

SEDAR 78 PUBLIC COMMENTS

I would again like to thank the SSC for the opportunity to comment on SEDAR 78. I would have sent written comments before your meeting if when I first breezed through the assessment, I had taken the time to look at the projections. I received a call from staff shortly before the meeting that I should do that and that led to my public comments.

Frankly, fishermen expected an increase in their ACL from this assessment given that our observations indicate that the stock is in the best shape since gillnets were prohibited off FI in June of 1995. There are several examples that corroborate our observations:

1) WP12: The recommended indices of abundance (Fig.8) show a slow but increasing trend in catch/trip over the period.

2) WP02: Figure 2(standardized index of abundance for the FI gillnet fishery) also indicates a general increase in gillnet CPU over the time series with significantly higher increases occurring in 2019 and 2020.

3) Fishing seasons have become progressively shorter in both the Northern and Southern Zones in the past 5 fishing years.

NZ 251, 248, 156, 143, and 119 days in 2022.

SZ 341, no closure, 339 and 310 days in 2022.

There have been no major effort increases or changes in fishing practices over this period in either zone and the increasing CPUE is occurring with a steady increase in biomass.

The most important regulatory action positively impacting Spanish mackerel stock structure and rebuilding was the FI Constitutional net limitations amendment in 1995 which prohibited the use of gillnets in state waters. This action over the past 26 years has allowed more Spanish to attain larger sizes and older ages which adds resilience for recruitment in the form of egg production which allows for higher recruitment when environmental conditions are favorable. This was acknowledged in WP12 as the authors separated the 1986-2020 assessment period into two time blocks for CPUE index development using 1995 as the separation point.

A unique aspect of Spanish mackerel migration is that the entire stock overwinters off south-central FI. Those of us that target Spanish almost exclusively from November to April have a relative year to year perspective on recruitment and stock structure. This does not happen anywhere else in the SA region. We also get to see the number of recreational vessels that

participate in the Spanish fishery on a day to day basis. Private boat participation in the Spanish fishery in the Peck's Lake area and Vero Cove (the major overwintering locations) is spotty at best. There are a few private boats that we see with regularity and only a small number of boats leaving the inlet daily actually target Spanish.

MRIP

The basic MRIP survey methodology was designed as a trends analysis for recreational fisheries, and it seems adequate for that purpose. It was never designed to give absolute numbers for monitoring ACLs or as direct inputs into stock assessments. The survey has been prone to unrealistically large spikes in landings for several species (snowy grouper, golden tilefish, red grouper, Spanish mackerel etc.). For some of the spikes that showed a significant increase caused by a particular domain of a small sample size leading to an exceedingly high catch estimate the assessment team has reduced the spike by imputing a new value for assessment purposes. The 2020 recreational catch estimate, the largest by far for the time series had 2 domains of small sample sizes leading to unrealistic catch estimates (WP3). The 2020 rec catch estimate was not altered by the assessment team.

There is a trend of unrealistically high levels of landings for the shore based fishing mode in the last 3 years of the time series. There are also incredibly elevated levels of discards in the same period. The fully calibrated shore mode estimate from east FL(4.3mill/lbs.) is the main driver for the substantial increase in the 2020 catch estimate. If the shore mode enjoyed major production increases, you would expect the trend for charter and private vessels to increase as well since they operate where most of the stock resides during winter off east FI. Charter boat landings over the past 10 years indicate a slightly increasing trend in the latter portion of the time series but with much larger landings observed earlier in the time series. Private boats landings show an increasing trend over the last 5 years with values approaching their highest level of the time series. So, the trend is real, but the absolute numbers are not.

The APIAS recalibration estimates experienced the most problems with the shore mode in the transition process. Other species such as bluefish are also experiencing unrealistically high levels of shore mode landings off east FI. It is becoming increasingly clear that the fully calibrated values still need some work before they can be of value in an assessment.

The number of recreational trips does not support the high landings seen in the terminal year of the assessment. In 2019 and 2020 the total rec trips were 129.5 and 135.6 m/trips. These trip totals were lower than the 10 year average (139.7m/trips) and lower than the median (139.3m/trips) number of trips over the same period.

SERO ACL's vs FCAL

Total recreational landing values from the SERO ACL tracking website for 2017-2020 are as follows: .97, .73, 1.2 and 1.6 million pounds. The fully calibrated FCAL values for the same years

follow, 2.7, 3.8, 6.2 and 10.3 million pounds. This means that the FCAL values are 3X, 5x, 5X and 6X greater than the recreational SERO ACL values. None of the SERO numbers exceeded the recreational allocation of 2.727 m/lbs. For the FCAL values the recreational allocation was exceeded in 3 of the 4 years (2017-2020) resulting in a recreational overage of 12.12 m/lbs. The entire stock ACL is only 6 m/lbs. and based on these numbers the recreational catches should start to impact future landings of both commercial and recreational fisheries.

There have been significant overages in the commercial fishery as well. beginning in 2017 a series of overages started and over the past 6 seasons which resulted in a commercial overage of 2.52mil/lbs. If we were fishing so close to Bmsy as the assessment suggests there should be an impact on catch rates in future years but that has not been the case lending even more credence into the high biomass hypothesis.

Table 19 from the assessment shows total landings in pounds for all fisheries. In the last 10 years of the assessment period there have been 21.5 m/lbs. of overages for all fisheries combined based on the current ACL of 6.0 m/lbs. I am starting to wonder if the current ACL has any basis for management considering the fully calibrated rec values? The point being that all this excess recreational catch has led to overfishing in the terminal year of the assessment and if the high values persist overfishing will continue. Preliminary accounts of the 2021 recreational landings indicate that they are as high or higher than 2020 values. At this point the magnitude of the recreational landings should be having an impact on landings streams in the commercial fisheries. That is not the case as available biomass remains high evidenced by the NZ and the SZ catching their quotas at record rates of landings (see earlier discussion).

The fact that neither commercial nor recreational fisheries are experiencing any impacts from the extremely high APIAS recalibrations means that those estimates are considerably higher than reality. For the commercial fishery to realize the faster rates of harvest each season stock biomass must be significantly higher than at any time in the time series and much higher than Bmsy.

While the SEMAP trawl index of age 0 Spanish was selected for an index of abundance in the assessment the age 1 index (Fig.7.WP02) shows the highest nominal value for age 1 abundance in the time series in 2019. It is a bit worrisome that the age 0 index (Fig.6, WP2) does not correlate with the age 1 spike but the increasing catch rates in the commercial landings fit nicely into this recruitment event. Most likely a multiyear event as most of the highest SEMAP recruitments have a multiyear aspect (WP 02, Fig.6 and 7)

Assessment Data

Table 2 (WP05) shows the number of age samples collected for the commercial fleets. The mean (M) number of samples over the last 10 years of the assessment period by gear are as

follows: Cast net M=97, gillnet M=170, H/L M=69, pound net M=166. The mean of the total number of commercial ages collected is 583. The mean number of commercial landings in numbers of fish by gear type over the same timeframe are H/L=617, PN=42, GN=734 and CN=336 (landings values are in thousands of fish). These sample numbers are woefully inadequate to characterize the stock structure of a commercial fishery that has landed on average about 1,73 mil/fish each year over the last 10 years of the assessment period.

For the recreational fishery, an average of 392 samples were collected over the same timeline with an average landing of 4.8 mil/fish again inadequate to characterize stock structure in the recreational fishery.

There is a significant downward trend in the number of age samples collected for the gillnet fleet in the later years of the assessment period. Gillnets have the highest landings of all commercial fleets. The 2011-2015 mean is 209 ages and 2017-2020 average was 66 ages per year.

While no length samples were used in the assessment. There are 66X more length samples available per year over the past 10 years of the assessment timeline (Table 1 and 2 WP). More about lengths upcoming in Moving Forward.

The assessment framework seems incapable of handling the inadequacies of the data inputs. There are not enough data inputs to support the conclusions of the assessment.

- 1) Selectivity for the commercial handline and cast net fleets were both pooled over the years due to small sample sizes (assessment).
- 2) Due to the limited spatial samples for the age compositions the gill net gear was the only fleet that had sufficient samples to develop weighted compositions (WP05).
- 3) Due to the limited spatial samples the nominal age composition was used for the recreational fleet (Fig.6, WP5).
- 4) The numbers of aged fish from the private rec and headboat fisheries were too low to designate a confident size range.
- 5) Selectivities of general rec discards and and shrimp bycatch could not be estimated directly because composition data on discards were lacking.

During the SSC discussion on sample sizes Erik noted that there was no sampling protocol that was written down and adhered to by the center. That is only partly true as the ACCSP does develop a sampling strategy for Spanish mackerel. The SSC should review the document and advise the center as to its applicability to the federal sampling program.

There was also some discussion about how difficult sampling can be with scattered points of landings. That certainly is not the case in FI. There are 3 major fish houses that buy virtually all the Spanish landed from east FI. All 3 dealers have landing areas at the commercial docks in the Manatee Pocket, there is also a landing location in Hobe Sound where boats on trailers can unload at a land based facility. There is a landing facility on the water in Sebastian, and Inlet Fisheries in Ft Pierce located near the water where arrangements can be made to off load on the water at a local marina. So, all the commercial landings come through 4 landing locations. The problem is not access to landings locations it is a timing issue with a mismatch between a 9 to 5 port sampling job and most landings are late in the afternoon into early evening.

Commercial Selectivity

The assessment report states that full selection occurs by age 1 for the pound net and general rec fleets. Full selection occurs by age 3 for the commercial handline, gillnet and cast net fisheries. I can understand the age 3 gillnet selectivity as regulatory actions restrict gill nets to 31/2" stretched mesh. There is no such mesh size requirement for cast nets and mesh sizes as small as 27/8" are used at the end of the season when the smallest fish of the season are caught. The cast net fisheries boom and bust landings history aligns well with the SEMAP age 0 recruitment index (Fig.6 WP02, assessment presentation pg. 11). Combine that with the high variability in the landings history and you have another potential recruitment index for the assessment. The cast net selectivity is fully selected by age 1. H/L can catch every fish in the stock once they reach FI. We have a bait mackerel fishery that targets Spanish in the 12 to 16 inch range. The directed food mackerel fishery will catch any size available but targets the largest fish available on any given day. I am not sure how to characterize selectivity in this case.

How the Commercial Fishery "Works"

As mentioned in my public comments, the Spanish fishery has been on autopilot operating under the same quota or ACL for the past 27 years (6-7 m/lbs.). During this period, the fishery has continued to rebuild experiencing fits and false starts along the way until attaining the highest biomass of the time series while the commercial fishery continued its slow but steady increase in CPUE (WP12).

The fishery was at low abundance levels leading into 1995 when gillnets were prohibited in FI state waters and recruitment was also low until a multiyear recruitment event beginning in 1999 and peaking in 2001 (Fig.,6 WP02) jump started the cast net fishery which is primarily recruitment driven. As the cohorts move into older ages and larger sizes and without any new high recruitment the cast net fishery declines sometimes dramatically as seen in 2013-2015 (assessment report pg. 11). When this decline occurs full time Spanish fishermen switch over to H/L gear as indicated in 2015 by the spike in H/L landings (assessment report, pg. 11). Other fishermen drop out of the fishery and in both cases F declines with lower abundance and the H/L fishery continues at a lower F level without impacting future recruitment. Another high recruitment spike occurs and the pattern repeats.

Overfishing and Overfished Status

The assessment report claims that the stock was never overfished and overfishing never occurred in the historical time series of the report. I was there for the mackerel "wars" when management first started implementing restrictive quotas on both king and Spanish mackerel in the late 1980s. It was the first time any restrictive regulatory actions had been implemented in any fishery.

It is necessary to discuss truncating the historical assessment time series to begin in 1986 instead of 1950. The 1950 start captures the historical small boat fishery from 1950 -1974 with flat landings and a consistent F value. From 1975 to 1995 you have the addition of about a dozen large vessels with much longer and deeper gillnets utilizing spotter planes to find the densely packed overwintering schools of Spanish. It only took 4 years to remove the excess biomass in the fishery and another 6 years to remove most of Bmsy. I realize this terminology was not in place at that time, but I am using it for comparative purposes. Fishing mortalities were higher than at any other period in the time series. The ability to locate the last remaining school of mackerel was real with use of spotter aircraft. By the late 1980's very restrictive quotas were implemented to begin to reign in the uncontrolled harvest. By today's standards overfishing was occurring in 1976 and continued until the stock was overfished by 1979 (assessment presentation, pg. 11). The landing levels flatten out after 1985 and the landings remain dominated by the big boat fleet still utilizing spotter planes until 1995 net limitation amendment in FI forced all gillnet vessels into federal waters. The stock continues at low abundance until a large multiyear recruitment event in the late 1990s (WP2) initiates the major rebuilding period which continues today.

The earlier time series also indicates the level of landings where you never want the commercial fishery to approach again (assessment presentation, pg. 11). The gillnet fishery goes into a prolonged period of decline from 1998 to 2004 as it fishes on low abundance along with the rest of the fleets. It is also an entirely different fishery again as it moves into federal waters off Cape Canaveral during the Fall intercepting smaller schools of Spanish as they move south coalescing into their overwintering schooling behavior in state waters by mid- November.

Moving Forward

The sampling protocol needs a complete review and overhaul to produce enough age or length samples for meaningful and credible assessments into the future. How many samples in space, time and fleets are required to define stock structure? The SSC should ask the SEFSC to develop a sampling protocol for Spanish using the ACCSP sampling methodology as a reference point.

Why use an age based assessment for Spanish?

- 1) There are no fish older than age 10 in the interassessment period.

- 2) Most of the landings are comprised of the younger ages in the stock.
- 3) In the current assessment there are sixty-eight times more lengths available than ages.
- 4) It will be a herculean task to collect enough otoliths to characterize 4 commercial fleets and 4 recreational fleets.
- 5) Spanish otoliths are small and fragile and time consuming to collect.
- 6) Lengths are much easier to collect leading to large numbers collected for available effort.
- 7) Develop a cooperative sampling program with fishermen under a scientific protocol to increase length measurements.
- 8) A simple VPA model seemed to work well in the early assessment period. The SSC should discuss whether an age based assessment is warranted for Spanish mackerel.
- 9) A simpler model could be run more often allowing fishermen larger or smaller ACLs on a possible 3 year schedule.
- 10) A simpler model utilizing a length based assessment should free up some analyst time to use for the species that really need an age based assessment.

Resurrect the Historical Mackerel Assessment Panel

The current interassessment period of 10 years is much too long for a stock as productive as Spanish. If the timeframe cannot be adjusted institute a new Mackerel Assessment Panel that could adjust catch levels based on alternative states of nature: high recruitment, average recruitment, and low recruitment scenarios. The panel could use this information to adjust landings values based on the SEMAP trawl survey or the newly developed recruitment index from the cast net fleet. The group would be comprised of both scientists and mackerel fishermen and would meet every 2 to 3 years to update catch level recommendations.

How to Increase Sample Size in the Historical Time Series

While it is impossible to collect ages or lengths back in time there is a data set that could do just that. The commercial landings in FI and NC are broken down by size grades of medium, large, and jumbo on the state trip tickets. Medium are less than 2 pounds; larges are 2-3 pounds and jumbos are 3 pounds and up. Corresponding length to weight ratios or length to age values could be used to characterize as many samples as needed. If the conversions are not available, they could be developed from future length to weight ratios calculated over several years to decrease uncertainty in the estimates.

MRIP

If the SSC believes the new recreational landings developed from the new FCAL survey and calibration methodology are unrealistically high the SSC should document their issues and send those comments to MRIP staff. These incredibly high recreational estimates need to be revisited sooner than later so that future assessments are based on credible recreational catch statistics.

Catch Recommendations

As I mentioned in my webinar remarks the stock has been on autopilot since 1995 when gillnets were prohibited in FI waters slowly but steadily rebuilding over the past 26 years with an ACL or quota of between 6-7 million pounds. Clearly the current value of 6m/lbs. is sustainable and could serve as an interim ACL until the next assessment.

REMARKS

Every observable metric point to a stock whose Bmsy is higher than at any point in the last 26 years. Fishermen in both the Northern and Southern Zones expected an increase in their ACL. The credibility of the SEFSC and the SSC to deliver an assessment and review that resembles reality is clearly on the line. The decision to accept the assessment modeling as BSIA but not for making catch recommendations is not optimal but clearly better than the projected landing value that cuts the total ACL almost in half by 2023.

If everything passes the SSC review, why have a review process? The SSC had a great discussion on the limitations of the available data, the appropriateness of an operational assessment given the time between assessments, steepness going to upper bounds etc. Dr Williams was allowed to speak beyond his role as the presenter of the stock assessment which started to change the SSC's previously stated observations. There needs to be a clear process in an SSC review that allows the assessment presenter to make clarifying remarks about the assessment. They should not comment after the presentation has ended and the SSC begins its deliberations unless it is a clarifying question specific to the assessment parameters.

Lastly, I need to respond to Dr Williams comment: "Stakeholders what they are seeing is not scientifically validated and should never ever be a basis for determining BSIA."

It was bad enough that Dr Williams was able to participate in the SSC's deliberations, but he had the audacity to tell the SSC what could be included in their report.

I spent the better part of 6 days reviewing and developing comments for this assessment. It happened to be when fishing was good, and I lost over \$5000 of fishing income to participate in this process. Personally, as a single crew H/L fisherman I would have benefitted from new projections as the fishery would have been under the 500 pound trip limit for most of 2023. But that is not what has driven my participation in this process. The assessment results are so far removed from reality that the credibility of the stock assessment process is at stake. As someone who has participated at some level in every assessment ever done for Spanish and have watched the steady rebuilding over the past 26 years it was my responsibility to point out some of the inadequacies in the assessment. Thanks for the opportunity!

