PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

SCIAENIDS MANAGEMENT BOARD

The Westin
Annapolis, Maryland
Hybrid Meeting

October 22, 2024

Approved February 4, 2025

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1. **Approval of agenda** by consent (Page 1).

2. **Move to accept the 2024 Red Drum Benchmark Stock Assessment and Peer Review Report for management use** (Page 16). Motion by Ben Dyar; second by Pat Geer. Motion passes by consent (Page 16).

3. **Motion to request the Stock Assessment Subcommittee/Technical Committee to produce the static spawning potential ratio for a range of slot size limits (between 14" and 27") associated with bag limits ranging from 0 to 5 fish per person for: (a) the southern region and/or (b) SC, GA, FL individually** (Page 17). Motion made by Ben Dyar; second by Spud Woodward. Motion approved by unanimous consent (Page 19).

4. **Move to approve the Black Drum FMP Review and state compliance reports for the 2023 fishing year.** Motion made by Spud Woodward and seconded by Malcolm Rhodes (Page 35). Motion carries by unanimous consent (Page 35).

5. **Move to approve the Spotted Seatrout FMP Review for the 2023 fishing year, state compliance reports, and de minimum status for New Jersey and Delaware.** Motion made by Spud Woodward, second by Joe Cimino (page 36). Motion carries by unanimous consent (Page 36).

6. **Move to adjourn** by consent (Page 36).

ATTENDANCE

Board Members

Joe Cimino, NJ (AA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Carrie Kennedy, MD, proxy for Lynn Fegley (AA)
David Sikorski, MD, proxy for Del. Stein (LA)
Robert Brown, MD, proxy for Russ Dize (GA)
Pat Geer, VA, proxy for Jamie Green (AA)
James Minor, VA (GA)
Chris Batsavage, NC, proxy for Kathy Rawls (AA)
Chad Thomas, NC, proxy for Rep. Wray (LA)
Jerry Mannen, NC (GA)
Ben Dyar, SC, proxy for Blaik Keppler (AA)
Mel Bell, SC, proxy for Sen. Cromer (LA)
Malcolm Rhodes, SC (GA)
Doug Haymans, GA (AA)
Spud Woodward, GA (GA)
Erika Burgess, FL, proxy for J. McCawley (AA)
Gary Jennings, FL (GA)
Ron Owens, PRFC
Jack McGovern, NMFS

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

Ex-Officio Members

Harry Rickabaugh, Black Drum & Spot TC Chair
Joey Ballenger, Red Drum SAS Chair
Craig Freeman, AP Chair
Col. Matthew Rogers, LEC Representative

Staff

Bob Beal
Toni Kerns
Tina Berger
Madeline Musante
Caitlin Starks
Jeff Kipp
Tracy Bauer
James Boyle
Katie Drew
Jainita Patel
Chelsea Tuohy
Emilie Franke

The Sciaenids Management Board of the Atlantic States Marine Fisheries Commission convened in the Capitol Ballroom via hybrid meeting, in-person, and webinar; Tuesday, October 22, 2024, and was called to order at 8:30 a.m. by Chair Doug Haymans.

CALL TO ORDER

CHAIR DOUG HAYMANS: Good morning, everyone, my name is Doug Haymans, I am the Chair for the Sciaenids Management Board, and I'll call this Board to order.

APPROVAL OF AGENDA

CHAIR HAYMANS: Taking a quick look at the agenda. You've had a chance to review the agenda, are there any additions to the agenda? Seeing none; we'll consider it approved by consent.

PUBLIC COMMENTS

CHAIR HAYMANS: Next, we'll ask for any Public Comment on items or topics that are not on the agenda. Is there anyone in the audience with comment, anyone in the online world? No one in the ethernet.

CONSIDER 2024 RED DRUM BENCHMARK STOCK ASSESSMENT AND PEER REVIEW REPORT

CHAIR HAYMANS: With that we shall move right into the business of the day, which is Consideration of the 2024 Red Drum Benchmark Stock Assessment and Peer Review. With that I will hand it over to the esteemed Dr. Ballenger.

DR. JOSEPH C. BALLENGER: Thanks, guys, for having me here today and giving me the opportunity to talk about some of the work that we've been doing for the last several years regarding the red drum stock assessment. Before I get started, I just want to point out that this product represents the hard work from both ASMFC Red Drum Stock Assessment Subcommittee and ASMFC Red Drum Technical Committee, with the names of those currently serving on the committees shown here.
As well, no surprise to this Board, I think it is important to go ahead and remind folks that red drum fisheries along the Atlantic coast are primarily recreational in nature. Being exclusively so since the mid-1980s for the southern population, and with a greater than 90 percent of annual removals occurring via recreational fisheries for the northern population in recent years.

Red drum had a relatively long assessment history along the Atlantic coast, with early assessments using forward projecting virtual population analyses, before transitioning to a custom statistical catch at age model starting with SEDAR 18 in 2019. From here the analysts in SEDAR 44 attempted to transition to using an integrated age structured model formulated in a stock synthesis framework, though ultimately this model was not accepted for management use.

As I said, we sort of reverted back. SEDAR 44 Stock Assessment Subcommittee reverted back and updated the SCA used during SEDAR 18 in the ASMFC 2017 report. I'll also just point out that we transitioned from assessing the Atlantic coast red drum as a unit stock along the Atlantic coast to a southern and northern stock, beginning with Vaughan 1996. This stock definition does persist through today's assessment as well. The results of the most recent ASMFC assessment suggest that neither stock was experiencing overfishing in the terminal year of the assessment, which was 2013.

However, this assessment could not determine overfished status based on SSB, given the use of an Age 7 plus group in the model, which resulted in a large amount of adult recruitment biomass that cannot be tracked, making estimates of SSB changes through time unreliable. Despite the models being accepted for management use, there was a high degree of uncertainty regarding the fishing mortality and spawning potential ratios in the terminal year of that assessment, making a determination of overfishing status highly uncertain.

Further, the models rely on some heavily and highly influential external data analyses, and had other significant criticisms identified during the peer reviews of SEDAR 24 and ASMFC 2017. To prepare ourselves for the current benchmark, we conducted a simulation assessment to evaluate the performance of different models, in regards to determining stock status, including biomass levels using three different modeling frameworks.

Model free stock indicators, which would be analogous to a traffic light analysis approach, we'll show a little bit later on. A juvenile population dynamics model, which was analogous to the customs physical catch at age used during ASMFC 2017, and then an integrated stock population dynamics model, which is analogous to the model we're going to be showing from stock synthesis, the primary results we are going to be focusing on today, at least for the southern stock.

These results underwent independent peer review, with the most pertinent final recommendations being not continuing pursuit of the custom statistical catch at age model, which was used in SEDAR 18 and ASMFC 2017, because of inherent biases in stock status determination that we could not resolve in that model.

To prioritize instead for development of the stock synthesis models, results suggesting the output parameters could be used for stock status determination, including metrics related to spawning stock biomass and SSB status. With the idea being in the view of the review panel, the ability of SS to provide an SSB status and major advancement relative to the previous assessments.

Last but not least, they suggested the model free traffic light analysis should continue to be developed as a complementary analysis, and developed being they may prove useful in the interim, between formal updates to the stock synthesis models. These results were accepted for management use by the Standards Board in May of 2022, and that guidance was used to guide the assessment results being presented today.

Before I go into the results, I want to briefly discuss the reference points the SAS used for stock status determinations during discussions of both the stock synthesis models and the traffic light analysis. For overfishing determination, the current interstate fishery management plan defines overfishing threshold as SPR 30 percent, while a target SPR is SPR 40 percent. The F benchmarks were in terms of Age 2 fish, and are levels of fishing mortality that achieves the SPR but the same percentage. Currently, an overfished status reference point is not defined in the interstate fishery management plan. However, the transition of stock synthesis framework tracking the full age structure of the population in this framework, and results of assimilation assessment suggests these models can and do actively track changes in SSB through time, and hence, should be able to provide an overfished stock status determination.

Here the SAS propose using analogous SSB 30 percent and SSB 40 percent as an appropriate threshold and target for overfished status determination. These SSB benchmarks are at levels of SSB associated with a stock fished to equilibrium as a SDR of the same percentage. For status determination consistent with previous assessments, we used 3 year running averages with terminal year status being based on the average SPR and spawning stock biomass during the years 2019, 2020, and 2021.

While we do have some SPR estimates for 2022 and SSB estimates for 2022 and 2023, these were heavily reliant on preliminary 2022 fishing year data. With individual datasets missing either all of partial data related to length and/or age compositions. Of note, the simulation assessment reviewers recommend tracking both annual and 3-year average for stock status determinations, and we did provide both in the report in figures shown later on.

With a TLA analysis low reference points using these model free indicators are currently defined in the fisheries management plan, nor was guidance provided on operational reference points provided here in the simulation assessment. However, TLA fishery performance was evaluated for its ability to indicate an overfishing condition, defined as the known simulated population experiencing F greater than F 30 percent.

While the adult abundance metric was evaluated for its ability to indicate an overfished condition, defined as a simulated population SSB falling below SSB 30 percent. There is an indirect relationship between the TLA threshold extending and the fishery management plan F threshold and proposed SSB threshold.

That said, the operational reference points provided herein were developed by the SAS in the current assessment, with overfishing being defined as occurring when the fishery performance metric, which takes into account a ratio of catch, the fishery independent subadult indices was red in any of the past three years.

The SAS defined an overfished status determination when adult abundance and metrics based on adult relative abundance trends was red in any of the past three years, and then the SAS went on to identify three additional potential management action triggers, which I'll let you guys read through here, with the intent of making these model free indicators, in general more responsive to changes in the population when there were concerning trends in the stock.

With that background information in mind, I'll now jump directly into the primary results of the current assessment, with final stock status determination for the southern population being primarily based on the results of the stock synthesis analysis, though it was supported by three complementary analysis, a traffic light analysis, which provided direct stock status determinations itself, as well as two additional analysis that thinks we use a Skate Data Limited Control Rule Method and a Cormack-Jolly-Seber Tag Recapture Model. In the sake of time here I'm only going to present sort of the main results from the stock synthesis and TLA analysis. I do have some slides on the Skate method and the Cormack-Jolly-Seber Models. If you all are interested, I am happy to pull it up at the end.

For the southern model we had a catch series going back to the 1981 fishing year, where the fishing year was defined as running from September 1 through August 31, which was a little bit of a change from previous assessments, but better aligns with the spawning season of the red drum population, as well as when the fishery is being operated throughout the year.

These catch data streams by states were able to be split into harvest and release time series. We separated the catch data streams by state, as each state that comprised the southern population may regulate some changes independently, with regulations across blocks of years not being broadly consistent across states.

Further, all three states had large recreational fleets that contributed significantly to the fishery. To get at total recreational removals, we assumed an 8 percent discard mortality rate for released fish, which was also consistent with what had been used in ASMFC 2017, SEDAR 44, and I think as far back as SEDAR 18 as well.

Herein I'm starting to show a plot, showing annual fishing gear removals by fleet component, with the fleets going, and I'm only showing data through the 1990 fishing year thus far. The fleet scope is very small. Commercial harvest, which is that very thin dark greenish thing on the bottom, followed by three direct harvest recreational fleets, and then the three recreational discard fleets, one for each state.

What we see is in this early period of the assessment history is we see a rapid decrease in removals in the early to mid-1980s, with 3-year average peak removals declining from 2.3 million

fish being removed annually from 1983 to 1885, to about 700,000 fish being removed annually during that 3-year period from 1988 to 1990.

Since then, we've seen increasing removals since the mid-1980s across the region, removals meeting and exceeding early 1980s removals since the early 2010s, peaking at about 2.5 million fish being removed annually during the period 2016 through 2018 from the southern population, represented by that red dashed line. Not dashed, but horizontal line.

Other data sources available for the southern population included 10 considered fishery independent indices, of which 7 were retained in the final SS model and 8 in the TLA analysis. These represented a mixture and they will be color coated, recruitment, subadult and adult surveys from South Carolina, from Georgia, and from Florida. Those with the strike through were ultimately not included on southern based SS Model, though the Georgia Longline Survey was retained and the traffic light analysis at an adult abundance metric.

Each of these indices were standardized to account for extraneous covariate effects on the catchability, at the time of individual collections of red drum. Previous assessments, while they had generally used these same indices, included them as straight nominal indices. In other words, they used the less arithmetic mean catches per unit effort, which does not account for environmental conditions or unintended survey distributional changes in the potential effects on catchability. This represented a significant advancement in index treatment relative to previous assessments, with such standardization becoming common practice in most contemporary stock assessments.

I believe the other source showed the trends by sort of index type of the surveys. Here I'm showing the 3 southern population recruitment indices. We had an early South Carolina Rotenone Survey and then two more contemporary, Florida 21.3-meter Haul Seine and the Georgia Gillnet Survey.

What I'm showing here is that broadly speaking, when they are during a period of overlap the recruitment surveys are in agreement with each other, as far as trends are concerned. Here I'm showing the similar graph but focusing on the southern population's subadult indices, starting with historic South Carolina Stop Net Survey, and then South Carolina Trammel Net Survey and the Florida 183-meter Haul Seine Survey, and once again you are seeing that broad agreement regarding the index trends in the subadult population for red drum.

Then last but not least here are the three available adult abundance indices, although two of these three were dropped from the final stock synthesis model, that being the historic longline and the Georgia longline. What you see is that at least known as period of overlap, the South Carolina longline survey was generally suggesting a stable to decreasing population throughout the time series, while the Georgia longline survey is suggesting a potential increase in population through the late 2010s, followed by decreased sets.

Then when we look at this relative to our other data sources, it seemed that the South Carolina Longline Survey was more in agreement with a long-term trend of subadult indices than the Georgia Longline Survey. When each fishery dependent catch data streams, along with the fisheries independent data are combined, it means we got catch, discard, abundance index, length composition, age composition and conditional age at length composition data available throughout the time series.

With that I'll jump into the main results of the southern population stock synthesis model. When we look at estimates of fishing mortality by fleets, generally speaking we are seeing fishing mortality in Florida represented by the red line, being greater than that in South Carolina, which is the blue line, which is generally greater than or equal to the fishing exploitation rate in Georgia, the yellow line.

Further we see that in all three states the F has increased since the late 1980s and early 1990s, lows in all three fleets, and we observed that recent peaks in fishing mortality at the state levels, and hence exploitation is at or above levels observed in the early 1980s represented by the horizontal dash line.

When these F patterns are combined with estimates of selectivity and retention across sizes and ages, and are translated in estimates of spawning potential ratio, we get a time series shown here with an annual SPR represented by the green line with open circles, with 95 percent confidence intervals represented by the dash, and then a three-year average being represented by the gold line. I'll just note that while this time series does extend through the 2022 fishing year, as I noted previously, for stock status determination the SAS used the three-year average in 2021. It's basically, ignore that data showing up in that red.

This time series of SPR shows the SPR was below the management threshold of 30 percent in the early 1980s. The early management actions and subsequent reductions in catch allow for an ending of overfishing and a rebuilding of SPR through early 1990s, where it reached levels of 0.6 for the population. The four sources slow the decent to levels below 0.3 at the annual scale in 10 of 12 years since 2010. Then all years since 2013.

Similar 3-year average SPR suggests overfishing of the stock again in 2014, with a 3-year average SPR from 2019 to 2021, being 0.207. Similarly, the SS model produces a time series of spawning stock biomass that can be compared to an SSB threshold, that is what I'm depicting here with both annual estimates, once again in that green line with 95 percent confidence intervals represented by the dashes, and the 3-year average being represented by the gold line.

Similarly, once again note that while the model produces an SSB estimate for 2022, for stock status determination we base SSB and its overfished status only through the 2021 data. Here the SSB is shown relative to the SSB 30 percent threshold reference point estimating the model, such that the stock is considered overfished when relative SSB falls below 1.

We notice a few things with regards to spawning stock biomass. First, annual estimates are much smoother through time, reflecting the integration of many years of reproductively active females in the population, and hence slow expected change in spawning stock biomass you would expect.

Given this relative SSB increase from low, severely depressed overfished levels in the 1980s through the 1990s, in 2020s though the rate of change does slow in the 2000s. Since the 2000s relative to SSB decreases steadily from the late 2000s through the terminal year, as SPR continues to decrease, such that by 2020 a 3-year average relative to SSB suggests the stock has once again transitioned to an overfished stock status, which was maintained through the terminal year of the assessment.

At 2021, the terminal year stock status gave a relative SSB a 0.881. The SAS included 9 sensitivity runs in the assessment report, and invited the reviewers to assess the stability of stock status determinations in the time series of SPR and spawning stock biomass the various influential assumptions. This included looking at the model to different model configurations and assumptions.

MRIP catch estimates including a sensitivity run where we reduce recreational catches by 30 percent, based on preliminary guidance from MRIP staff and the pilot study they conducted to date, although we won't know the final results of that until at least 2026. That subset regarding natural mortality, and then the impact assuming these different descending limb selectivity patterns for the recreational fleets, with one basically allowing less selectivity on large fish and narrower goal, and the other more selectivity on larger fish a wider goal. Overall, all of these sensitivity analysis for these very similar SPR and relative SSB trends, it's a little hard to see here, but the base model is in a

light blue, sort of in the center of all the data points on both of these figures on the right. With the other SPR and SSB trends when get the sensitivity analysis being represented by the other colored lines.

The largest variability was regards to when the model suggested spawning stock biomass which was the lower right figure had increased above threshold levels, as the stock was rebuilding in the 1990s. With the timing and rebuilding in 1990 varies from as early as 1990, that higher natural mortality scenario, which implies you could fish the population harder through 1997, and a lower M scenario, which implies you could cause overfishing and hence overfished conditions at lower pressures.

Notably, the terminal year overfishing status did not differ across any of these runs, while a terminal year SSB status only changed for the run using a later start year, which has short time series to estimate the correct scale for spawning stock biomass. You see it is right at that overfished limit in the bottom right there in the terminal year.

Now I went through the stock synthesis base model. Let's see how the traffic light analysis approach was also reviewed as part of the simulation assessment. Lines that we regard as the stock status determination it trends, and so did the population exploitation. Very briefly, as in a simulation assessment, we focus our efforts to the traffic light analysis using three Model 3 indicators.

On the left is recruitment indicator, which uses a recruitment signals available from our fishery independent recruitment surveys. In the middle a fishery performance indicator, which devise the annual removals of slot sized fish divided by slot size fishery independent survey indices of abundance to develop a relative exploitation, and hence F indicator for the subadult population.

Then an adult abundance indicator on the right, which uses fishery independent adult index data, and can be thought of a metric for spawning stock biomass. For each of these indicators we use a reference period from 1991 through 2013. Per the most recent accepted assessment for management use with a period where the southern population was likely not experiencing overfishing and not overfished, with these results being broadly supported by the results of the current stock synthesis models.

Further, a grid search which is used by some of the simulation assessment and the TLA performance therein, to determine the number of years and threshold levels for percent red, to minimize the bias in stock status determination. This combination varied by metric and stock, with recruitment suggesting that only one year be represented in the terminal year by this sort of slightly shaded final year. In 2021, at threshold with red at 0.05 was indicative of poor recruitment.

Threshold is represented by the horizontal black line. For fishery performance it suggested six consecutive years or red exceeding the 0.52 threshold level should elicit a management trigger. Then for adult abundance the grid source suggested nine consecutive years of red exceeding a 0.78 threshold, so it listed a management trigger, though they named a precautionary management and given the life history of red drum, the SAS recommended having the threshold to 0.39, which is the lot they are just showing here. For the next slide it is important to note that a yellow status is calculated when the annual estimate is either yellow or red in all years in the shaded block, excuse me, all six years of the fishery performance metric.

You only get an elevated action when the metric gets red in all years. What becomes apparent, before I go into the next slide is the indication of declining trends in all three southern stock characteristics, with recruitment indicators being red every year from 2010 through 2022, in 21 of the last 28 years since 1995, fishery performance being red every year from 2013 through 2022, and yellow or red every year since 2002, and adult abundance

showing a decreasing proportion, green since the mid-2010s.

When action levels are tabulated across the terminal years of assessment and consideration of the number of years to trigger it in threshold levels, you observe that both the recruitment and fishery performance metrics suggested elevated action in the terminal year, 2021, while the adult abundance metric suggested moderate action.

Based on the reference points developed by the SAS, these results indicate the stock was experiencing overfishing in the terminal year of the assessment, as fishery performance was red for at least one of the last three years. In actuality, it was red in all three of the terminal years. This is consistent with the terminal year stock status determination from the primary stock assessment for this model.

Regarding SSB status, TLA analysis based on the preliminary reference points developed by the SAS, suggests the southern population was not overfished in the terminal year, as adult abundance was not red for at least one of their last three years. This does differ from the overfished status determination from the SS model, though it is important to note that the SS model suggests the stock had just recently come fishing from an overfished state.

This is consistent with two additional TLA management triggers identified by the SAS that were triggered, though we did not relate these to specific stock status determinations. First both fishery performance and adult abundance were yellow and/or red in each of the past three years, which the SAS interpreted as a sign of increasing catch and/or decreasing subadult abundance, which would jeopardize the abundance of adults in the future.

The second, recruitment was red and adult abundance was yellow in each of the past three years, which the SAS interpreted as a sign of consistent below average recruitment, increasing the chance of future decline in adult abundance. That sort of concludes the information that I built in for the southern population, and now we will transition to the northern population.

While we intended a Stock Synthesis Model and also the Skate Method, note the SAS made stock status determinations for the northern population using results from the traffic light analysis. In the case of SS and Skate results, these should be viewed as complementary analyses here. Beginning with the general data available, for the northern model we had catch series going back to the 1981 fishing year through the 2022 fishing year, with catch split into commercial and recreational fleets. For the commercial fishery we separated the catch into two time series, one representing catches made by the Commercial Gillnet and Beach Seine Fleet in the other catches made out of other commercial gears fleet, with a commercial gillnet and beach seine fleet being further subdivided into a time series of direct harvest and dead discards. For the recreational fishery, catches were once again combined across all states in the northern populations, with catches primarily derived from North Carolina and Virginia, with the catch trends once again being split as in the southern model into a harvest and released time series.

The total recreational removals being calculated in a certain population by applying an 8 percent discard mortality rate to released fish. On the left I'm showing the time series of recreational harvest, recreational dead discards and commercial gillnet discards in numbers of fish, which is the analysis of the plot I showed for the southern population.

Throughout this time series we observe a period of decreasing removals in the early 1990s, with a three-year average number of fish removed annually declining from about 430,000 fish to a little over 150,000 fish by 1996. Since the mid-1990s harvest has been increasing and has exceeded a late 1980s annual harvest since the late 2010s, with a peak of 1.08 million fish removed annually from northern population via the recreational and commercial gillnet discard fleets, from 2011 to 2013.

Now I want to bring you to the commercial harvest fleets on the right, unfortunately we only have catch information available from these fleets, available in harvest weight for the units in metric tons. Also shown by the horizontal dash line is a 250,000-pound commercial cap has been in place since 1990s.

It is important to realize the commercial harvest shown here represents a fraction of recreational removals. The recreational removals representing greater than 90 percent of annual removals over the last 10 years. Commercial harvest, with this in mind the time series commercial harvest suggests steady to decreasing harvest throughout the time series, for removals in most recent years being below the 250,000-pound cap.

Other data sources available for the northern population included 3 fishery independent indices from North Carolina. This is and continues to be one of the data limitations from the northern model. Not having survey data for the population outside of North Carolina, and hence the North Carolina abundance trends is being used to represent an entire stock's abundance trends.

As known for the southern population, each of these indices were standardized to account for extraneous covariate effects on catchability, with the resulting indices being shown here. Going up on the top left the Recruitment Survey, in the middle is the Subadult Survey and in the bottom right is the North Carolina Longline Survey.

When these fishery dependent catch data streams along with the fishery independent data are combined, once again it means we had catch, discard, index, composition data available from throughout the time series. Unfortunately, the SAS was not able to develop a Base Stock Synthesis Model, due to uncertainty and instability in the northern stock assessed model. This ultimately led the SAS to determine the model should not be used for stock status determination. Instead, in the report we presented two alternative models that independently each showed some troubling diagnostics, but collectively may give an indication of the trend in F, SPR and spawning stock biomass observed in the northern population. On the first we determined the Estimated Selectivity Model, with this model suggesting narrow selectivity for the recreational fleet, and low selectivity for large sized fish, which was in conflict with published literature and expert opinion.

This model also proved highly unstable and had convergence issues. The second model we termed the Hybrid Selectivity Model. This model fits the selectivity of the commercial gillnet beach seine and recreational fleets, based on expert opinion, that ultimately suggested a less productive northern population.

Despite very different model scales, similar trends in F and SPR were suggested by each of these two models. Thus, it appears both models are picking up on the same trend of increasing F throughout the time series, even if model scale is uncertain. With F being shown on the left, and corresponding the relative spawning potential ratio being shown on the right.

Given these concerns for the stock synthesis model, the SAS decided to use the results of the TLA analysis for stock status determination. Similar to the southern population the northern stock TLA analysis focused on the same three Model Free Indicators, recruitment, fishery performance, and adult abundance.

Here instead of the 1991 through 2013 reference period we use a 1996 through 2013 reference period, which once again was supported by the results of the current assessment that has been recommended for use for management. Before going into stock status determinations, I do want to draw attention to the recent decline, a higher proportion red in fishery performance.

This would be consistent with the increasing exploitation, which was suggested by the Stock

Synthesis Model, which is being shown here in the middle graph. When action levels are tabulated across the terminal years of the assessment, and consideration of the number of years the trigger and threshold levels, they observed that both recruitment and fishery performance metrics suggested moderate action in the terminal year, while the adult abundance metric suggested no action.

Based on reference points the SAS developed, this would lead to the conclusion the northern population as neither overfished nor experiencing overfishing. Despite these stock status findings, the SAS did note multiple years of yellow fishery performance and the increasing frequency of yellow for recruitment as areas to watch, as these could be early signs of over exploitation.

Last but not least, as far as future research, we recommended that the next assessment be conducted as a benchmark in 2029, with data through the 2027 fishing year, and update to the Traffic Light Analysis every two years between the assessments. Primary research recommendations being to resource the correct data on recreational discards, size structure, which continues to be a data limitation, expand tag-recapture analyses to states outside of South Carolina, develop surveys tracking subadults in Virginia and adults in Florida and Virginia, and conduct studies to estimate movement rates to support spatial models. With that I would be happy to answer any questions now, or I think we had decided that we'll probably do.

CHAIR HAYMANS: We'll do the questions for you now. All right, wow, thank you, Joey, Dr. Ballenger. Mr. Brown, you've had your card all vertical the whole meeting. Do you have a question from the start, Sir?

MR. ROBERT T. BROWN: Yes, I may want to talk about the northern stock.

CHAIR HAYMANS: Okay, perfect, that is what I would like to do is, let's have questions on the northern stock first, walk through those, then we'll go to the southern stock if that's okay. Okay, go ahead.

MR. BROWN: Okay, I'm a commercial fisherman on the Potomac River or a tributary of the Chesapeake Bay in the state of Maryland. What we've been seeing over the past number of years. When I started fishing with my brother back in 1964, when I got out of grade school, we didn't even know what a red fish was.

Then they came in, back in the eighties you might see one, two in the nineties, nothing to speak of. Over the past three, four, five years the number of red drum that we have in the state of Maryland on the western shore and on the eastern shore and on the Potomac River has raised dramatically.

Just the other day, I was fishing one of my pound nets and we call them bulls, they are the big fish, they are about anywhere from 42 to 50 inches long. I had like 15 of them in one net, 8 in another, 6. We've been dealing with these large fish like that. With this number of fish, maybe it's due to the climate change that they are coming into the Chesapeake Bay that we never saw before, because we've seen all types of different fish.

But just on my way up here last night I had a fisherman who fishes a pound net just on inside of mine, wanted to know if I fished my net. I told him no. He said while I just turned loose approximately 2,000 pounds of, he calls them puppy drums is what we call them up there, and they were a range in he said from about 15 to 19 inches long.

They've been catching them on the eastern shore in a number of places, the chop tank, the little chop tank down in the Sound. You can go catch on hook and line any amount that you want. These fish are building more and more every year. They are also, they love crabs, and crabs is one of our main things.

When you keep protecting, we've got a five fish creel limit, and we're getting charged with dead

discards. I was just told that in Maryland our commercial harvest was 342 pounds, but yet we've got this large amount of dead discards we've got. I would like for us at the next meeting being able to go in and discuss this, and see where we're at, and reevaluate this for the simple reason.

The Bay is changing, the weather is changing. We've even got white shrimp we're catching in our rivers now. It's full amounts, showing up more and more, and we have started a fishery for the white shrimp. We need to be able to change with the times, and we need to do, as far as all these dead discards that we have at the present time, we should be allowed to sell most of those instead of having them float up and down the Bay, that is a waste of resource. I would like to have a discussion on this at our next meeting if we could possibly have it. Thank you.

CHAIR HAYMANS: Tracey has got a note to that effect. There was no question and that was more of a comment statement, right? No correction directly.

MR. BROWN: Well, my question is why are we letting all these dead discards, if we are getting charged for this many and we have that many. If we are releasing them and they are dead, why can't we keep them? Why should our limit stay at a 5 fish creel? A commercial fishery doesn't have a creel limit. They may have a quota, but they don't have a creel limit. I think this needs to be addressed and it should be put on the agenda for the next meeting.

CHAIR HAYMANS: Thank you, Sir, and welcome to the world of red snapper. Mr. Geer.

MR. PATRICK GEER: I do have a question. The recreational dead discard is 8 percent, is that for both the north and the south?

DR. BALLENGER: Correct.

MR. GEER: What is that rate for commercial?

DR. BALLENGER: Five percent for observed live releases, and I think that is the gillnet fishery, correct?

MR. GEER: That's only from North Carolina data or does that include Chesapeake Bay data?

DR. BALLENGER: I think it's just North Carolina data.

MR. GEER: I thank you.

CHAIR HAYMANS: Chris Batsavage.

MR. CHRIS BATSAVAGE: I have some question for the stock delineation where that boundary is. I think the report discussed looking at where that might be instead of just North Carolina, South Carolina border and there was some analysis on separation possibly occurring around the Whtie Oak River part of North Carolina, which is kind of that almost in towards the southeastern part of the state. Was the analysis determined that it was pretty definitive that the boundary is pretty much at the state line, or is there kind of general uncertainty, as far as exactly where that stock delineation might be?

DR. BALLENGER: Yes, you're correct. We did try to look into that stock delineation to see about some finer scale, potential delineation. The stock delineation is primarily based off of a genetics research study that had data or samples from north of Cape Hatteras and then off of South Carolina, but very few are sort of from that southern North Carolina region. Unfortunately, we did some life history analyses to see if we could better refine that. We just didn't have the data to be able to better refine at this point in time. But it was a research recommendation to continue looking into that.

CHAIR HAYMANS: Any other questions on the northern portion? Seeing none, any online? I guess there are no Commissioners online. Southern report questions. Erika.

MS. ERIKA BURGESS: Thank you, Dr. Ballenger, and thank you to you and the team, both the SAS and

the TC for doing this work. I have a question about a comment that you made earlier on in your presentation on the southern stock, and that was SSB can track changes in patterns. I'm wondering, is this SS3 Model producing something that gives us a relative change over time of SSB, or if we can actually get an actual magnitude of SSB for the stock? Can you confirm that what data was used to generate the SSB estimate for the southern stock?

DR. BALLENGER: I may ask Jeff to step in here a little bit, but I'll try to tackle this first. Based on the results of the simulation assessment, that was one of the main things that we wanted to investigate from the simulation assessment, was whether an SS Model that tracked a full age structure of the population was capable of thriving an SSB status determination.

The results from the simulation assessment, which simulated datasets comparable to what we have in the assessment we're using today, did suggest we could come up with an SSB status using the data which we should have in hand. That was supported by the findings of the simulation assessment, and confirmed by the Review Panel who reviewed that assessment. With the primary changes being that we expanded the age structure from adding a 7 plus group to the full age structure in the stock synthesis model.

Relative to the 2013 terminal year assessment, we also had a near 20-year longline surveys providing some information on the adult abundance stock, as well as more comfort that the signals coming through the subadult indices regarding relative year class strength in selectivity patterns, were aligning with the observed longline trends we were seeing. In the end the southern population assessment used, as far as an adult abundance survey the South Carolina Longline Survey.

We did consider a Georgia Longline Survey as well. It appeared to be in conflict with both the South Carolina dataset as well as the subadult indices, and the signals of year class strength coming through there as well. That was dropped from the final SS model, but then we also did have information from the adults coming from the age structure being applied from the subadult indices, and as they transition to the adult population. I don't know if you want to add anything.

MR. JEFF J. KIPP: I'll start on the question about confidence in the absolute magnitude of SSB estimates. I think it is a typical characteristic of these assessment models that you have more confidence in abundance trends than absolute magnitude. I would say that holds here, but I don't think we saw any diagnostics that indicated that the SSB magnitudes that were being estimated were inaccurate.

MS. BURGESS: A couple follow ups. The only adult index that we have is for South Carolina that was used in the assessment, and we don't know where the actual abundance, spawning stock abundance is centered for this stock use. But we don't know it's location, so we could be sampling the core, we could be sampling a small amount, we could be sampling something that is representative of the whole, but right now we don't know.

Then you said that one of the things that made you more confident in the SSB estimate was that it tracked with what you saw in the subadult indices. But am I correct to state that the steepness that you used in the model was that there was no relationship between adult abundance and recruitment?

DR. BALLENGER: Correct, we did use fixed steepness at 0.99, which applies just deviations around the average level of recruitment. Yes, that is correct, there is no formal spawner recruit relationship incorporated into the model. I can't remember the first part of your question.

MS. BURGESS: The first part was just summing up what I heard.

DR. BALLENGER: That's what I thought, I couldn't remember the question there.

MS. BURGESS: The question was about steepness, and then so based on your years of experience in fishery stock assessment scientists, given all the great things that SS3 can do and can estimate, beyond things that other models can't. Do you have greater confidence in SPR and F or in the SSB estimate? Where does your confidence lie?

DR. BALLENGER: I think as far as what you're, I'm speaking from my personal, I was looking at Jeff to make sure that he agreed here, but yes, I think obviously we probably have more confidence in the SPR trends or the SPR level than the SSB levels, just because that is the more data rich component of the assessment.

CHAIR HAYMANS: Any others? Okay, thank you. Thank you for that presentation. Next, we're going to move into the point-counterpoint or the punch-counterpunch. Pat is going to present the Peer Review Panel Report, and then Joey is going to come back with the SAS Review to that, and then we will have those two presentations followed by questions for both. Pat.

MR. PATRICK A. CAMPFIELD: We're going to present the SEDAR Review Panel's conclusions and recommendations in evaluating the red drum stock assessment. Here on behalf of the Chairman, who could not participate today for a couple of different reasons. But to jump right into it, in terms of the review process, we wanted to thank Southeast Data and Assessment Review staff for facilitating and coordinating the review.

The panel consisted of four scientists, the Chair, Dr. Gavin Fay, from University of Massachusetts, Dr. Geoff Tingley from New Zealand, Kotaro Ono from Norway, and Dr. Katyana Vert-Pre from Arizona State. The last three reviewers are from the Center for Independent Experts. They were recruited for their expertise in marine fish ecology and population dynamics models, as well as recreational fisheries and tagging data analysis, and perhaps most importantly catch-at-age models, notably the Stock Synthesis Modeling Platform. I will summarize their finding relative to each term of reference, the first being to evaluate the Assessment Committee's responses to the simulation assessment recommendations, and that different review panel that was conducted in 2022.

Their conclusions are that the Southern Stock Synthesis Model Performance was encouraging and produced unbiased estimates. They had a lot of confidence in the SS Model for the southern stock, and that the follow up work on the traffic light analysis reference points using a revised grid search was successfully completed in the current assessment.

For the longer-term future assessment work, the Panel recommended testing the SS Model performance over multiple scenarios using data without observation error. The second term of reference was to evaluate the data used in the stock assessment. In a nutshell, the Review Panel commended the SAS for very thorough work in gathering and vetting all available red drum data.

The Assessment Committee provided valid justification for excluding select data sources, and they commended the SAS on their holistic thinking to include data for different red drum life stages. Another notable improvement in the current assessment and the input data were a patchwork of recreational discard length data that the Assessment Committee synthesized to address a notable information gap.

However, more of that data, recreational discard length data, needs to be collected in the future, very critical for red drum assessments. In terms of recommendations for future assessments, the Panel thought that the Assessment Committee should reconsider their use of scale-based age data. Typically, those are only useful for the first few years, but they thought that that would be utilized more fully within the assessment analyses.

The Panel also had some strong opinions about index standardization, notably in future work to

incorporate survey spatial temporal changes, as well as explore habitat variables like temperature and salinity and their influence on drum abundance. The third term of reference, which is to evaluate the assessment methods and models.

The Panel concluded that the Stock Synthesis Model specification values was well justified, and that for the southern stock the SS Model is most appropriate for characterizing the population. Very flexible modeling platform and approach, and a good choice for integrating a variety of data sources that we have for drum.

Similar thoughts for the traffic light analysis and the northern stock, and they deemed that to be the most appropriate analytical approach for the northern population. The Panel's recommendations for future work, we already touched on steepness in stock recruitment function, but they encouraged the SAS to reconsider that steepness value of the slope of the curve in stock recruitment function.

Also, future work on exploring different reference periods for the range of years used in the traffic light analysis, and to improve their justification for the adult abundance threshold in the TLA. The fourth term of reference was to evaluate the model diagnostic analyses, including sensitivity and retrospective analyses. In conclusion the Panel thought that the SS Diagnostic Analyses were very comprehensive and in most runs the model converged successfully, as shown in the plot below. Out of 200 model runs only a handful of times did the model not converge on similar results.

The Sensitivity Analyses for the TLA were deemed sufficient. However, again the Review Panel thought that the standardized indices residual pattern showed some poor diagnostics that should be worked through in future assessments. There were minor retrospective patterns in SSB and fishing mortality and SPR, but when compared to stock assessments for other species the Panel had no concerns about retrospective patterns.

The fifth term of reference was to evaluate the methods used to characterize uncertainty. In a nutshell, the Review Panel thought that the Assessment Committee did this very thoroughly, and we should have confidence in the results for the SS Model. Also, because the traffic light analysis was conducted for the southern model, it provided similar stock status or trends in indications of concern for the southern stock.

During the Review Workshop, SAS completed additional model runs that were requested by the Panel, and the outputs were within the range or the confidence intervals of the base run, again building confidence in the southern outputs. A lot of review panels recommend management strategy evaluations that is essentially another simulation framework or tool, and this Panel did as well for red drum. But they thought an MSE might be useful to inform the selection of the reference points for the TLA.

The next term of reference was to recommend best estimates for stock biomass abundance and exploitation. In short, the Panel agreed with the Assessment Committee that for the southern stock an SS Model produced the best estimates of biomass, fishing mortality and SPR. For the northern stock although the Stock Syntheses Models did not converge, that means you don't have SSB estimates there, the traffic light analysis is reliable as a qualitative indicator for the three indicators that Joey presented on.

Again, they had recommendations about future work and index standardization, but they also thought that the Assessment Committee was very thorough in the approach that they took to standardizing indices, as Joey highlighted that hadn't been done in past red drum stock assessments, so that is an advance in the current assessment.

Also, for future assessment work, although the SS Model did not converge consistently for the

northern population, perhaps as time series get longer that modeling may improve, and so the Panel thought that the SS Model should continue to be worked on for the northern stock as well. The next term of reference was to evaluate the choice of reference points and estimation methods, and recommend stock status.

Again, in short, the Panel agreed with the reference points that were presented in the stock assessment, including the reference period used for the TLA. The Review Panel agrees with the status determinations from the assessment for each region. To wrap up, TOR 9 covers the research recommendations. In addition to those that Joey highlighted from the Assessment Committee, again the Review Panel encouraged exploring different approaches for index standardization, as well as continuing to utilize the simulation framework that was developed in 2022. It's really a powerful tool to build on, notably to test reference point selection, as well as what's called a value of information analysis to prioritize future data collection, to tell us which surveys are most useful for tracking drum trends.

Joey highlighted the tagging studies analyses that are pretty data rich for red drum. The one sort of minor recommendation from the reviewers was to evaluate different mortality associated with tagging, given that the tagging studies use different gears to catch drum. Finally, to evaluate seasonal population dynamics for each regional population that is also capable or possible within the stock synthesis framework.

For the next term of reference regarding the timing of future stock assessments, again in short, the Review Panel largely agreed with the Assessment Committee, next benchmark in five years, do a TLA update every two years. They are encouraging, again, index standardization exploration.

They thought if that could be done in the next year or two if that is feasible, then to go ahead with that. But also recognize that the standardization they did already was pretty thorough. Then again, as Joey mentioned, there is a new MRIP pilot study and those recreational data may change, so when they become available to consider rerunning the SS Model for the southern stock, and see if the catches differ significantly.

To conclude, in terms of the Review Panel's remarks, the new stock assessment represents substantial process in characterizing red drum stocks, notably a stock synthesis model provision of SSB and F and SPR for the southern stock. They found that the SS Model is suitable for management advice in the south, and the Panel agreed with the overfished status and overfishing conclusion.

For the northern stock they agreed that the TLA is suitable for management advice and the status determinations there. Finally, that the Stock Assessment Subcommittee and the Technical Committee should be commended for very thorough examination of all the data, extensive model development and utilizing the simulation framework, which is a first among the Commission stock assessments. I'll stop there, Mr. Chair.

CHAIR HAYMANS: Thanks, Pat for dealing with the SAS response.

DR. BALLENGER: I'll be much briefer here than my original presentation, but unfortunately the Review Report was not received by the SAS until well after the initial deadline, meaning the SAS could not review and seek clarification or provide a response if necessary. Hence, hopefully all you guys saw that we provide a response in the supplemental materials, which I'm summarizing here.

Basically, we just want to clarify a couple things and give it a little bit more context regarding some of the comments that were made in the Review Panel Report. The first thing being there was conflicting advice on stock recruit steepness, which Erika, Ms. Burgess asked about earlier. Basically, coming out of the simulation assessment, we had been

recommended by that Review Panel to fix steepness at 0.99, although we had initially explored and built the model using a steepness of 0.84. Hence, we took the recommendation coming out of the simulation assessment fixed stock recruit steepness to that 0.99 value for the base model run in the southern population.

Pat said during the Review Workshop the Review Committee asked us to provide a run of what would happen if we did fix it at that 0.84 value or we had also investigated a run where we freely estimated steepness as well. With it fixed at that 0.84 value, which was basically shown to have no impact on stock status, we got very similar SSB and SPR around results in the same stock status determination.

When we tried to freely estimate steepness, it basically went back to that upper bound at 0.99 in virtual that solution. For index data, although there were concerns regarding the index data and its potential spatial temporal patterns in that, we had a Review Workshop to provide some data suggesting that the Index Data was shown to correspond spatially and between age classes, through several different plots and different techniques.

Then also, we provided several requested sensitivity runs that showed no impact of overfishing stock status. Although two runs showed SSB status did change the SSB in the terminal year was right at that threshold level, with the same declining trend as observed in the SSB base model. I think I mentioned earlier in the base model, SSB status was 0.881, and those two other ones that went to 1.08 and 1.025 or something like that, I mean just right at that point.

One run with SSB at threshold included an alternative index that one of the reviewers developed during the Workshop, but had inadequate time to evaluate and considerations to develop, and we didn't necessarily feel it was representative of the true index trend for that survey. The TLA reference period was based on the best scientific information available.

But without the review panel providing alternative recommendation, and we did test the sensitivity of a TLA results through a sensitivity analysis and for the results being shown to be largely insensitive. Then the final one the SAS does not believe a 2025 assessment update will change conclusions of the current assessment, based off the preliminary work we had done and the response to this model to these alternative configurations through sensitivity analysis. I think that's all I've got.

CHAIR HAYMANS: Are there questions for either Pat or Joey on the Peer Review Report or the SAS Report response? Seeing none. Oh, I'm sorry, Mr. Brown.

MR. BROWN: Yes, was the Chesapeake Bay included into the assessment?

DR. BALLENGER: What data we had available from the Chesapeake Bay was included in the assessment, so all the catch and removal data, harvest data and discard data was included. Unfortunately, we do not have any fishery independent survey from outside of the North Carolina region from the northern population.

MR. BROWN: Okay, would it be possible in the future to have it explored into the Chesapeake Bay? I mean it' the second largest estuary into the world and the amount of fish we've got there, and I'm big on that rockfish we have trouble having reference points in there also.

DR. BALLENGER: Yes, I think it was a research recommendation from both the SAS and the Review Panel is to encourage the development of survey data from outside of the North Carolina region, including the Chesapeake Bay, meaning Virginia, Maryland, elsewhere, so we can look at the abundance trends in those regions.

MR. BROWN: Thank you.

CHAIR. HAYMANS: Anyone else? Okay, so now I guess we need to have a discussion or consideration of acceptance of the stock assessment and peer review. Any discussions? Anyone interested in making a motion to that effect? We may have one on the screen. Yes, Ben.

MR. BEN DYAR: Chair, I would like to make a motion. **Move to accept the 2024 Red Drum Benchmark Stock Assessment and Peer Review Report for management use.**

CHAIR HAYMANS: Is there a second, Pat Geer. Ben, any additional discussion?

MR. DYAR: No, I just want to thank all the work that the SAS did and the Peer Review Panel for developing and looking at all these indices and all the reports. I appreciate it, thank you.

CHAIR HAYMANS: Seconder have anything to add?

MR. GEER: Yes, Mr. Chairman. Thank you, Asssesment Team. I think they did a great job. Mr. Brown has brought up a good point about we're seeing more and more red drum in Chesapeake Bay, along with other species as well. I have been trying to get, I'm glad that is one of the recommendations to try to have some of these surveys in the Bay, because it's going to cost money, but we need to do that. If this is becoming such a primary fishery, and not only in Virginia but in Maryland and Potomac River as well, we need to have this information.

We really don't have anything other than catch and effort data from the recreational and commercial fisheries, so we need a longline survey. We need a trammel net or a gillnet survey, similar to what they have in the south. I'm glad that is one of the recommendations and I just wanted to reiterate that and say that I'm stressing that we need to get that information.

CHAIR HAYMANS: I did find it interesting, Mr. Geer, when you left Georgia about 7 years ago there was a live well in the back of your U-Haul. I'm just curious as to whether you hauled any of those puppy drums to Virginia.

MR. GEER: You really want me to answer that?

CHAIR HAYMANS: I know your affinity for kayak fishing for red drum. **Okay, any additional serious discussion about the motion? Seeing none; is there any opposition to the motion? Any abstentions? Seeing none; we will accept this motion by consensus, or unanimous consent**. Now the real matter at hand is how do we consider this for management response? What are we going to do about the overfished, overfishing status? Does anyone have any thoughts on how we're going to use the assessment moving forward? I'm looking to the far end of the table. Ben.

MR. DYAR: Interested to see and to be able to use this for management use in the southern region. I have a motion I would like to propose. I don't know if we have that ready.

CHAIR HAYMANS: Before you read that, Ben, just a statement that I'll make, and I was thinking about. SAS has recommended perhaps an update in '25, right? Is that what I just heard you say?

DR. BALLENGER: No, the SAS is recommending not to do an update in 2025, because there isn't going to be a whole lot of new information and we're not expecting the index data, and we're not going to have any new recreational update from MRIP survey, as far as the impact of potential effort changes until 2026 even weighs. We were recommending a 2029 benchmark with 2027 terminal year, with potentially a TLA update in 2027, I believe.

CHAIR HAYMANS: Okay, I misread that, because that is exactly what I was thinking was waiting for what we see as the new MRIP calibration or estimate, in addition to maybe seeing the impacts of Florida's changes after the terminal year of this

assessment may make a big impact, so maybe ’27. Ben, go ahead, sorry.

MR. DYAR: I make a **motion to request the Stock Assessment SAS/TC to produce the static spawning potential ratio for a range of slot size limits (between 14” and 27”) associated with bag limits ranging from 0 to 5 fish per person for: (a) the southern region and/or (b) South Carolina, Georgia, Florida individually.**

CHAIR HAYMANS: Is there a second? Spud, yes, Mel is from the same so Spud is on second. That was Mr. Woodward with the second. Additional discussion on that one? Mr. Batsavage.

MR. BATSAVAGE: I think it’s a great suggestion and support the motion. A question, could a similar analysis be done for the northern population, even though we don’t have a stock synthesis model running for that assessment, just the traffic light? Is that something that could also be done for the northern?

CHAIR HAYMANS: Dr. Ballenger.

DR. BALLENGER: I think Jeff and I have had some discussions about this. We’ve got to even think about the southern population, how we’re going to implement this to do this, as far an update. I think for the northern population it is going to be difficult, because the TLA analysis is more of a qualitative indicator. It’s a little bit harder to determine how a bag limit or size limit change is likely to affect that indicator moving forward. I don’t know if you have any additional thoughts.

MR. KIPP: Yes, I think it would look like a different analysis. I mean we could do some bag limit analyses on the MRIP data alone, looking at recreational impacts, I think that is probably the best you could do. I don’t know that we could quantify what kind of changes to SPR those would have, like we worked for the southern stock with an SS Model.

MR. BATSAVAGE: All right, thanks, I’ll come back to that, wait for this motion to be dispensed. But I think some sort of analysis from the TC and SAS on what can be done in the northern population would be worth exploring, but it sounds different than what we’re talking about here, so I’ll just wait.

CHAIR HAYMANS: Any other discussion on the motion? Erika.

MS. BURGESS: One thing that I think might be fun for the TC to deal with as they tackle this is the assessment ended, the terminal year ended August, 2021, I believe, and then in September 1, 2022, Florida implemented major changes to our recreational limits for red drum. We manage red drum at a regional scale in Florida, with the northeast region being the top four counties, essentially of the state, and then the Indian River Lagoon being the next region.

Outside of the Indian River Lagoon they’ve got a Southeast Region that goes to the Florida Keys. I think, if I have the ability to divine what was happening and driving a lot of the assessment. Habitat issues in the Indian River Lagoon were of concern to the state of Florida at the same time as the assessment was wrapping up.

We saw declines in catch rates, decline in our abundance indices, although these abundance indices for the IRL were not used in the stock assessment, and the state responded by making red fish catch and release only in the Indian River Lagoon. Two-thirds of our coastline essentially is 0 retention for red fish.

Then in the northeast part of the state we cut our bag limit and vessel limit in half. It will be interesting to see how the TC handles projections with a change for what was in the model, and then what is currently in play now. I would love to have some discussion or response from the TC when we get these tables back, to see how that was handled.

CHAIR HAYMANS: If I could add on to that. When you’re able to do this that we’re asking, you’re doing it based on data that was in the assessment.

The table is essentially two years old. It may show that Florida has already done what this table may request them to do, right? It's not pulling new data from Florida that got put into it, is that right?

DR. BALLENGER: Yes, I'll clarify one thing. The assessment used data through August of 2023, at least the preliminary data that we had, because the fishing year 2022 data would have been September 1, 2022 through August 31, 2023. However, we had only preliminary data on some of the survey data.

We have full age data available as well as, I don't think the Florida indices were able to be updated through that 2022 terminal year. For that reason, we recommended only using through the 2021 terminal year for stock status determination, which would have ended in August 31 of 2022. Right about the time that those regulation changes went into place. You're correct, those were not accounted for sort of in the model terminal year estimates. I think going to your point, I think the intent, I mean we'll have to talk about this as a SAS and TC, would be basically use the data through that 2021 terminal year and look at the effects. If through that data what changes in size and bag limits would have had. In that instance we should see the potential effects of any bag and size limit. Well, I think it was mainly bag we touched, and Florida had it correct in the most recent would have likely had on the population moving forward.

CHAIR HAYMANS: I have John Clark.

MR. JOHN CLARK: No concern with the motion, just kind of curious. Has this species always been managed with a slot limit? If so, it doesn't seem to have achieved the purpose of the slot is suppose to allow more spawners out there so that we have smooth out recruitment somewhat. I mean, couldn't we overfish just as well with a minimum size? It would be less of a burden on both anglers and enforcement.

CHAIR HAYMANS: It's been managed for the slot as long as I can remember, but Erika, do you have a point?

MS. BURGESS: I might challenge Pat's affinity for this species myself, but this truly is a management success story, we went from two coasts of the U.S. being overfished and completely depleted for this stock when ASMFC the southern states, on the coast of the Atlantic and the Gulf of Mexico.

Congress stepping in and basically created a moratorium for this fishery, and for very conservative management measures, managing for an SPR, rebuilt this from no overfished, because we fished on those adults, to a fishery now what we've got ages through Age 3, which is a really well rebuilt stock.

The decision and the history of this fishery is that it was decided that we would manage for these high SPRs for catch and abundance, and we would constrain ourselves to an inshore fishery, based on the life history of these fish. No harvest in the EEZ, which is where the majority of the adults are. The adults only come inshore seasonally for spawning.

What we're fishing on is Age, depending on your state, Age 1 through Age 4 fish. In the state of Florida our slot limit is so narrow we're fishing on fish within a year's class most often. We want to preserve this fishery for the important recreational fishery it is, and decided to leave those spawning adults be, and have them contribute for inshore fishery. I don't think there is any appetite for changing away from a slot.

CHAIR HAYMANS: I absolutely agree with that from the Georgia perspective. John, again?

MR. CLARK: Thank you, Erika, it's just I have experience with the fish going way back to the overfishing days in the Gulf. I remember, I was working for Texas Forrest and Wildlife back then, and we were stocking red drum by the millions. But that was during the black and red fish craze, when they were trawling all the big red drum out of the Gulf. I was just curious, I mean I have no, obviously I

don't mind doing it this way. I was just curious if there was any way to perhaps hypothesize what would happen if just a minimum size was used, rather than a slot.

CHAIR HAYMANS: Before I call the question, just a question to TC. Just ask ballpark for when we might see this.

DR. BALLENGER: Probably the May meeting, I think you've got the spring meeting or winter meeting before then. In the spring meeting might be a reasonable timeframe to have these projections completed.

CHAIR HAYMANS: Good, thank you. Time for question and answer**. Any opposition to the motion? Seeing none; any abstentions? Seeing none; motion passes by consent, or unanimous consent**. All right, wow that was easier than I thought. Seeing as how we're slightly ahead of schedule. Mr. Batsavage.

MR. BATSAVAGE: I just want to come back to some thoughts on the northern population. I don't need necessarily a motion, I guess we can just get Board consensus, head nodded or whatever. Look at some different bag limit analyses for the northern range, possibly looking at any benefits to dropping that maximum size limit in the northern range to allow those fish to escape the slot and enter kind of that protected zone a little quicker.

Also, if the TC and SAS can provide some more information, as far as what moderate action means in the traffic light analysis. I didn't ask that during the Q and A, although there might be something we maybe get a little more information back when we revisit this again, to determine what is the most appropriate management action to take.

CHAIR HAYMANS: Yes, I see Tracey is feverishly copying all that down so we've got that sort of as an action item for the TC forming. Very good, anything else? All right, so before we move into the discussion of the Risk and Uncertainty Tool, my blood pressure medicine is kicking in, so why don't we all take a five-minute recess. We'll come back in five minutes.

(Whereupon a recess was taken.)

RISK AND UNCERTAINTY TOOL INPUTS FOR RED DRUM

CHAIR HAYMANS: Let's get back to it. Dr. Drew is going to pull up her presentation and we'll get going. Next, we're going to have a discussion of the Risk and Uncertainty Tool Inputs for Red Drum, and Dr. Drew is going to lead us through that. All yours.

DR. KATIE DREW: I'm just going to give a quick overview of some of the background on the tool, the basic inputs for the tool, and the results of the weighting that the Board provided, and then sort of go into what that means, what the outputs are, and how the Board could potentially use this tool going forward. As a reminder, ASMFC is pilot testing this Risk and Uncertainty Tool with the red drum assessment.

We did try to pilot test this with the tautog assessment earlier, a couple years ago. But it turned out the tautaug assessment did not need to take any management action as a result of that assessment, and so while we go through the weightings part and the technical input part, we did not end up to need to fully use the tool. We didn't need to use any of the output of that tool, and so it kind of fizzled out as a testing experiment. We're on to red drum now, and we are testing this out further with this assessment and this Board. Just as a reminder, the Board is not obligated to use this tool as any part of this process. This is an option that we are putting forward for the Board to consider and to test out, and to then either use it or not use it to provide feedback via the Policy Board. The goals of this tool are to provide a more structured framework around risk and uncertainty for Board discussions, and to provide more transparency on the factors that go into final management decisions.

The risk and uncertainty tool has two components. One is the technical input, which are scores from the Technical Committee and the Committee on Economic and Social Science, which score various factors. For the Technical Committee, they are scoring stock status, how uncertain the assessment model is, how much management and environmental uncertainty there is, and sort of the relative ecosystem importance of the species in question.

Then the CESS is scoring information on the commercial and recreational importance, as well as the short- and long-term socioeconomic impact of the proposed management. Within the tool the scores for stock status and uncertainty essentially will encourage an additional buffer to the management action, that it will sort of push management action to be more precautionary.

However, the socioeconomic component sort of pushed back on that potential buffer or that potential precautionary approach. They essentially provide a way for the Board to accept a higher risk level, in order to mitigate potential negative socioeconomic impacts. The second component of this tool is the Board weight.

Those scores are provided by our various technical committees, and then the Board scores how important each factor is when making the decision. Basically, this is trying to get at how do you balance, how did you the Board as decision makers balance the question of stock status, uncertainty, and potential socioeconomic impacts when you are setting a quota or setting a regulation change.

The goal again is to provide this overall transparency to say, we are selecting a level of risk that matches our management objectives, and that management objective is sort of realized through putting more weight or less weight on these different factors that influence our decision. The output of this tool is a combination of those technical weights, so how much uncertainty is there, how negative, or positive is stock status?

How negative or positive are the socioeconomic impacts combined with those Board weights, to provide a recommended risk tolerance level that management action should strive to achieve. What does that mean exactly? For red drum, for example, in the south overfishing is occurring, according to our most recent stock assessment. In this case, F needs to be reduced to the F target. How much of a reduction in removals is necessary to achieve that F target next year?

There is uncertainty in this process, right, and our projections aren't necessarily saying here is the one right answer, it's saying for any given reduction there is the possibility, here is your probability of achieving that F rate. If you take no reduction there is a low probability that you will achieve F target, and this is risky. However, if you close the fishery completely there is a high probability that you will achieve the F target. This is very precautionary. You'll have a high probability of the management outcome that you want. But obviously, there would be significant short-term socio and economic impacts. You want to take a reduction that has a probability of achieving that F target. Somewhere in between those two extremes, between very likely, very unlikely, somewhere there is the right answer. But what is that in between? What is that right answer? Is it 50 percent, is it 60 percent? Is it 45 percent?

This tool will provide a recommended probability of achieving that F target based on stock status, various forms of uncertainty, and the socioeconomic considerations, all of which is weighted by what the Board considers most and least important. As a note, this tool is really only useful for data rich assessments with the capacity to do projections.

This is sort of the first module in the Commission's larger, ideally, risk and uncertainty policy. We're focused on this sort of data rich scenario where we have a model that can do projections and use this actual input. I think down the road the Commission

would like to develop this policy further, to deal with the data poor stock, poor stocks that don't have a traditional model. But we're not there yet, so we're focused on this small component of what will hopefully become a larger risk and uncertainty policy or risk and uncertainty tool.

But in the meantime, this means that we can use this tool for the southern stock but not the northern stock. We did do the scores and the weights for both regions for comparison, but the output from this tool can't really be used in that traffic light framework the way it can be used in the stock synthesis framework.

Now I'm going to go over the technical input scores. Again, these were provided by the TC and the CESS. In these figures we're going to have our southern region in orange and our northern region in blue, and so scores are provided for both. Stock status scores basically are in four considerations. What is your probability of being below the FMP threshold, so that is what your probability that you are overfished.

What is your probability that you are below the SSB target, then what is your probability that you are above the F threshold, that is what is the probability of overfishing occurring, and then what is your probability of being above the F target. In the northern region you can see that the northern region was not overfished and not experiencing overfishing. The probability that it's overfished is 0.

The TC did consider that there was a small likelihood that they were below the target, based on the trends in the available data, and in the northern region they were not experiencing overfishing, so that probability of overfishing is 0. But based on trends in removals in the data they think there is a high probability that they are above the F target.

Meanwhile in the south the stock was overfished, so in this case the Stock Assessment Subcommittee did not develop the exact probabilities, it just said overfished and overfishing is occurring. It gets a 1 for being overfished, and obviously if you're below that SSB threshold you are also below that SSB target, so that gets a 1 as well.

Similarly with the overfishing, you get a 1 because overfishing is occurring, and if overfishing is occurring you are also above that F target, so that gets a 1 as well. These are probably the most straightforward, just output right from the stock assessment. The next component is the sort of other risk and uncertainty factors. This includes model uncertainty, and in this case, you can see that there is more model uncertainty in the north than there is in the south, so that while the south does have some uncertainty associated with that SS Model, there is more in the north because we're relying on this qualitative traffic light approach that is not able to fully synthesize the data that is available.

There is also the question of management uncertainty. In this case the TC was really considering things like the fact that this is a predominantly recreational species, which makes it harder to control total removals, and means there is more uncertainty from the MRIP PSEs and things like that. In the north you can see that is slightly higher, but in the south slightly lower, but not too different.

Environmental uncertainty, the TC was considering things like the effect of climate change on recruitment, as well as population dynamics and the population range for both the north and the south. It scored fairly high, because I think the TC doesn't have a strong sense of whether the climate change and other environmental impacts are going to be a net positive or a net negative, in terms of recruitment and in terms of whether this stock is simply moving north, or whether it is actually able to expand its range and increase its population size.

That was probably the highest source of uncertainty here is what is the potential productivity of the stock into the future. Then ecosystem importance, which scored here as somewhat lower than the others, in terms of, this is an important part of the

ecosystem, a benthic predator, but maybe not a keystone predator that is important to the overall function of the ecosystem or more important than other species to the overall ecosystem.

It got scored a little higher in the south, mainly because that is where sort of the core of the population is, there is a larger biomass down there, and so the TC believed that the overall economic importance or impact would be larger in the south than in the north, where it has more competitors to the big ecological niche.

Then the socioeconomic factors are basically commercial ex-vessel value, commercial fishery dependent, recreational desirability and recreational dependent. These are calculated by the CESS as a function of basically sort of the available data that we can collect on this species, in terms of value and in terms of how much it is targeted in the recreational fishery data, or reported as targeted, and how much of those landings are coming from various communities within each region.

Perhaps unsurprisingly, the commercial value and the commercial community fishery dependent are rated relatively low for both regions, and recreational desirability and recreational dependence are rated higher for both regions. The one thing that we are missing from the scores right now is the socioeconomic impacts of the proposed reductions, namely because we don't know what the proposed reductions are yet.

We need to know sort of what the scale of that cut will be, in order to be able to score the overall short term and long-term impacts for both the commercial and the recreational fishery. I'll talk a little bit once we get to the end about sort of the next steps, but this will be another step that will sort of feed into this process. The preliminary output that I am showing today does not include this component. When we come back with the Board reflected analyses it will include this component. Initial Board weightings were gathered via a survey of Board members.

We had 11 Commissioners respond, 4 from the southern region, and 7 from the northern region. In terms of the basically all of those factors that the TC and the CESS scored, I am now going to tell you how important the Board thought they were overall, in terms of how you should consider them in management decision.

I am presenting a sort of histogram of the various responses from people who filled this out. Some people, as you recall, perhaps if you took the survey, we did ask, what are your thoughts on the importance of this for the northern region and what are your thoughts on the importance of this for the southern region. Some people chose not to respond for one region or the other, and so the total sample size or total number of counts for each section is not going to be the same across regions.

But basically, the overall response from each region, as well as the average weight for each region. As a reminder, higher weight means we are going to put more emphasis on that component, so it gets multiplied by that score, and will lead to more weight on that component within the overall function.

I'm just going to provide in addition to the scores some comments from Board members about what they were considering when they thought about these different SSB statuses. What we have here on the top is whether or not stock is below the biomass threshold, how important is that and then whether or not the stock is below the biomass target, and how important is that.

I think what you can take away from this is, that the Board as a whole put more weight on whether or not you are below the biomass threshold than whether or not you are below the target. This was basically saying people commented on things like it's important to avoid that overfished state and red drum life history and management could make it difficult to rebuild.

The lower weight, some people put a lower weight on both of these components, and saying that because of the high uncertainty in the SSB estimates and the SSB status. In addition, people thought that it put more weight on avoiding that overfished condition than on the target condition, mostly saying that a target is nice to achieve, but it's not that important overfished or not overfished threshold.

Where you are relative to the target got a lower weight than where you are relative to the threshold. Similarly for the F status, we're seeing here where you are relative to the F threshold on top, and where you are relative to the F target on the bottom. Again, comments on, it is important to avoid that overfishing status, and that the F estimates are more reliable than the SSB estimates.

Some people put more weight on those than on the SSB component. Again, more weight on the overfishing, you know where you are relative to that threshold than where you are relative to that target. Other factors, in terms of model uncertainty. People were considering the data availability, including and as well as MRIP uncertainty, the potential for that cryptic SSB that we have less of a handle on what's happening with the offshore adult population. Overall, similar results, slightly people were putting more weight on that model uncertainty for the south than for the north.

For management uncertainty considering sort of sporadic availability in the north could mean it's harder to get data on removals, as well as harder to control those removals, versus better MRIP data in the south to get a better estimate of removals, but also noted that this is a high catch and release fishery, which means management options, in terms of size limits or bag limits are going to potentially have less of an effect on controlling F.

In this case there was higher management uncertainty in the north compared to the south, partly reflecting that sort of sporadic nature of the north versus the south catches. Again, with the environmental uncertainty that was sort of equally weighted almost in both regions, compared to some of the other factors it's sort of right in the middle.

It's mostly because people were commenting again that it's unclear what the impact will be on the stock in either region, that we know the environmental effects are potentially important and there is uncertainty here, but it's hard to say what direction that will go. Then in terms of ecosystem importance, that was weighted relatively low for both regions in people emphasizing that it's not a keystone predator, and so obviously while it has some ecological importance, that is not going to be a major component of management decision.

Then in terms of the socioeconomics, this is short term effects across the top for the recreational fishery on the left and the commercial fishery on the right, and the long-term effects on the bottom. You can see in general the recreational short term and long-term effects were rated more highly for both regions than the commercial effects, mostly just out of consideration that the commercial fishery is an extremely small component of overall removals for both regions.

There are also people were commenting that again, this is a large catch and release component to the recreational fishery. Things like bag limits or size limits may actually have less of an impact on that overall fishery, in terms of demand or in terms of trips for those management changes. This is sort of the average weights of all of those factors across regions, with the north on the top and the south on the bottom.

You can see basically that what is coming out is sort of the highest weight would be that stock status, where you are relative to the threshold, and where you are for both the fishing mortality and the SSB, and then the short term and long-term socioeconomic impacts for the recreational fishery were coming out sort of the highest, and then the lowest was that kind of ecosystem importance and the effect on the commercial fishery.

When you combine all of that together, what you're getting is again this probability of what should your management action achieve. How likely should we be to achieve that F target, in order to take into account stock status and uncertainty and socioeconomic impact. What you can see is sort of, maybe you can see that it's hard to tell on this screen, it's basically the negative stock status in the south and that higher uncertainty is pushing that probability into the more conservative or precautionary range. For example, the Magnuson-Stevens says you should never have a probability below 50 percent. That 50 percent is generally the starting point for our analogies, and compared to that sort of if everything was great for the stock, if we were not overfished, if there was very low uncertainty, very low environmental impacts, et cetera, then we would be starting at 50 percent.

The uncertainty in the stock status is pushing this probability into a more precautionary approach at this point. However, this does not include the socioeconomic criteria, which will sort of push back on that buffer. We will update these scores once we have an idea of the overall socioeconomic impact of trying to achieve, for example, a 68 percent probability of achieving that F target.

The northern scores are on here. You can see that they recommend less of a buffer, because the stock status is more positive in the north that you are not overfished and not overfishing, although you have some probability of being on the wrong side of the target for both statuses. But you can see that impact of the negative stock status in the north pushing you to be more precautionary, I'm sorry, in the south pushing you to be more precautionary for this region.

What is happening next? First of all, well this can happen in any order really, but we're going to have a Board discussion on weight. We provided the survey as a way to get a starting point for what people are thinking. But that is not the final answer. The Board can discuss at this meeting if they would like to adjust any of those weights, or you can wait until the tool is updated with the final socioeconomic scores, and have that discussion then, or you can do both.

You can have a discussion now and you can have a discussion when you see the scores again. The TC will do the projections with the recommended probability for the south to estimate that reduction needed. The CESS will then update the socioeconomic scores with that information, and that will then buffer it and recommend a different probability, and the TC will do another set of projections with that probability.

The TC has also been tasked by the Board to look at some sort of do this the other way, start out with some management options and calculate a reduction, and then they can provide you with the impacts of that reduction on the stock, and provide that relative to sort of the score, so that you get an idea of how risky each of those scenarios are relative to sort of what this tool is recommending. Again, this is a final reminder.

The Board is not obligated under our process to use this tool, so you can use the recommended probabilities that come out of this tool as is. You can adjust those weights to get a probability that is more consistent with your management objectives, so you can say, I want to put a higher weight on stock status, and have a higher probability of achieving the F target or, I want to put a higher weight on the socioeconomic component, and accept a lower probability in order to offset potential negative socioeconomic considerations.

You can also choose another probability without the tool, but in that case, I think we would recommend that at least you explain your choices on that front, and I think this gives you sort of a framework to say, here are the things we're thinking about, and because of that we're going to choose this probability. These are some options that you can have, going forward, you don't have to make a decision at this meeting. You don't even have to

provide additional input at this meeting if you don't want to.

But in the end, after this whole process has gone through, we would like to be back on the tool at the end to help the Policy Board decide how to proceed with this tool, whether this is something we continue to use for our more data rich species, or whether it needs to be revised or reconsidered. With that I am happy to take any questions.

CHAIR HAYMANS: I have a couple. Because we have a northern and a southern stock, how much crossover did you see between regions?

DR. DREW: In terms of Board members? I didn't actually count that. We definitely had people only responded for their region, but then some people responded for all the regions as well. I think probably what you should consider in this, the tool is designed to sort of elicit the considerations that you think about when you are basically voting on something.

I think if you would abstain from a vote on measures for one region, then you can abstain from this tool. But if you are going to vote on measures for another region, it makes sense to fill out this tool, in the sense to kind of explain what you are considering when you are making those management decisions, if that helps.

CHAIR HAYMANS: You said 11 Commissioners filled it out, out of the possible, I guess there are 13 votes, but if there are 3 Commissioners, so there are 39. Do you see if more Commissioners had filled it out maybe there would have been a different response, or was that enough?

DR. DREW: I would say I think it's enough for a starting point, but I would definitely say the final decision on these weights is up to the Board. Even if you did not necessarily fill it out now, you can also see there wasn't a big difference in the weights across those different categories, compared to these all-equal weights.

I think partly sometimes that is because you can see some people voted high and some people voted low, and you sort of end up back at the middle, or in other cases people agreed, generally on maybe a 4, and so are close to a 3 and it wasn't that different. I think more input is always good, especially at the survey level where you can sort of think about this without the influence of your fellow commissioners. But as a starting point I think it was a relatively good response rate and range of response.

CHAIR HAYMANS: Thank you, Erika.

MS. BURGESS: Thank you, Katie, for going through this for us. I have to admit that this risk and uncertainty tool and the results that were presented today just aren't intuitive to me, so I've got lots of questions. At the end of your presentation, you talked about the results of the risk and uncertainty tool informing reductions. Can you explain more what that means, because in my mind I think of reductions for buffers to be reducing a cap, and in this fishery, we don't manage with a cap. What do you mean by reductions?

DR. DREW: Right, in this case, as you said, we don't have a cap we have instead those management bag and size limit options. The example I think would be, and I'm going to say right up front, I'm just making up numbers here. I am not part of the red drum assessment so I have no idea where these numbers are coming from.

I don't want to imply in any way that for example, let's say the projections say, in order to have a 50 percent probability of achieving F target you need 20 percent lower removals next year, in order to be at the F target, compared to where you are at the end of the assessment. In that case, generally what we would do would be to go through and say, okay, to get a 20 percent reduction in removals we need to go from a slot limit of X to Y.

We're going to come down an inch or we're going to change the bag and size limit. We're going to change the bag limit, we're going to adjust that slot

limit, and we predict that will give us a 20 percent reduction in removals. That is your sort of starting point, and in that case, I think you could then say, well what if we manage for the socioeconomic impact of that size limit change or that bag limit change.

Maybe it's negligible. Maybe for a predominantly catch and release fishery the socioeconomic impact is small, and people will still be taking those trips or they'll just be focused on the catch and release component. In that case, if the impact is small then you won't need to take a smaller reduction essentially, so that you would say maybe we stay at the 20 percent or maybe we would take an 18 percent reduction instead.

Versus if you look at the potential management change and say, this is going to have a big impact on the fishery. For example, we definitely get a lot of impact or comments on striped bass about changing, pushing that minimum size limit up is going to impact the shore fishery, it's going to impact the for-hire fishery. There is going to be negative socioeconomic consequences to this proposed management change.

In that case if there is a big impact you can say, we're going to, instead of taking that big 20 percent reduction we'll maybe aim for a 15 percent reduction. Maybe that means your slot limit doesn't go down quite so far, or maybe your vessel limit doesn't change quite so much. I'll take a lower reduction, which will have a lower probability of achieving that F target, so it's slightly more risky, but it lets us offset some of that negative socioeconomic impact in the final management actions. Did that help?

MS. BURGESS: Somewhat. You're talking about reducing or adding to the likelihood of achieving your target.

DR. DREW: Both of them are connected, so we're looking at the percent reduction that you're going to strive to achieve, because again, we're not setting a cap, we're just saying we're going to take a set of management actions of options that the TC feels is likely to produce this level of a reduction. Essentially that is almost like your cap. But we don't think of it as a cap, but that is essentially the TC is saying, this level of removals is what we need to hit in order to have the acceptable probability of achieving that F target. That is going to be some level lower than we were in the last year of the assessment. That is where the reduction comes into.

Then if you take a lower reduction that translates through into less restrictive management. But then it also translates through into a lower probability of achieving your F target, because you're taking less of a cut than your initial probability would suggest you need to. I don't know if this is necessarily translating.

CHAIR HAYMANS: Ben.

MR. DYAR: Katie, so in the presentation we were given a week ago, I remember on the graph it had a big arrow on the left-hand side, it kind of came back up. It was kind of explained that this might be a fluid process, and you mentioned that. I kind of thing you alluded to it. What I'm getting at is, we can project or assume as managers what the impacts might be socioeconomically.

But once we really realize what we give those projections back, how that really is going to affect them socioeconomically, depending on what the different options might be. In those discussions as we move forward, once we get those projections, are we able to come back and kind of reweight this to some degree, if you will. I don't know if I'm using the right terms or not, but then if we choose to use this management tool, once we see those, we can then set a different level if we so choose.

DR. DREW: Yes, absolutely. Like we recognize that number one, this is still being pilot tested, and so this is brand new to everybody, and then number two, we recognize that it is not super intuitive to say, I put a 3 here and now I have to have a 60 percent probability of achieving F target. There is

definitely we want the Board to have the ability to go through and basically have this conversation about, okay now that I've seen what happens if we try to achieve a 60 percent probability, I'm not comfortable with that.

I want to push back, either I don't think this is conservative enough, or I think this is too conservative, and so I want to adjust what factors. You know I'm putting a higher weight on stock status, which would become more precautionary, or I'm putting a higher weight on socioeconomic inputs, which would mean it's less precautionary. For sure there are points as we come back and tell you guys about, okay here is the potential impact of this probability.

You guys have the ability to adjust that, so that what comes out in the end is a number that you're comfortable with. We're not trying to, I think, force you guys to pick a number that you're not comfortable with. Instead, we want to have the conversation about, why did you pick this number.

Like I think when we, a lot of times, part of the impetus for this tool was that the TC does a bunch of these numbers, it throws a bunch of numbers up on the screen and the Board is like, I pick that option. Option B, that is the one I'm going to go for, and it's like well, why Option B and not Option C or D. I think part of this is trying to get at the conversation about, why are you being more risky or why are you being more precautionary, in a way that is trying to articulate that discussion for the Board itself, and then for the public, and just create more transparency around that process. We don't want to like lock you into a specific number that you're not comfortable with. We just want you guys to maybe articulate more clearly and transparently what number you are comfortable with and what factors went into that decision, if that makes sense.

MR. DYAR: Yes, thank you, that was the perfect answer, I appreciate it. Follow up to that. If we're getting potential projections on a southern regional scale and also into state by state. If it ends up being a state-by-state path that we go down, can we use this tool on a state-by-state basis?

DR. DREW: Yes. I would say, I think you are kind of still going to be, the reductions will happen on a state-by-state basis, and then you're going to sort of pool up to like the whole stock unit, so we won't be saying, in South Carolina your probability of achieving the F target is this. Instead, we'll be saying, with the reductions, and I should probably be looking at Jeff and Joey to make eye contact.

But my vision is that we will instead be saying, you know here is the reduction and South Carolina will achieve this, combined with the reduction in Georgia, combined with the reduction in Florida. Overall, for the southern region your total reduction will be Y, and this is the probability of achieving F target for that stock.

Then I think you can look and say, similarly, this has too much of an impact in South Carolina, so we're going to try to kind of adjust for a lower reduction, have a larger buffer or a smaller buffer on that reduction, and then pool that back up again, so that you can look at sort of in each state you can consider what happens if you make that reduction larger or smaller, and then translate that back up to the regional population and say, what is the effect of that combination of reductions or in achieving that regional F target.

CHAIR HAYMANS: Any other questions? Ben, go ahead.

MR. DYAR: Just for clarity, and this is separate from the last couple questions, but you did say in this presentation the southeast socioeconomic responses were not included, so all those socioeconomic responses we saw were from the northern region? Is that correct?

DR. DREW: No, what is happening is sort of like there are two components for the socioeconomic, which is like how important is it to the community, what are your landings, and that is sort of, I guess I

would say relatively constant. We can calculate that right now. Then the next component is, what is the impact of the management change that you're going to produce. We don't know what the management action will be at this point.

We can instead, when the TC runs through their various options and says, okay, here is the option for size limits, here is the option for the bag limit for the south. Then we can talk to the socioeconomic committee and say, what is the impact of that proposed management change on the community, and that score is empty right now, and that will be filled in as part of this process. That is really the part that sort of buffers that more precautionary component, or I guess reduces the buffer on the precautionary component.

CHAIR HAYMANS: Anyone else? John Clark.

MR. CLARK: Just briefly, Katie, you've probably gone over this before. The minimum is still 50 percent, right, so that is like a baseline or could it go below 50 percent?

DR. DREW: It can go below 50 percent. The tool is currently set up to not require that, and so I think it is up to the Board to consider, you know what is the lower minimum that you are comfortable with, and that can be part of the discussion. But we, unlike the Magnuson-Stevens Act, do not specify a lower bound on that, for good or for ill.

CHAIR HAYMANS: Okay, good discussion. I think we'll probably see it again and have some more discussion once we get some results back from the TC. Erika.

MS. BURGESS: I was holding discussion until after questions. Are we going to have discussion?

CHAIR HAYMANS: Yes, Ma'am, go ahead.

MS. BURGESS: I mentioned that parts of this were not intuitive to me, and one of the parts of the responses from the survey, we started the discussion when the presentation was given to the Board about how to use the risk and uncertainty tool, and what we should be thinking about as we provided our responses, and we discussed whether it was appropriate for states and representatives from states outside of the stock's region to provide inputs on the other region.

Would we know enough about the stock and the region to be able to answer these questions. I think this first round of results really showed us there is a problem with that. If you go to the slide that showed the importance of the commercial fishery, there were responses weighting the importance of the commercial fishery, the southern stock, as having a value.

We also saw in the TC or the technical inputs that there was a value of the commercial stock in the sort of sense of uncertainty tools, and that is like a basis. Yet we have no commercial fishery in the southern stock, so that invalidates all of the responses, considering we have, to me, that is my interpretation.

We had four responses from the south, yet when we got to responses like SSB et cetera, there are 11 responses on the southern stock. That means 5 commissioners from outside of the southern stock weighed in to give the importance of SSB. We just had the Stock Assessment Chair say that the value of SSB for this stock is not as meaningful as F, yet SSB was rated really high, based on commissioner inputs.

Intuitively, the results of what we were presented here today don't make sense to how it would be informative to management, or would support management decisions to me about this stock and this fishery. At a minimum, next time we review this, I would like to see the results working out with commissioners' responses for the south being the risk and uncertainty tool that the southern stock would be considering, and the responses from

commissioners for the north being what they would consider for their management.

DR. DREW: I mean we can absolutely provide that broken out. But I guess I would also look to the Board to say, is it the expectation of the Board that the south will not vote on northern management action, and the north will not vote on the southern management action, or not. Is the entire Board voting on management action for each region?

I don't know, I think that is up to the Board, but I think it's just a matter of where you're voting and where you're abstaining would influence, you know how those scores are calculated. I mean we can definitely provide both options for this, but I think the reason we opened it to both regions are that we have the expectation that members from both regions will be voting on both regions. But if that is not the case then we can adapt the tool and the responses accordingly.

CHAIR HAYMANS: Thoughts on that. Spud.

MR. SPUD WOODWARD: Yes, I think what confounded this is I think some responders self-chose to N/A and others didn't, so you don't have any uniformity in the way people are engaging themselves in this. I think there is a fundamental question that we need to ask ourselves is, how are we going to do that?

Because I think there is a sensitivity that especially in a situation where we've got such a dichotomy here in the stock status results. You know we've got obviously the need to take measures to reduce fishing mortality in the south, not necessarily in the north. Even though that is just Chris saying there may be some discussion of sort of voluntarily taking actions.

I think when we get down to the actually doing it, I would personally think that the region that is being affected should be the one who has the input on their fate. That is the way I look at it, and so I think it's important if we're going to use this tool that we have standard rules of engagement, so that we know who is engaging and how they're engaging on this.

CHAIR HAYMANS: Is there anyone on the opposite side of that. Chris Batsavage.

MR. BATSAVAGE: This is sounding like an issue much bigger than red drum and Sciaenids Board, because that is really not how any other management board operates at ASMFC, thinking about Summer Flounder, Scup and Black Sea Bass, but we have regional management, and all the member states vote on that.

Striped bass to a certain extent, where we had different management measures. I don't know if we're prepared to set the rules of engagement for who is allowed to vote on what for this particular species and board, because this goes kind of beyond what I envisioned we were supposed to do at ASMFC, but I'll leave that to others, as far as what they think.

CHAIR HAYMANS: I think that as we get towards tomorrow morning and maybe Policy that we'll begin a discussion on that topic. It may run a few meetings. Any other thoughts? Yes, Ma'am, Carrie.

MS. CARRIE KENNEDY: Yes, Carrie Kennedy, from Maryland. I think I hear your concern. As Maryland I did provide my thoughts on risk and uncertainty on the southern stock. I did rank those. But I will say that I felt like I didn't know enough or have enough information, and I felt like it was more important and appropriate that the southern states weighted or gapped to have more weight in the socioeconomic information.

But I do see this as a guide, and not something that we're held to. Because we had an opportunity to comment on what was motivating us, I took the time to provide those comments. But because, unlike the councils that are, you know mandated to follow these things, and we aren't. I felt like it was a good sort of way to take the temperature of what the administrative commissioners were thinking,

without binding us to act in any particular way or another.

CHAIR HAYMANS: Thank you for that, anybody else? Crickets. Yes, Sir, Jeff.

MR. JEFF KAELIN: I appreciate Chris's comments, and another example of a management plan that has states voting where they have a de minimis interest in the fishery is Atlantic menhaden. I mean I think is just the way this place operates. I don't know why we go down the road where only certain commissioners that are part of the Board would be able to have a vote where other ones wouldn't. It doesn't really make any sense to me.

CHAIR HAYMANS: Roy.

MR. ROY W. MILLER: Just a follow up on what Jeff said and Chris said. We're flirting with changing our procedures here, and I want to make sure we do this mindfully. Many of the species that the state of Delaware votes on represent minimal contributions to our sport or commercial fisheries, and yet our vote counts. Are we proposing that only those states within the prime region of a particular species, only those votes should count? I'm just a little concerned about changing our procedure that we've historically used, but without giving it a lot of thought.

CHAIR HAYMANS: Yes, and I think a lot of thought it to come, a discussion is going to come. But you know the actions of another species board at the last meeting really brought all this to light. Where there were states that had relatively no fishery, but yet were on the Board, made decisions that affected other areas, right? That is what has opened this can, and I think we need a lot of discussion about this, but I don't think anything we're going to do today is going to affect that.

There is a lot of us probably that have a Commission history, and perhaps we need a little history lesson on where things have been. We need to look at things like declared interest, and whether states that have declared, how are you declared and should those who are on a board but don't have declared interest vote on an issue. All of that I think, we'll start that discussion tomorrow and see where it goes from there. Mel.

MR. MEL BELL: I appreciate Jeff and Chris's comments, but I think with this particular example we're dealing with two separate stocks; you know the assessment with two different stocks. With menhaden it is one stock. We do have states that are de minimis that vote, obviously. But in this case, in the point that Erika made about the commercial.

We have no commercial fishery, so our folks commenting on that do have commercial options commenting on that, it just kind of confuses things a little bit in the score, how you might weight things. But it's two different stocks in this case, whereas in other cases it's one coastwide stock that we manage. I think that's why it's a little more sensitive right now, in terms of developing this tool and the use of the tool, and who provides input for the scores on the tool.

CHAIR HAYMANS: Erika.

MS. BURGESS: Mel, you kind of went where I was going. There is a discussion of regional management where you're splitting up a single stock, but we're talking about different stocks here. I understand why it might be difficult for folks to separate the two arguments, but specific to this tool is where I would like to stay in this Board meeting, because I think the other conversations are better fit for another venue.

We have this tool that is supposed to inform risk and uncertainty in how we weight it, yet we have people who are uniformed providing information into risk and uncertainty, because if you were informed on the southern stock, you would know that there was no commercial fishery. It's kind of like junk-in, junk-out.

I would prefer to have informed opinions guiding risk and uncertainty versus guesses, and I too, Carrie, did respond to the north and provided those justifications, because I thought it would provide a good way for us to look at and talk about, okay if someone outside the stock is commenting on what it might be up there, I said why I made those references, and I think it would be really interesting to look at.

Is the outsider perspective similar to those who responded within the state? Is it different? I think that would provide value to the tool itself and how it's used in the future. But for the purpose of this when we're looking at risk and uncertainty of a stock level, weighting a commercial fishery is important in a place where it doesn't exist, that is meaningless.

DR. DREW: In that case, right, then where there is no commercial fishery then that part of the score will get zeroed out. We're looking at sort of two separate components, which is number one, how important is it? How risky is, how uncertain is the assessment? What is the stock status, and then the separate component is, when you're thinking about a management decision, how do these play out?

You can say, I think considering the commercial importance is as important as considering the recreational importance, like the weights are equal, but because there is no commercial fishery that gets zeroed out, and sort of the only component then that is part of it is the recreational component. There is that aspect of it. However, there is also the aspect of, I would like to even down weight that even further, so maybe there is a very small commercial component in the north, for example, but we would say, because it's a smaller component the economic impact of management action on that fishery is going to get down weighted further through our weightings, versus considering it equal to the recreational component. I think we can definitely, you know I think this is a good conversation to have.

In terms of like how we are thinking about presenting this information and for the next round we can definitely provide sort of, here is the northern people's scores on these two regions, here is the southern representative scores on these two regions, and are there differences? I mean obviously we only got like four responses from the southern region, so it's a little bit of, you know the sample size is low. But again, the survey is just the starting point.

If we're looking at this then I think the Board has the option to consider, we would like to hear more about, we will change our weightings to better match the other region, because we think that is what is important. But if everybody is voting on both regions, then presumably there is some sort of mental consideration of those different factors going into that vote in the end, that we would like to try to capture and articulate, as opposed to just a mystery black box process that leads to the final vote. But I think these are definitely good things to consider as we develop this tool, and how this tool is presented and used going forward.

CONSIDER ANNUAL UPDATE TO BLACK DRUM INDICATORS

CHAIR HAYMANS: Good discussion on the tool, good questions, and I think a good primer for later on in the week. Thanks for keeping us on track and we'll move on to the next agenda item, which is Considering the Annual Update to Black Drum Indicators, and Harry Rickabaugh from Maryland.

MR. HARRY RICKABAUGH: I'm Harry Rickabaugh from Maryland Department of Natural Resources, I'm the current Black Drum TC Chair. I'm going to give you the update for the indicators. I'm going to go over a couple of slides, just to give the background really quick of what we're doing and how we got here.

Following the 2023 Assessment the black drum stock was determined to be not overfished and overfishing was not occurring. That was through 2020, which was the terminal year of the assessment. During that assessment, indicators

were identified and we used to monitor the stock in between assessments.

During that time, those indicators did not appear to be overall negative. There was a lack of contrast in the black drum datasets, coupled with the high uncertainty and the model base estimates. Due to that factor, the TC recommended monitoring those empirical stock indicators annually between assessments, and the Board agreed to annually monitoring those as a trigger only assessment.

These don't trigger management action; it only would trigger an updated assessment. Currently the assessment is schedule to be done in 2027, but should we see a negative trend the TC can recommend expediting that assessment. The indicators are divided into basically three categories, and within those three categories many of them are divided into two regions. There is the Mid-Atlantic Region, which is Virginia north, and the Southern Region, which is North Carolina south. For the abundance indices the Mid-Atlantic Region only has YOY indices, just for the young of the year. There are no adult indices or subadult indices in the Mid-Atlantic. For the South Atlantic there is AYY indices an age 0 to 1 combined indices, and a subadult indices. But we also have a coastwide exploitable abundance metric as well. That is based on the MRIP CPUE that we developed.

The next category is the range expansion indicator, and that is not used as an overall stock abundance indicator, but it's just to see if the species is using the northern part of its range more frequently than it has historically. Then finally we have the fishery catch information, which is basically the recreational live releases, recreational harvest and commercial landings.

Those are again structured by region. We had the first data update last year, which was data added on for 2021 and 2022, past the last assessment. Those showed mixed signs of stability and declines. But overall, the TC was not concerned and did not recommend a change to the assessment schedule at that time.

The Sciaenids Board at the last meeting also did request the TC consider their frequency of these updates, whether they need to be annual or on a longer timeframe, considering the long lifespan of the species. Currently this update will only have one additional year of data, that is the 2023 data, and for each of these figures I'm going to be showing moving forward, all of them will have a dashed line across them, that is going to be the time series mean.

The abundance indicators will all be structured like the ones you see here, which are standardized to their mean, so these are not the actual index values. They are standardized to the mean so we can see the trend between the indices on the same scale. All of the graphs are going to have these black dots connected by the black lines. Those are the data that was available during the last assessment, and the red dots with the red lines will be the data that is being added since the last assessment.

For the Mid-Atlantic Region, which is currently on the screen, these are all again, young of the year indices. You can see that they are basically varied around their time series mean, with the top two panels and the lower left panel being from the Delaware Bay Region. Those were lowest or below their time series mean in 2021, and 2023, but above the time series mean in 2022.

The lower right panel is the Maryland coastal days seine survey, and that has the reverse trend of being above the time series mean in 2021 and 2023, and below the time series mean in 2022. The next slide here has the South Atlantic abundance indices, and for this again there are one of each juvenile and age 01 and a subadult. All of these were below the time series mean of 2023.

Two of these indicators did increase though throughout the update period, those were the 01 abundance and the YOY index, one on the left side of your screen and one on the right side of your screen. The subadult index was above its time

series mean in 2021, but fell to just below its time series mean and was pretty stable in 2022 and 2023.

The next indicator is the exploitable abundance indicator, and again this is the MRIP CPUE, during the assessment time period again in black you can see it generally increased, kind of stabilized near the end of the time period, and then we saw a decline to below the mean in 2021. Since then, it has increased, and the 2023 value was above the time series mean and approaching the value of the terminal year of the assessment. Again, this is the only index that is used in the model. Now we'll move into the range expansion indicator, and it was not available in 2021. You can see the 2022 and 2023 values were very similar and below the mean.

This seems to indicate that the young of the year black drum are not currently using the northern region anymore than they have kind of earlier in the time series. We could have some spikes in the middle of the time series, and we'll continue to monitor this obviously into the future. Now we're going to move on to the catch information. These are not standardized to their mean.

This particular one is live releases and it is in numbers of fish, so you can see the scale between the northern region and the southern region. Southern region catches a greater number of fish than the northern region, and they've varied around the time series mean of the Mid-Atlantic, it was slightly below the time series mean of 2023.

The figure there looks like it's right on the line, it was just below the time series mean in the terminal year, and the South Atlantic remained above the time series mean for all update years. It did increase for the first time in five years in 2023. We were seeing a declining trend in recreational releases in the South Atlantic. That did reverse in 2023, and that point is above the terminal point of the assessment.

Then we have recreational harvest. This one is in millions of pounds, and again the South Atlantic even by weight catches more fish or harvest in pounds and just as a reminder, the Mid-Atlantic predominantly targets larger adult fish and South Atlantic subadult fish. The recreational harvest varied slightly during the update years.

They've been pretty stable for both regions with all the update years being below the time series mean, and the levels of terminal year of the assessment for the Mid-Atlantic, and all three years being above the time series mean in the terminal year of the assessment for the South Atlantic. Then the last figure I have here we have the commercial landings. These are in thousands of pounds, so a lower level of landings than the recreational harvest.

They are more equal between the two regions in weight, and the commercial landings just had a similar pattern to recreational landings with the Mid-Atlantic all three years being below the time series mean, and with the South Atlantic all three years being above the time series mean. The terminal year, 2023 value for the South Atlantic was a marked increase. It is the highest value since 2008.

Overall, the indicator showed similar conditions for the terminal year of the assessment, with some signs of increases in the South Atlantic. Increases in catch in the South Atlantic are likely driven by increases in effort and targeting in the South Atlantic Region, particularly in the recreational fishery.

TC members from the South Atlantic said they believe this was due to increased targeting, effort being shifted from other recreational species have had more regulations put on recently, particularly summer flounder. There was some TC concern for the southern region over these increases, as to whether they are positive, in other words, it's an increase in abundance or it's an increase in effort. We don't have the information to really tease that out, but there is a little bit of concern there, so I think we need to watch moving into the future. The

decreased commercial landings in the Mid-Atlantic are primarily due to market demand.

There has been a reduced effort in that commercial fishery, particularly in Delaware Bay. Delaware has also lost a lot of its aging capability, because they were aging from the commercial fishery. Since that effort is dropped, they've been unable to collect the age samples they have in the past. The overall recommendation from the TC is not to have an advanced timeline for the stock assessment.

They did discuss the Board's request to decide whether this needs to be an annual update or we can do it on a longer timeframe. We also discussed how we probably wouldn't want to do an update the year before an assessment, because the assessment is basically going to get triggered for the next year anyway, so we would be starting that assessment, and we would also be probably beginning to gather data for the assessment. To put time and energy into an update, we would prefer not to do it the year before an assessment is already scheduled.

The TC is recommending, the last two bullets are kind of combined, that we don't do the next update until 2026, so we'll wait for an additional two years of data, and then we will push the stock assessment back one year to 2028. That will allow us, the TC discussed this quite a bit, but even though the MRIP data should be available for 2027 assessment, we really wanted to make sure that was available for this species, it's primary recreational species.

It is also likely we will have no new data streams, we still will be dependent for our adult/exploitable biomass index being a MRIP index, because there are no other fishery independent indices on the adult stock. Since we're so reliant on that data, we would like to have the most recent updates available, so to be sure that is going to happen we would like to push that back to 2028. With that I can take any questions.

CHAIR HAYMANS: Any questions for Harry? Is there any discussion or input for them regarding their recommendations? I don't think we need a motion. Chris Batsavage.

MR. BATSAVAGE: I support the TCs recommendations to just do the updates every two years and move the stock assessment back on the schedule, so we are not working on two things at once, but I think it makes a lot of sense, since this is largely a recreational fishery, to ensure that the newer recalibrated catch estimates from MRIP are available and online so those could be used in the assessment. Moving it back a year I think just increase the chance of that data being ready in time for the model if I understand the TCs recommendation correctly.

CONSIDER BLACK DRUM AND SPOTTED SEATROUT FMP PLAN REVIEWS AND STATE COMPLIANCE REPORTS FOR THE 2023 FISHING YEAR

CHAIR HAYMANS: Yes, thank you for that affirmation. Anyone else? Okay, well, I think we can accept the TCs recommendations and thank you very much, Harry. All right, next agenda item is Consideration of the Black Drum and Spotted Seatrout Fishery Management Plan Reviews and State Compliance Reports for 2023. Tracey this is you.

MS. TRACEY BAUER: I'll be really briefly going through the FMP reviews for both of the species, and I can take questions at the end I think, then look to motions at the very end once I finish. I'll be starting off with black drum, but I will just be sticking to the PRT recommendations because of our previous agenda item.

The PRT found no inconsistencies among states, with regard to the FMP requirements, and black drum had no de minimis requests, I think as usual. Thus, the PRT simply recommends the approval of the state compliance reports. Additional research and monitoring recommendations, as always can be

found in the 2023 black drum assessment and peer review report.

Moving on to spotted sea trout. Spotted sea trout is currently managed under the Omnibus Amendment to the Spanish Mackerel, Spot and Spotted Seatrout FMP, and that should put into place that 12-inch full length minimum size limit and comparable mesh size requirements, along with establishing adaptive management.

In regard to stock status, as a reminder there is no coastwide assessment of spotted sea trout, and the PRT has not recommended one due to the life history of the species and the availability of data, but there is that 2019 Florida spotted sea trout stock assessment update in recent years, and the 2022 North Carolina spotted sea trout stock assessment.

For Florida, I believe they're in the middle of working on a benchmark stock assessment, which should be completed by the end of this year. North Carolina is currently in process of reviewing the spotted sea trout FMP there in that state, and Amendment 1 should be completed within the next year or so as well.

Really brief summary of the status of the fishery, starting with an overview of the commercial and recreational harvest. This figure shows coastwide recreational and commercial spotted seatrout harvest by year, in millions of pounds, with the blue bars being commercial harvest and the green bars being recreational harvest.

In the last ten years from 2014 to 2023, commercial landings averaged approximately 450,000 pounds, and in 2023 commercial landings totaled 522,000 pounds, which was a 31 percent decrease from a previous peak in 2021. Recreational harvest is generally without trends through the time series from 2019 through 2022, recreational harvest was relatively high, averaging about 6.6 million pounds or 3.9 million fish.

However, recreational harvest in 2023 declined by approximately 40 percent from this average to about 4.3 million pounds or 2.4 million fish. I will now move on to just a little more information on, specifically the recreational fishery. This figure compares recreational catch, harvest and releases in millions of fish from 1981 through 2023, and over the last 42 years or so, recreational catch of spotted sea trout has been released has shown an upward trend, increasing from about 4 million fish in 1981 to over 31 million fish in 2018.

It has remained high through 2022, but in 2023 similar trend, recreational catch declined by 37 percent from the previous year to 16 million fish, which is the lowest recreational catch since 2008. The number of fish released has averaged about 19 million fish in the last 10 years. In 2023 about 14 million fish were released, which is a 38 percent decline from the previous year. Moving on to PRT recommendations. Once again, the PRT found no inconsistencies among states with regard to the FMP requirements, and recommended approval of state compliance reports and de minimis status for New Jersey and Delaware. Additional research and monitoring recommendations can also be found in the FMP review document. I think with that I can take any questions.

CHAIR HAYMANS: Questions on the reviews for Tracey? Okay, seeing none; is there a motion to accept? Would someone like to read it, Spud.

MR. WOODWARD: Put it back up, please, my memory is not that good.

MS. BAUER: Spud, just so you are not surprised, I was planning on doing two separate motions, the two different species.

MR. WOODWARD: **Move to approve the Black Drum FMP Review and state compliance reports for the 2023 fishing year.**

CHAIR HAYMANS: We've got Malcolm with a second. Discussion. Opposition. Abstentions. **Motion carries by unanimous consen**t, okay and a second motion.

MR. WOODWARD: **I move to approve the Spotted Seatrout FMP Review for the 2023 fishing year, state compliance reports, and de minimis status for New Jersey and Delaware.**

CHAIR HAYMANS: Okay, and Joe Cimino with a second. Any discussion, any opposition, abstentions. Seeing none; **that motion also carries**. All right, thank you very much, I didn't hear any Other Business when we start that meeting so I think that concludes the business of this Board.

ADJOURN

Is there a motion for adjournment? I hear one, is there a second, I see one. We are adjourned, thank you.