  
Nicole Pitts, NOAA  
Marisa Ponte, NC DENR  
Will Poston, SGA  
Jill Ramsey, NYS DEC  
Marcel Reichert, SC DNR  
Jeff Renchen, FL FWC  
Paul Risi, City Univ. NY  
Tara Scott, NOAA  
Alexei Sharov, MD DNR  
Kyle Shreve  
Melissa Smith, ME DMR  
David Stormer, DE DFW

Mary Beth Tooley  
Jim Uphoff, MD DNR  
Beth Versak, MD DNR  
Jesica Waller, ME DMR  
Craig Weedon, MD DNR  
Tim Wheeler, *Bay Journal*  
Ritchie White  
John Whiteside  
Angel Willey, MD DNR  
Chris Wright, NOAA  
Erik Zlokovitz, MD DNR  
Renee Zobel, NH F&G

The Sciaenids Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, a hybrid meeting, in-person and webinar; Monday, May 1, 2023, and was called to order at 4:50 p.m. by Chair Chris Batsavage.

### **CALL TO ORDER**

CHAIR CHRIS BATSAVAGE: Welcome everyone. I'll go ahead and call the Sciaenids Management Board meeting to order. My name is Chris Batsavage; and I'm the Administrative Proxy from North Carolina, and I'll be serving as Chair.

### **APPROVAL OF AGENDA**

CHAIR BATSAVAGE: We'll start off by approval of the agenda, just to see if there are any modifications or changes or additions to the agenda.

MS. TONI KERNS: There are no hands.

CHAIR BATSAVAGE: Great, okay we will consider the agenda approved.

### **APPROVAL OF PROCEEDINGS**

CHAIR BATSAVAGE: Next is the approval of the proceedings from the August, 2022 Board meeting. Are there any changes, edits, modifications to the proceedings?

MS. KERNS: There are no hands.

CHAIR BATSAVAGE: Thanks, we will also consider those approved.

### **PUBLIC COMMENT**

CHAIR BATSAVAGE: Next up is Public Comment. This is an opportunity for members of the public to provide any comments on items that are not on today's agenda. See if there are any members of the public in person or online that would like to comment.

MS. KERNS: We just have Jim Fletcher online.

CHAIR BATSAVAGE: James, we're running a little bit behind schedule, so if you can keep your comments to a minute, that would be great. The floor is yours.

MR. JAMES FLETCHER: As I mentioned earlier today, we need to be looking at the chemicals in the water. Camp Lejeune, North Carolina, the croakers that were down there and the trout that were down there are not in that area any longer, and we need to look at the chemicals in the water, not so much affecting the reproduction of the fish, and the eggs of the fish, the ability for them to grow, the protein around the outside of the egg. It's no good to manage the fish and not manage the reproduction. Thank you.

CHAIR BATSAVAGE: Thank you, James, I appreciate the comments. Any other comments from members of the public?

MS. KERNS: I have no hands.

### **CONSIDER 2023 BLACK DRUM BENCHMARK STOCK ASSESSMENT AND PEER REVIEW REPORT**

CHAIR BATSAVAGE: All right, we will move on to the next item, which is Consider the 2023 Black Drum Benchmark Stock Assessment. This is an action item, and so a culmination of a lot of hard work by the Stock Assessment Subcommittee and the Technical Committee over the last, I guess year or two. We will start off, I think, with a presentation of the Stock Assessment Report by Chris McDonough. Chris, whenever you're ready, take it away.

MR. CHRIS McDONOUGH: I think, we were discussing this before, but I think we're going to hold questions until after both the assessment presentation as well as the peer review presentation, just so folks know.

### **PRESENTATION OF STOCK ASSESSMENT**

MR. McDONOUGH: I want to start off first by acknowledging members of both the Stock Assessment Committee and the Technical Committee, without whom none of this stuff could have been done. It was quite a bit of work, as Chris mentioned.

A little bit of life history on black drum, they are the largest member of the Sciaenid family. They are found along the Atlantic Coast of the U.S., primarily along the central coast from Florida up to New York, although they can be found all the way down to Argentina, as well as up into the Canadian Maritimes on occasion. But they are most common along that Mid-Atlantic coast.

The Black Drum management zone extends from New Jersey to Florida. Historically there has been considered three distinct populations of black drum in U.S. waters, one in the Atlantic and two in the Gulf. More recent evidence indicates genetically distinct populations in the Gulf of Mexico and Atlantic Coast of the U.S., which supports the management of black drum as a unified stock along the Atlantic Coast.

There is a weak but significant genetic divergence among the southern states from the Carolinas through Florida, but a lack of divergence with the Mid-Atlantic, and this is likely influenced by the migratory aspects of their life history. Tagging data has also shown movement of large adults from Florida through the Chesapeake, indicating mixing in the Atlantic Coast stock.

Age and growth. Black drum are considered fast growing, they reach 80 percent of their potential growth within 20 percent of their lifespan. The growth analysis did not detect any significant difference in growth between sexes and between regions. This again is supporting the use of a single growth function for the coast for black drum.

There was very little difference in the growth parameter estimates with a 2014 stock assessment, and the current assessment, even using the updated datasets. The growth was estimated using Von Bertalanffy growth curve, but because there wasn't a great deal of change in that, it was very similar to the previous assessment.

There was some differentiation in the length to weight models, basically the black drum in Virginia tended to be heavier, compared to comparably length fish in Florida. Reproduction at maturity, the estimated length at 50 percent maturity was 675

millimeters, with full maturity being reached typically by about 850 millimeters.

Both males and females reached 50 percent maturity at Age 4, and full maturity by Age 7. Given their age range, black drum mature relatively early in their life span, so they have a great deal of reproductive potential, given how long they can potentially live. Spawning in the Atlantic Coast ranges from November to June, depending on the region. Typically, South Atlantic is November through April, and Mid-Atlantic is April through June. Total fecundity has been estimated between 5.5 to a little over 26.5 million eggs per female, and that is a function of fish size, spawning season, spawning frequency and batch fecundity.

Natural mortality. In the 2015 assessment, natural mortality was estimated using Hoenig's 1983 estimated with a maximum age observed of 67 years. We had a natural mortality estimate of 0.63. For this assessment, the TC decided transition to the Then at al. model, which uses the non-linear least squares estimator of natural mortality. It's a much more robust dataset than what was used by Hoenig in his 1983 paper.

The Then at al. estimator resulted in a higher estimate of natural mortality, using the same maximum age, because we were still using this age data of 67 years old, but a natural mortality estimate of 0.104.

Black drum habitat. As I said, black drum spawning from April through June in the northern range. Typically, it's been documented in the mouth of the Chesapeake and the seaside inlets on the Eastern Shore. Evidence from Florida to Carolina suggests spawning occurs in deeper waters inshore or near inlets from November through April, with peaks in February and March. Larval black drum tend to settle in salt marshes and estuaries with a full range of estuarine salination 22 to 30 parts per thousand.

With juveniles and adults, juveniles are found throughout salt marshes in estuaries along the coast, as these areas serve as nurseries for the life stages through sub-adults. Juveniles tolerate a wide range

of salinities and temperatures, and have been found often in low to medium salinities over mud bottoms, as well as near vertical structure.

Adults move between estuaries and nearshore shelf waters, although they do tend to move into deeper channel areas in estuaries as they mature and grow. Then evidence does support an age-specific migration in the Mid-Atlantic with a northward and inshore movement in the spring, and southward and offshore in the fall. Then they do move offshore as they are into deeper waters and offshore as they mature sexually.

For our datasets that we examined, we looked at 4 different datasets in the Mid-Atlantic for young of the year. Those were the two Delaware Trawl Surveys, the 16-foot trawl survey and the 30-foot trawl survey. The Maryland Seine Survey and the PSEG Survey, and that's all in that upper left-hand corner, very similar trends amongst most of those indices. The south, in the South Atlantic we examined the North Carolina gillnet survey and the South Carolina trammel net survey. Those showed variation year to year, with not a great deal of overall trends, other than annual peaks in abundance with larger year classes.

Also, we included in the upper right-hand corner the Georgia trammel index, which was the young of the year index. This was a lone young of the year index in the South Atlantic. It is included on a separate panel because the trend in this particular survey was very different from the others, showing a decline, and did not correlate at all with any Mid-Atlantic young of the year indices. Then finally, in the lower left-hand corner, we have the MRIP CPUE Index, which was a coastwide index. This was additional dataset, the New Jersey Trawl Survey. Although this was not considered for the model, it is included as a potential indicator dataset, as well as presenting potential evidence of a range expansion of black drum in the Mid-Atlantic in recent years, or basically since 2000.

The index shows some very highly variable values, but you see that steady incline in New Jersey. In the fishery dependent data, the recreational harvest in the Mid-Atlantic was relatively consistent across

time, with no clear trends except for the peaks in 2008, 2009. While the recreational harvest in the South Atlantic shows a steady increase over the four-year time series of 1982 to 2020.

For the released alive fish or the recreational released alive, it would be 2 fish, showed only a slight increase over time in the Mid-Atlantic, well at least compared to the South Atlantic, although we're using the same Y-axis scale. If you bump that up it would show a little bit more of a line going up.

However, in the South Atlantic we see a significant increase in released fish, but particularly after 2007. The main reason for this is likely due to increased regulation during the 2000s and the 2010s. Then we assumed a discard mortality rate of 0.08 on these recreationally released fish.

Commercial fishery, their landings were highly variable and typically highly seasonal, depending on the area of the coast. Landings in the Mid-Atlantic typically are adult fish, Age 4 or older, while the South Atlantic fishery is primarily sub-adults, age 3 or less.

Okay, now I'm going to go into our models and the different methods of models and what we looked at. The preferred model, which was the JABBA-Select model, incorporates abundance information and differentiates between exploitable biomass and spawning biomass.

Alternatively, we did consider some other models, two index models, the Itarget model, which was complicated by one-way trip datasets, and uncertainty in the appropriate multiplier, and then the Skate model which was also complicated by the one-way trip datasets, and uncertainty in the appropriate reference period used.

The DB-SRA, or the Depletion-Based Stock Recruitment Analysis, which was the preferred model in the previous assessment. That one does not incorporate abundance information from the index, and then Simple Stock Synthesis, which was basically a DB-SRA model in Stock Synthesis, did not also incorporate abundance information from that index.



Then Stock Synthesis needs further development for use in future assessments, there's just not enough data with black drum to carry out that type of model.

The JABBA-Select was the preferred model, mainly due to the fact that it required one less assumption about biomass levels than DB-SRA and the Simple Stock Synthesis, does not require use of earlier uncertain catch data, as the DB-SRA used, and it counts for changes in fishery selectivity through time, and impacts the productivity. The JABBA-Select model was developed as an extension to the, Just Another Bayesian Biomass Assessment, which JABBA stands for, which is a surplus production modeling framework, as a means of incorporating life history data, fishery selectivity information, and an age-structured population type model. The JABBA is a state space Bayesian modeling framework. It is well suited to handle both observation and process error in the dynamics of the modeled stock through state space formulations, while incorporating existing information and uncertainty about the model parameters, through use of Bayesian prior distributions.

As far as the index methods went, you know as I've said, for the Itarget there were concerns with setting the index multiplier. Typically, the index multiplier is at or near that 1.0 justified for stock near carrying capacity, and a higher index multiplier is justified by more depleted stock. The depletion on black drum stock was believed to range between 0.4 and 1, and higher multipliers setting that target catch levels at lower levels than landings were at within the last decade.

For the Skate method, catch advice using the full time series was actually lower than the landings for the last 14 years. This conflicts with the not overfishing determination, using comparisons of the previous and current index CVs. Catch advice using only the time period from 2000 to 2012, did yield advice more closely aligned with the catch history.

However, there was no real good explanation for the change in the exploitation rate after 1999, and exclusion of years before 2000 could be considered arbitrary. Both methods were ultimately rejected

due to uncertainties related to the lack of fisheries independent index of relative abundance, specification of the actual depletion status of the stock, defining the appropriate index multiplier for Itarget, and then conflicting stock status between the index and the catch history for the Skate method.

For the DB-SRA model, which was used in the previous assessment and the Simple Stock Synthesis model, both assumed the black drum population started in an unexploited state in 1900, and abundance was at 70 percent on average of the unexploited state, at or near the end of the time series.

When combined with the increased removals, especially in the last 20 years, no information on abundance changes. This assumption and the structure of these two models resulted in a declining trend in abundance over time. For both models, the lowest abundance occurred in 2020, which is the final year of the current assessment.

Neither of those models incorporated abundance information from an index. The DB-SRA model produced a declining trend in abundance similar to the Stock Synthesis model, and would also have an opposite trend in abundance compared to that implied in the MRIP CPUE index. One of the primary differences between DB-SRA and the Stock Synthesis models, compared to the JABBA-Select, was the inclusion of that MRIP CPUE index.

When trying to include the MRIP CPUE in the Simple Stock Synthesis model, the fit to the MRIP index was poor, and there were opposing trends in abundance implied by the depletion assumed, compared to the MRIP CPUE index. For the JABBA model, the JABBA-Select model links age structure dynamics with per recruit models, and a Pella-Tomlinson surplus production model parameters. It uses the MRIP CPUE removal data, life history characteristics and selectivity information as inputs. It incorporates uncertainty through prior distributions on influential stock parameters, such as a stock recruitment relationship, steepness, and natural mortality. Then the JABBA model does not require the assumption

that the model time series starts when the stock is unexploited.

We did not make an assumption about depletion at or near the end of the time series, but rather makes that assumption about depletion at the start of the time series, which in this case was 1982, with the use of the prior distribution. The MRIP CPUE index generally increased during that '82 to 2020 timeframe, which implies a black drum abundance increase during this time.

But also, during this time period there was an increase in removals. Given these inputs in the structure of the JABBA model, the abundance estimates for this model generally increased over time, so that abundance in 2020 is not the lowest, but was actually one of the highest of the estimates during the '82 to 2020 timeframe.

As part of our modeling decisions, the TC felt that the MRIP CPUE did generally track population abundances, and was the only index thought to really track closely the entire coastwide stock, and had a nondecreasing trend, similar to all the fishery independent indices. Therefore, the SAS had no reason not to exclude the MRIP CPUE index in this assessment, especially as inclusion of the index or of the abundance indices was one of the improvements suggested by the reviewers during the previous benchmark assessment.

The JABBA model differentiated between exploitable biomass and spawning biomass, which are different for black drum, due to life history and exploitation patterns, and accounted for this difference when estimating annual production as the ratio of these two biomasses as they change. It required one less assumption about biomass depletion than the DB-SRA and Simple Stock Synthesis, did not require the use of early uncertain catch data, and accounted for changes to fishery selectivity through time, and resultant impacts to productivity.

This is a procedure for linking the age structure dynamics with a per recruit models for the Pella-Tomlinson surplus production model parameters, essentially drawing those iterations of natural

mortality and steepness from the prior distributions, and it solves for MSY and MSY parameters using per recruit models calculating an additional spawning stock biomass, by setting that  $F$  equal to 0 in the per recruit models, and then uses these parameters to derive multivariant priors of surplus production parameters, the HMSY and  $M$ , then fits that surplus production model to the MRIP CPUE and removals.

The reference points that are generated are MSY generated reference points. Basically, spawning biomass and exploitation, as well as MSY. And model results. Spawning biomass, which is the top figure, was estimated to increase throughout the time series, though there were wide credible intervals indicating high uncertainty in the absolute biomass estimates.

Relative biomass was estimated with more certainty. The exploitation rate, the lower left, generally follows the removal time series with higher exploitation estimated during the mid-1980s, and since 2000, credible intervals of relative exploitation are also quite wide here. Most of the intervals through the time series indicate exploitation less than HMSY. But there are some low probability years of exploitation, where it could have exceeded HMSY during those high exploitation years. The base model is interpreting the increasing trend in both MRIP CPUE and the fishery removals, as indications that the stock was lightly exploited in earlier years, which allowed for surplus biomass to recruit to less vulnerable spawning stock, and build up over time.

Some positive anomalies in the biomass during the late 2000s and early 2010s were likely due to some strong year classes that were not fully exploited at the threshold level, and appeared to have offset the increased removals and a more drastic increase in exploitation, to allow for the trend to continue increasing, although that was a reduced rate. It starts to flatten out from the increased exploitation since about 2000.

There were 9 sensitivity runs that were made using low natural mortality, high steepness in the likelihood estimates, high and low, changes in MRIP selectivity, increasing the selectivity for the South

Atlantic adults, as well as shifting the descending selectivity slightly to the right by about 100 millimeters. Then in the Mid-Atlantic early selectivity also shifting to the right. The uniform depletion priors were tested in a range from 0 to 1, and then the MRIP catchability coefficient change that occurred in 2016. These models change slightly, and the top is the original and then the base is the final one.

But there were some noticeable results. There was tighter distribution of estimates in the updated analysis, and all alternative configurations now estimate the exploitation time series remain below 1. The two configurations with the greatest relative exploitation in the updated analysis were the lower mortality rate, and then the change in the MRIP catchability coefficient.

Uniform depletion changed so much, because the model indicates a less depleted stock than in the original analysis, and therefore lower removals relative to the stock biomass and lower exploitation. The retrospective analysis was conducted with a five-year peel from the assessment terminal year.

Mohn's rho values were calculated according to the methodology of Hurtado-Ferro. The estimates of the Mohn's values range from negative 0.02 for relative biomass estimates to 0.74 for relative exploitation estimates, as the years were peeled from the timeseries. Magnitude of the Mohn's rho values indicate no significant retrospective bias according to the rule of thumb, proposed by Hurtado-Ferro, for long-lived species, which range from -0.15 to 0.2.

In conclusion, the JABBA model had shown a higher exploitation rate since 2000, increasing biomass followed by a stabilizing trend towards the end of the time series, high uncertainty in the absolute estimates, but much lower uncertainty in the relative estimates, with the majority of credible intervals concentrated in the final stock status region.

Okay, for stock status, the results indicated greater certainty that the stock has not been depleted to an overfished status in the terminal year of the assessment, while there is less certainty about the

exploitation status. The overfishing definition with spawning biomass in the terminal year, the ratio of spawning biomass in the terminal year to the spawning biomass in MSY has to be less than 1. The model estimated that at 2.99, so the stock is not overfished. Then the overfishing definition, the exploitation and the ratio of the exploitation rate the final year to exploitation rate for MSY greater than 1, with the calculated median being 0.28, so the stock is not experiencing overfishing.

All of the 95 percent credible interval is above the overfished threshold, while exploitation shows some low probability of exceeding the threshold within the 95 percent credible interval. However, this low risk of overfishing, according to the credible intervals, extends back from much of the last 20 years of the time series.

We would like to be clear that the MSY point estimates are not being recommended for catch targets, due to the uncertainty in the absolute quantities. There were some additional considerations, on the first, the empirical indicators did show increased fishery removals in the last 20 years and less frequent large recruitment events, particularly in the Mid-Atlantic in the last 10.

There were no clear indications of a declining trend in recruitment or exploitable abundance from abundance indicators, with the exception of the Georgia trammel index. There is a declining trend in the final two years of the recreational discard time series that may be reflective of abundance, in addition to other factors.

There is some indication of the northern range expansion as was shown in the New Jersey Trawl Survey. But overall, the stock indicators did not appear negative at this time. However, they should be monitored closely for any sign of change. The one-way trip increasing trend in both removals and the MRIP CPUE, the assessment time period may indicate the stock either had been lightly exploited in the 1980s, which allowed for the recent increase in exploitation and the predicted high biomass, or was overfished and rebuilding throughout the assessment time series.

However, it is possible that the recruitment overfishing is occurring or could begin to occur prior to detection with the currently available data, due to sub-adult black drum accounting for the majority of the removals and the lack of an index that solely tracks mature biomass. The overfished scenario is contrary to the TCs expert opinion that the stock was not overfished at the beginning of the time period, and there were minimal regulation changes that were aimed specifically at black drum in the 1980s to induce rebuilding.

Then with over 30 cohorts contributing to spawning stock biomass, recruitment overfishing may not be evident within the current data streams for an extended number of years, leading to an overfished state being reached prior to removals and the MRIP CPUE index indicating a sustained downward trend.

The TC concurs with the model-derived stock status, but acknowledges the lack of contrast in both the removals and the MRIP CPUE, coupled with the model uncertainty. This will require close monitoring of stock indicators and a more conservative approach to managing the fishery. With that, we'll finish up with some research recommendations, I have one more slide. Just to start off, one thing, we actually had three items from the previous assessment that had been accomplished since the last one that we wanted to point out, the collection of genetic material to obtain information on movement and population structure. This study was actually published right towards the tail end of when we were finishing up the previous assessment. Attain better estimates of harvest from black drum recreational fishery, particularly in states with really short seasons. The MRIP changes that are discussed in the assessment showed some of this, though the exception remains, like the nighttime fishery in sampling identified as a moderate research recommendation.

I'm only actually talking about the high priority ones here, there were additional research recommendations in the document. Then, collection of information on the magnitude and sizes of commercial discards, attaining better estimates of bycatch of black drum in our fisheries. The ongoing

observer program now provides monitoring of the primary suspected commercial black drum discard fishery, and recent estimates have been relatively small, in comparison to the total fishery removals, but this source of catch should be continued to be monitored into the future for assessment purposes. For the research recommendations as I said, I'm going to pretty much just list the high priority ones. The first one was to evaluate use of MRIP site-use weighting factors to improve CPUE estimates.

Utilization of the Skate and Itarget models with their current data inputs should be evaluated as annual indicators, to show current relationships between the stocks and stock removals, which is Itarget, and the ongoing trend of relative F, which is the Skate model. A process should be developed for appropriately combining the MRIP supplemental recreational sampling program data, characterizing the size and/or age structure of the recreational harvest.

The process needs to consider spatial information, as there are likely spatial effects within the state supplemental sampling program, such as the VMRC Freezer Fish Program, which occurs primarily in Eastern Shore. Continue all current fishery independent surveys recommended as stock indicators for black drum, and continue to collect biological samples of black drum in these surveys.

Develop a fishery independent adult survey to target black drum, particularly for collecting age samples in states where the maximum size regulations preclude collection of those older fish. Conduct high reward tagging program or programs to obtain return rate estimates. Continue and expand current tagging programs to obtain additional mortality, catch and release mortality, and growth information and movement at size at age data.

Increase biological sampling in the commercial fisheries, particularly gillnet fishery in Virginia, to better characterize size and age composition of the commercial landings, and increased biological sampling in the recreational fisheries, particularly harvest in the Mid-Atlantic region, and releases coastwide that are characterized in the sizes and age

composition of that recreational catch. With that I am finished my portion, and I will hand it off to Marcel, and then we will have questions afterwards.

#### **PRESENTATION OF PEER REVIEW PANEL REPORT**

DR. MARCEL REICHERT: Thank you, Chris, and I would like to thank the Board for the opportunity to present the Black Drum Stock Assessment Review today. Chris provided an excellent overview of the assessment, and the Review Workshop was conducted in January. The Review Panel focused on all aspects of the assessment, including the data and the model's uncertainty, and the resulting stock status. In my presentation I will highlight the Review Panel's conclusions and recommendations, and I will primarily focus on our main discussion points.

I would like to mention that further details can be found in our Review Report. But before I delve into the technical details, I should mention that the Review Panel consists of Ms. Maia Sosa Kapur, Dr. Gary Nelson, and myself. We brought to the table a combination of expertise that included black drum ecology, population dynamics, fisheries data, and various other aspects of stock assessment modeling.

Ms. Kapur and I were present at the Review Workshop, and I would like to specially acknowledge Maia for her contributions, in particular her detailed expertise on the JABBA-Select model was invaluable during the review. Unfortunately, Dr. Nelson was unable to attend the Workshop, but he provided detailed assessment feedback, and made significant contributions to the Review Report.

I also would like to extend a special thanks to the assessment team and the Commission staff. Their Review Panel much appreciated the extremely collegial atmosphere during the entire review process, as well as the timeliness in accommodating additional analyses and information. I also want to especially thank Jeff Kipp, who was responsible for a significant part of the assessment modeling, including our requests for additional sensitivities and model runs during the Review Workshop.

In terms of our overall findings, the Review Panel commended the Assessment Team for the detailed documentation of the assessment, exploitation, exploration and analysis of the data, and investigating the potential models. In the end, the Review Panel agreed with the assessment team that the JABBA-Select model was the most appropriate model, given the available data.

As Chris mentioned, so no spoiler alert, then it's good to present some good news. The good news is that the assessment indicated that the black drum stock was not overfished and overfishing was not occurring in 2020, the terminal year of the assessment. We felt that the Assessment Team did a great job exploring and describing the potential data sources, including characterizing the complex harvest picture, and also the available index data.

The Review Panel concluded that in general, the use and analysis of the data was appropriate. However, it is worth mentioning that black drum is still considered a relatively data poor species. In terms of our specific data highlights that were important for our review, as Chris indicated, the harvest is largely from bycatch, and mostly recreational, concentrated off the South Atlantic Coast, while the commercial harvest is dominated by landings in Virginia, North Carolina and Florida.

There is very little information on discards available, including discard mortality. What was available was used appropriately in the modeling efforts. Black drum life history aspects were also very well documented, and the Review Panel noted that relatively little age information was available, but that progress was definitely made since the last assessment. We also considered the assumption of a closed stock structure reasonable. But also noted that the possible recruitment from other areas, such as the Gulf of Mexico, may occur, and possibly contribute to uncertainty in the assessment. The Assessment Team's exploration of the available indices, including those based on various state surveys, was well done, but we know the lack of a coastwide or regionwide fishery independent index.

As mentioned by Chris, the JABBA-Select model heavily relied on the MRIP data that provided the only coastwide fishery dependent index used in the model. The Review Panel also discussed that the Georgia trammel net index, the only young of the year index available in the South Atlantic area, conflicted with trends from the other indices, as Chris just mentioned.

This may be because the population in Georgia is following different patterns, but we also discussed that a change in the survey design, which was a 50 percent reduction in net length, may have affected this index. A gear comparison study by the Georgia DNR, using speckled trout, showed no difference in catchability between the different net lengths.

However, we noted that black drum behavior is likely different. We did recommend investigating a possible change in the black drum catchability in the survey, as it may, at least partially, explain the apparent conflict between the Georgia Trammel Net Index and other indices.

In evaluating data to monitor the black drum stock and fishery, the indices are important data sources. The Review Panel recommended monitoring trends in existing surveys for potential changes in the black drum population, especially in areas where the majority of the harvest occurs. Trends in harvest are also valuable in monitoring the stock, especially in the recreational sector, and in that respect MRIP data are important. Also, because MRIP was a critical data source in the JABBA-Select model.

When and where available, length and age information can be a good data source to monitor potential changes in population structure, including identifying strong or weak year classes, and the overall pressure on the black drum population as a whole.

Our third TOR was to evaluate the methods and models used to estimate population parameters and reference points. As you may expect, we spent considerable time discussing this TOR. The Review Panel felt that the Assessment Team explored the various models very well, and as Chris gave you a

good overview of the considered models, I will therefore concentrate on the model that was eventually used in the assessment.

Given the available data, we agreed with the Assessment Team to accept the JABBA-Select model as most appropriate for use in stock status determination, but also for management. In part, because the JABBA model provided the superior presentation of the overall uncertainty. We extensively discussed data inputs, parameter choices, priors and other model specifics.

We ended up focusing on three key considerations. One was the specification of the fishery fleets, the second one was the estimation of growth curve, and the third one was the treatment of error in the MRIP CPUE index. I would like to emphasize that the Review Panel did not feel that any of these issues were alarming enough to require a change in the base model, with the exception of one. It was related to the fleet specification. We had much discussion on the use of the specified fleets, including their use as proxies for geographic areas. This so-called area as fleet approach was not specifically mentioned in the assessment report.

The Assessment Team specified that the partitioning into South Atlantic and Mid-Atlantic fleets, and the use of the inverse in the maturity curve as the descending link of the selectivity curve for the South Atlantic, was chosen to mimic the hypothesis that fish might emigrate from the South Atlantic upon maturity.

However, as a result, the fleet selectivity is actually a combination of gear selectivity and species availability. These two are notoriously difficult to separate. The Review Panel also felt that the original assessment report had a fairly sparse description of how the selectivity curve was chosen. We were not entirely confident with some of the “eyeball approaches.”

The specified curves appear to be either disregarding the catch of small fish, as in the case of the Mid-Atlantic fleet, or overestimate the availability of larger fish, such as in the South Atlantic fleet. The

Review Panel recommends a more rigorous approach for the next assessment. This is particularly important, because dome-shaped selectivity can introduce a considerable bias, if selectivity is actually different in shape.

In the original base model, as Chris mentioned, the Mid-Atlantic fleet was split into an early and a late component, corresponding to seasonal trends in availability. The Review Panel felt that this overcomplicated and potentially biased the model, as catches are modeled in a yearly time step. We felt that it was no good reason to account for seasonal dynamics in availability.

A sensitivity run showing that collapsing the Mid-Atlantic fleets into a single fleet, with a logistic selectivity curve, only slightly changed the reference points. This is likely because the Mid-Atlantic fleet accounts for a small part of the total annual harvest. The Review Panel and the Assessment Team agreed to incorporate a single Mid-Atlantic fleet into a new base model.

This resulted in a more parsimonious model, and is more in keeping with the model structure of a single year time step, with no seasonal dynamics. We also had extensive conversations about the growth functions, which were fit by sex to data from the entire region, but with outliers removed.

The removal of outliers before growth parameter estimation might mask differences across the region, and may also underestimate the overall uncertainty of fish growth in a population. Obtaining accurate estimates of the uncertainty in the growth parameters, when they were refitted to the individual length at age data that was done during the review, were unsuccessful.

Based on a visual inspection of the data, the Review Panel believes that in a future assessment sexual dimorphic growth should be further investigated. It's plausible there is not a strong sexual dimorphism in length at age for black drum, supporting the use of a singular growth curve for the entire stock. In addition, there is likely more variability in the length at age than is currently represented in the base

model and its related sensitivity runs. The Review Panel recommends exploring growth parameters estimation to individual length at age, observations by sex, without the removal of outliers, and without the averaging steps. Now regardless of the outcome, we recommend to determine whether and how the growth model uncertainty can be incorporated into the assessment. Again, that is for the next assessment.

The impact of these issues on the reference points could not be evaluated within the scope of this review. As I mentioned just now, that it is important to address this in the next assessment. In particular, because the growth parameterization explicitly informs the conversion of length at age to weight, and therefore, to the exploitable fish biomass.

As an example, this figure from the Stock Assessment Report Appendix shows the length at age data for the Mid-Atlantic Region, with the red circles identifying the removed outliers. It also demonstrates the considerable variability in the length at age data. The later, by the way, is not unique to black drum. Many other species also exhibit a considerable level of variability in the length at age, and thus in the growth parameters or in the overall growth of the species.

The third critical discussion point was related to the observation uncertainty in the MRIP CPUE index, here shown in the graph on the lower part of the slide. The MRIP index was the only index used in the JABBA-Select model, and we discussed at length how the error in this index was handled.

Our Review Report provides further details, but the Review Panel concluded that the methods used in the assessment to specify an input standard error for the MRIP CPUE may have inflated error in the index. We felt that perhaps alternative methods could have resulted in an improved fit to the index, and better-informed process error estimates.

We recommend that alternative methods to specify the error inputs for the index should be explored in the next assessment. The Assessment Team explored the impact of various parameters on the model behavior, and the so-called alternative states

of nature very well, in a chosen suite of sensitivity runs, and Chris just went through the sensitivity runs.

After some discussion, and based on the conversations mentioned in my previous slides, we requested three additional runs. One was to enter the Mid-Atlantic early and late fleets as a single fleet. The second one was a run with no additive standard error in MRIP CPUE index, and the third one was one with a logistic selectivity for the South Atlantic fleets.

As I mentioned earlier, we much appreciated the responsiveness of the Assessment Team to these requests. The overall conclusion was that the result of the sensitivity runs generally did not significantly change the quality of the status of the stock. In addition, and again as Chris mentioned, the retrospective analysis did not show a significant pattern that raised concerns with the Review Panel.

As you know, in the end we recommend that the base model that combines the Mid-Atlantic early and late fleets. I will note that this model run and the related uncertainty analysis was completed after the Review Workshop. Upon completion, the Review Panel conducted the desk review, and we have no additional comments or concerns. The Review Panel concluded that the Assessment Team thoroughly explored uncertainty through sensitivity runs, Bayesian statistics and other diagnostics, and had provided critical information of the influence of parameter choice on model behavior and stock status. We were satisfied with the extent of the uncertainty characterization approaches, but I refer to my earlier slides in the report for specifics affecting the uncertainty in this assessment.

In terms of overall uncertainty, we felt that the specification of the shape and the parameterization of the selectivities is likely a chief component of the model uncertainty. The Review Panel concluded that given the available data the JABBA-Select model provides the best, most robust estimate for relative stock biomass and fishing mortality estimates, and is appropriate for use in management.

In terms of continuity, the JABBA-Select model also generally agreed with the qualitative stock status

results from the updated depletion-based stock reduction analysis, or DB-SRA used in the previous assessment. In our evaluation of the reference points as stock status determination, we concluded that the estimation methods were appropriate, given the data and the recommended model.

The updated base run indicated that black drum population is not overfished in the terminal year, and is not undergoing overfishing. The analysis indicated that the assessment is robust for overfishing status and robust, but with a higher uncertainty, for exploitation status. As a reminder, the figure on the lower right-hand side shows the face plot from the assessment report, indicating in the red circle the 2020 stock status, in the green not overfished and not overfishing box.

The accompanying uncertainty is indicated in the whitish and gray areas. The Review Panel concluded that the assessment results are appropriate for use in management, that uncertainties described in the assessment and review reports should be taken into account, in terms of management risk.

The Review Panel largely agreed with the Assessment Team's research recommendations, and we added three. One was investigating the reduction in large recruitment events, as it may affect the stock's resilience to harvest and other impacts that may affect the stock-recruitment relationship.

More region-specific reproductive information will also improve future stock assessments, including fecundity estimates and possible age-varying spawning frequency and batch fecundity, and a variability in the length of the spawning season. The third one is an investigation into possible change in catchability in the Georgia trammel net survey that I mentioned earlier, as this is the base for the only available young of the year index in the South Atlantic.

Furthermore, we emphasize the increase in biological sampling, especially acquiring more age samples. In spite of the progress made since the last assessment, the age information is still relatively sparse. Biological sampling can also aid in gathering



reproductive information that I mentioned earlier. We realize that setting up a new comprehensive regionwide fishery independent survey for the black drum is likely cost prohibitive. But perhaps making slight adjustments to its existing surveys can improve useful data collection for black drum. As very little discard information was available, improving coastwide discard data, including biological data and discard mortality, will definitely benefit future assessments, especially the data for recreational fishery will be very valuable.

I would like to note that many of these research recommendations are not unique to black drum. For instance, fishery independent information is missing for many species, and discard data is lacking for numerous other fisheries also.

As far as the next assessment is concerned, based on the stock status, the uncertainty in the assessment and the life history aspects of black drum, such as the relatively high maximum age of 67 years, we recommended conducting the next assessment in about five years. But we also recommend monitoring the stock using the indicators that I mentioned before. If the monitoring information warrants, adjustments could be made to the stock assessment schedule. In closing, the Review Panel concluded that the black drum off southeastern U.S. remains relatively data poor.

Given the available data, the JABBA-Select was the most appropriate model in the assessment, but we requested the new base run with a combined Mid-Atlantic fleet. The assessment indicated that black drum, as I mentioned before, is not overfished and overfishing is not occurring in 2020, and this stock status determination is generally robust and appropriate for management.

Given the stock status, the model uncertainty, harvest trends, available abundant indices, and the nature of the fishery, the Review Panel feels that recent harvest levels are likely sustainable. However, harvest, abundance trends, and recruitment should be monitored for indications of disconcerting changes in the population. Finally, we recommend a new stock assessment in five years. With that, I

thank you, and I will be happy to answer any questions you may have.

CHAIR BATSAVAGE: Thank you, Chris and Marcel for the assessment report and peer review report, very thorough information. Again, as I mentioned earlier, a lot of great work was put into the assessment. With that I'll look for questions from the Board on either the assessment or peer review report.

MS. KERNS: We have Shanna Madsen.

CHAIR BATSAVAGE: Go ahead, Shanna.

MS. SHANNA MADSEN: Thank you both for incredibly thorough reports. I really enjoyed listening to them. You guys really covered a lot of bases here. Hopefully, my questions aren't repetitive to some of the things that you already covered. One of the things that you noted pretty strongly in the Review Panel report is that the shape and parameterization of the selectivities could be kind of leaning towards a chief component of some of the uncertainty in the models.

I was just curious to hear a little bit more. I know Chris, you went over some of the different sensitivity runs that you guys ran for the Review Panel, in addition to some of the things that they asked extra. I was just sort of curious as to how many of those sensitivity runs had to do with those selectivity patterns, and then additionally, am I correct in saying that even though you ran through a bunch of different sensitivity runs, all of those sensitivity runs still aligned with the exact same stock status that the base run came up with as well.

MR. McDONOUGH: I'll start. Yes, the various runs didn't really change the result very significantly. That really didn't, even when we changed the selectivity, it didn't change it that much. Then Jeff, I don't know, do you want to add anything specific on the changes that were made for those, for the retrospective?

MR. JEFF J. KIPP: If I could just note, I don't recall off the top of my head. I think there were maybe four or five of our original sensitivity runs or configurations that were identified on sort of the major

uncertainties of selectivity in the assessment, and we put those towards the peer review. Then the peer review had further concerns.

They requested, I think three additional sensitivities, focused on selectivity and selectivity parameterization. Those were added during the Peer Review Workshop, and ultimately, though that the results of those sensitivities were fairly insensitive to some of those assumptions about selectivity.

DR. REICHERT: Yes, and to add to that, they showed some differences, but the qualitative stock assessment results did not change. I think where the most bang for the buck probably comes in the overall uncertainty. If you lower the overall uncertainty, that obviously provides a better model for management.

CHAIR BATSAVAGE: Any other questions?

MS. KERNS: Jeff Brust.

CHAIR BATSAVAGE: Go ahead, Jeff.

MR. JEFF BRUST: Thank you, Chris and Marcel, for your updates, very helpful summaries of the reports. I have a question that I think you touched on during your presentations, but I'm hoping you can sum it all up and tie it up with a bow for me. We have information that shows that harvest was increasing over time, and at the same time the biomass was increasing as well.

As they are increasing in concert, harvest rates were relatively flat. Could you explain what is going on that with harvest rates staying the same, how were we getting an increase in biomass, to the point that biomass is almost three times the BMSY?

DR. REICHERT: Yes, there may be processes in the population that they don't respond to harvest directly. The traditional idea is if you harvest you lower the biomass. If the productivity in the population is high enough, there may be potentially disconnect between harvest and the population biomass.

It's particular in species that grow fast, have a long lifespan. There are opportunities for the population to respond to harvest, and actually increase in biomass. Not respond to harvest but increase biomass, because there may be somewhat of a disconnect, especially if the harvest is relatively light. In addition, I would say that most patterns in the stock assessment were relatively level. There hasn't been a lot of contrast in, for instance, the indices or some of the other indicators. I'm not sure if, Jeff, do you have further comments to that?

MR. KIPP: I would just add that the nature of exploitation would believe that there is some reduced vulnerability on adults, and since there are so many age classes that contribute to that adult component of the population, there are some processes to think that you know if there is particularly lower exploitation on those first couple of year classes, that they can recruit to this spawning stock biomass, and that that could build up over time.

Things like some larger year classes at times, similarly exploited to low levels, since they do exit that more vulnerable component of the population early on in their life stage, that some of that biomass can recruit to that less vulnerable adult SSB, and build up over time, even with higher harvest on the subadults.

MR. McDONOUGH: I actually had one more thing on that. Typically, when you do get big year classes, they do not track well beyond a couple years, in terms of seeing them in the age distribution. That age distribution stays pretty consistent over time, has remained pretty consistent over time. Those really big year classes, and they definitely occur, will fade out after a couple of years. That is likely making an impact as well from the increasing biomass, but none of the surveys catch it.

DR. REICHERT: That reminds me, if I may. That was one of the reasons the Review Panel felt that looking into the lack of those larger recruitment pulses that were seen in the earlier timeseries we are not seeing in recent years. It may be important to take a look at that and why that may happen.

CHAIR BATSAVAGE: Jeff, do you have a follow up, or did that answer your question?

MR. BRUST: No that was a very good answer, thank you very much.

CHAIR BATSAVAGE: Any other questions?

MS. KERNS: I don't see any hand online or in the room. I'm sorry, Roy Miller has a question.

CHAIR BATSAVAGE: Okay, great, Roy, go ahead.

MR. ROY W. MILLER: Just curious as to whether exploitation of the larger individuals in this population is suppressed by abundance of parasitic worms in the flesh. Is that a factor that was considered at all, even though it is well known among recreational anglers, and in fact a lot of large drum are turned loose as a result, rather than being fully exploited.

MR. McDONOUGH: Thanks for that question, Roy. Actually, that was something we had discussed in actually the previous assessment, as well as this one. But that was mostly a qualitative, those qualitative data. The areas, I know the South Atlantic it is very strong, you know the feeling that the parasitization in those larger fish is pretty common. But as I recall, and I can't remember, I think it was off, it may have been Delaware. But there were some fisheries where the black drum, the larger adults were actually utilized for eating, they just wouldn't use certain parts of the fish. But that was something that we definitely discussed, but there is really no really good information that we can incorporate in the assessment, unless Jeff has anything to add.

CHAIR BATSAVAGE: Great, any further questions from folks in the room? I don't see any online. Erika, go ahead.

MS. ERIKA BURGESS: Chris, I read the Stock Assessment Report, and I just want to confirm my understanding of it. The Florida fishery independent monitoring indices were rejected for use because of the inability for the power to detect changes in abundance. Is that correct?

MR. McDONOUGH: That is correct.

CHAIR BATSAVAGE: Any further questions from Board members? I had one, I'll jump in, if there is someone else in the queue, because I can't see them. It was suggested that a benchmark assessment be done in five years, for various reasons. Is that contingent on collecting more age information to do an age-based model next time around, or would a benchmark assessment be considered anyways, just to look at potentially other models that could be used, instead of the JABBA-Select model?

DR. REICHERT: I think that irrespective of the increase in age information, I think if there is more age information available, it shows that the model may change. If sufficient age information is available, perhaps the statistical catch at age model or similar models can be considered. But in terms of the Review Panel, we did not discuss the five-year being contingent on the availability of additional data, it's more the issues that we identified in our report that were used in our five-year recommendation. I hope that answered your question.

CHAIR BATSAVAGE: Yes, it did, thanks. I don't think the Board needs to consider ways to increase age samples today, but maybe just something for all of us to think about. Whether that is done through the black drum FMP or just through individual state efforts, just to try to get as much information as possible for future assessments, especially things like age data that do show up on the research recommendations. Anyways, thanks for that. Just one final check on any questions. Yes, go ahead.

MR. McDONOUGH: I would point out that the previous assessment, the timeframe between it was closer to what, about six or seven years, primarily because when we evaluated close to five. The stock indicators were still looking pretty good, and then COVID happened and everything got thrown in the fan.

That five-year recommendation, that is kind of our standard, but it's not tied to it. If there are indicators that the stock is still doing okay, and there are reasons, and other things are more important in the

queue for assessments, you know they could potentially be put off. But it's certainly something that has got to warrant closer looks, at least at the five-year mark.

CHAIR BATSAVAGE: Thanks for that additional information on the assessment schedule and how that works. Yes, just final check on any questions from the Board on either the assessment or the peer review report.

MS. MADSEN: One more question, Shanna.

CHAIR BATSAVAGE: Go ahead, Shanna.

MS. MADSEN: I don't know if this is the appropriate time or not, but if we have questions about the indicators, should we hold those until after a motion is made?

CHAIR BATSAVAGE: We can go ahead and address that now. I'll look to Tracey, if she thinks it might be better to address that later.

MS. TRACEY BAUER: I think you are within the realm of the stock assessment, it's fair game now.

CHAIR BATSAVAGE: Go ahead, Shanna.

MS. MADSEN: My questions were, so there is quite a number of indicators laid out for us. Is the intent of the indicators to continue, like Chris was sort of saying we'll continue to look at the indicators and determine whether or not we need a benchmark sooner rather than later, or maybe we can save it for later if everything is still looking good on the indicators.

Then secondarily to that, when it said like yearly, we were going to look at those indicators, is that a heavy lift for the TC or the SAS to deal with, and do you intend on kind of reporting out to the Board yearly on that, or is it just you'll report out to the Board if things aren't looking so great, and we kind of need to know?

MR. McDONOUGH: I think if I remember correctly, our discussions about that were that we could

potentially look at that yearly, because black drum, coming from the previous assessment, really didn't have an annual, I mean we did the Plan Review and the compliance reports and stuff like that, but there was no year-to-year indicator or stock status indicator, like we have for things like croaker and spot with traffic light and some other things.

It was thought that some of these models like the Itarget and the Skate models could be something that potentially we reviewed annually. They are all indices that are included in most of the reports every year. However, it was my understanding that you know once we basically got through the assessment.

The next step for the TC would be to act, and Jeff, correct me and Tracey, correct me if I'm wrong. But was then we would go back and look at, okay, how would we use these specific indicators, and whether or not, you know maybe yearly. Could be every other year. But that is something that I think we actually, that would be the next step, we need further development.

MR. KIPP: I would just add to that that yes, when we discussed timeframe, we discussed and recommended annually reviewing these indicators. They were developed as simple empirical time series, so something relatively straightforward to put together on an annual basis, to keep closer tabs on this stock, because of some of the data limitations that we run into, and some of the uncertainties of the assessment.

The idea would be to review those annually. The question we had not resolved yet as a Technical Committee, was how would those be responded to by the Management Board, and so ultimately suggested a formal review of those, and keeping tabs on those as to whether it may suggest an expedited stock assessment.

But things like using them like spot and croaker, and any type of like management framework, that that would be something that would be pushed off from this discussion, if that was something that was desired on the board by the Management Board.

CHAIR BATSAVAGE: Okay, any other questions on the assessment report or the stock indicators?

MS. BAUER: We have one hand from Lynn.

CHAIR BATSAVAGE: Yes, go ahead, Lynn.

MS. LYNN FEGLEY: Just to close the loop on that, and make sure that the Board is clear. It was my thought with an indicator that those would be something that would be reviewed annually, and that they would be used to determine whether we needed to go, as Shanna was saying, to a new stock assessment, they are not to be used for management response. I just guess it would be to be clear amongst the Board that that is the guidance for you. If that is true, make sure that that is on the record, annual review, not management response.

MR. McDONOUGH: Yes, that was essentially the intention.

CHAIR BATSAVAGE: Yes, thanks for that clarification. That is definitely an important one for all of us to understand at this point. Tracey, just checking again for any other questions from Board members.

MS. BAUER: No more questions at this time.

**CONSIDER ACCEPTANCE OF BENCHMARK STOCK ASSESSMENT AND PEER REVIEW REPORT FOR MANAGEMENT USE**

CHAIR BATSAVAGE: If there are no other questions, then I think we are at a point, I'll be looking for a motion to consider the acceptance of the benchmark stock assessment and peer review report for management use. Now Tracey, if there is a motion already ready for that we can just see who would want to make that motion.

MS. BAUER: Yes, it's on the board.

CHAIR BATSAVAGE: I'll just rely on you Tracey to see who wants to make the motion and to second it, since I can't see the folks in the room.

MS. BAUER: Motion made by John Clark, second by Lynn.

**CHAIR BATSAVAGE: Okay great, so move to accept the 2023 Black Drum Stock Assessment and Peer Review Report for management use. Motion by John Clark, second by Lynn Fegley. Any discussion on the motion?**

**MS. KERNS: No hands.**

CHAIR BATSAVAGE: I guess before I ask if there are any objection, Tracey, I guess, are we going to need to do a separate motion to consider adopting the stock indicators, or could we just fold that into this motion? What would be the best way to do that?

MS. BAUER: Right now, it's a separate motion.

CHAIR BATSAVAGE: Yes, let's keep it simple. We can just dispense with this, and I guess we still need to take action on the stock indicators, right, or not?

MS. BAUER: Yes.

**CHAIR BATSAVAGE: If there is no discussion on this motion by the Board, I will just look to see if there are any objections to accepting the stock assessment and peer review report for management use.**

**MS. BAUER: There are no hands.**

**CONSIDER ADOPTING ANNUAL INDICATORS**

CHAIR BATSAVAGE: All right, great, so now we will look for a motion to consider adopting the stock indicators that are recommended from the stock assessment. If there is a motion available, we'll get that up on the screen before looking for people to make the motion and second it.

MS. BAUER: Jeff Brust.

CHAIR BATSAVAGE: Motion by Jeff Brust, seconded by.

MS. KERNS: Chris, we need to have Jeff read it.

CHAIR BATSAVAGE: Yes, Jeff, if you could that would be great, thanks.

**MR. BRUST: Sure, move to have the TC annually present the indicators as described in the Black Drum 2023 Stock Assessment and Peer Review Report.**

MS. KERNS: Shanna Madsen.

CHAIR BATSAVAGE: Second by Shanna, great. Any discussion on the motion?

MS. KERNS: Erika.

MS. BURGESS: Is there an interest among the Board to modify this motion to clarify that the indicators, to be very clear that the indicators would be to inform whether a stock assessment is necessary and not management action?

MS. KERNS: It's up to the Board.

MS. BURGESS: I'm looking around to the Board. I see heads nodding. Okay, so process question. Motion to amend: move to have the TC annually present the indicators as, okay, so at the end of the sentence, to inform the need for a new stock assessment, benchmark stock assessment.

CHAIR BATSAVAGE: The motion to amend was made by Erika and read into the record. Do we have a second?

MS. KERNS: Mel Bell.

CHAIR BATSAVAGE: Seconded by Mel, any discussion on the motion to amend?

MS. KERNS: Lynn Fegley.

CHAIR BATSAVAGE: Go ahead, Lynn.

MS. FEGLEY: Yes, I sort of blurted out benchmark, and I want to make sure that was the intent of what we were being told, that it would be a benchmark and not an update, if the indicators.

MS. KERNS: If you say benchmark then it has to be a benchmark, but if you just say stock assessment it could be a benchmark or an update.

MS. FEGLEY: Yes, process question. I think that is probably incorrect, it should just say stock assessment.

MS. KERNS: We'll go to the maker and the seconder.

MS. BURGESS: Well, technically it doesn't belong to the motion maker or the seconder anymore.

MS. KERNS: In interest of time, we will allow it at this moment.

CHAIR BATSAVAGE: Thanks for that.

MS. BURGESS: Can you please remove benchmark.

MS. KERNS: Erika, will you reread your motion please?

**MS. BURGESS: Motion to amend by adding "to inform the need for a new stock assessment."**

CHAIR BATSAVAGE: Mel, I guess you're okay with that friendly amendment to the amendment?

MR. MEL BELL: Yes.

CHAIR BATSAVAGE: Any further discussion on the motion to amend?

MS. BAUER: No hands.

CHAIR BATSAVAGE: Okay, are there any objections to the motion to amend?

MS. BAUER: No hands.

CHAIR BATSAVAGE: I guess then now that will be added to the other motion, and become the main motion. I don't have the one go quite right. I guess we need to add that.

MS. KERNS: Just give us one second.

CHAIR BATSAVAGE: Sure, okay. I'll just go ahead and read it into the record. What we have upon the screen is the way we almost want it. **Move to have the TC annually present the indicators, as described**

**in the black drum 2023 Stock Assessment and Peer Review Report to inform the need for a new stock assessment.** That is property of the Board. **Is there any further discussion, actually in the interest of time, is there any objections to the motion?**

**MS. BAUER: No hands.**

**CHAIR BATSAVAGE: Okay, the motion passes by unanimous consent.** Thanks, I appreciate everyone working on this, and again my thanks again to the TC and the Stock Assessment Subcommittee, as well as the Peer Review Panel for all the work they've done on getting us to this point on having an approved benchmark stock assessment for black drum, so that is good news.

#### **CONSIDER NOT CONDUCTING 2023 ATLANTIC CROAKER AND SPOT TRAFFIC LIGHT ANALYSES**

CHAIR BATSAVAGE: Next item on the agenda is to consider not conducting the 2023 spot and Atlantic croaker Traffic Light Analyses. I'll turn to Tracey for more information on that for that for the Board. Tracey, whenever you're ready.

MS. BAUER: I'll be making this quick, it can just be a verbal update. A little background on this similar to what you heard for Atlantic menhaden. Due to a packed stock assessment schedule for the next couple of years, several proposals were put forward by science staff to reduce workload and TC staff activities, one of which was skipping the 2023 traffic light analysis for spot and Atlantic croaker.

That usually occurs in July/August to focus on the benchmark assessments for both the species that are ongoing right now. This will give staff, the TC and the SAS more time to focus on that assessment for those two species, and in addition it's still uncertain if the calibrated ChesMMAP data will be available this year. If it is available, it won't be available until late summer, early fall potentially, and without the ChesMMAP data the TLAs will not be very informative, similar to what we were looking at last year. The Assessment Science Committee looked at this, and they have no objection to not completing

the spot and croaker TLA this year. As a reminder, the management measures that were put into place in 2021 for spot and croaker, from when the TLAs were tripped in 2020, were both due to be reevaluated this year for both species, and if the Board is in consensus with going this route, the TLAs will not be conducted this year, and the spot and croaker management measures will remain status quo, until TLAs can be reevaluated in 2024 with a benchmark assessment. I can hand this back over to Chris for any discussion on this item.

CHAIR BATSAVAGE: Any questions or concerns from the Board on this plan for not conducting the traffic light analyses for spot and croaker this year?

MS. BAUER: No hands raised.

CHAIR BATSAVAGE: Okay, great, with that then I guess there are no objections to moving forward with not conducting these and allowing the TC and other folks working on spot and croaker more time to work on the upcoming benchmark stock assessments. We can just wait until 2024 and really just be waiting for the stock assessment for both of these species.

#### **OTHER BUSINESS**

CHAIR BATSAVAGE: If there is nothing else on this item then we can just do a quick check to see if there is any other business that needs to come before the Sciaenids Board before we adjourn.

MS. BAUER: No hands in the room.

#### **ADJOURNMENT**

CHAIR BATSAVAGE: All right, great, so thanks everyone for sticking around a little later this evening than we originally planned, but I'm glad we were able to accomplish the work that we did this evening, so I will look for a motion to adjourn.

MS. BAUER: Motion by Mel Bell.

CHAIR BATSAVAGE: Do we have a second?

MS. BAUER: Second by Spud.

CHAIR BATSAVAGE: By Spud, great, thanks, we are adjourned. Thanks everyone.

(Whereupon the meeting adjourned at 6:20 p.m. on Monday, May 1, 2023)