Questions from mackerel/Cobia AP Due by Nov 1
Responses compiled by the SEFSC/Fisheries Statistics Division are in blue text.

We are trying to better understand how commercial Spanish mackerel landings are monitored during the fishing year, particularly for the Northern Zone, and I was hoping you could help us work through several questions about the data and estimation process.

Our primary concern is the difference we have observed between in-season estimates of commercial landings and the final landings ultimately reported for the season.

NMFS response:
In general, monitoring for the Spanish mackerel Northern Zone presents a challenge we don't see for most federal ACLs, in that a large fraction of landings are from state licensed vessels landing at state licensed dealers that aren't required to report to the federal system. The weekly in-season estimates are adjusted upward to account for state dealer reports that we do not receive in-season. After the fishery closes, the estimates on the website for the prior season then return to what has actually been reported (only reported landings by federal dealers), which is what the system is designed to do in terms of the vast majority of fisheries we monitor. Unfortunately, this means that what is shown on the website ignores the landings by state dealers that will be reported by the states to ACCSP in the following spring, which leads to a dramatic increase in the landings for the previous season. This addition of state data to ACCSP usually occurs sometime in April/May. Additionally, less than 3% of the total NZ landings are typically harvested from federal waters, meaning a federal closure has minimal impact on landings if NC and VA decide to remain open, which they usually do, adding additional pounds that aren't included in the forecast and suggested closure date.

This may duplicate some of the information in the NMFS responses to the detailed questions below.

Since approximately 2020, we have seen instances where in-season landings estimates appeared to overestimate the final landing numbers by roughly 150,000 to 350,000 pounds. Because these estimates are being used to monitor the ACL and potentially determine when the fishery should close, a difference of that magnitude can have a significant effect on fishing opportunity.

It has also been difficult for us to reconstruct what happened during previous seasons. The SERO ACL Monitoring webpage appears to provide the current weekly estimate, but we have not found a publicly available history showing what the estimate was each week. We have also noticed occasions when the cumulative number on the monitoring page actually decreases from one update to another.

Obviously, fish cannot be "unlanded," so those downward revisions suggest that the number being displayed is not simply a cumulative total of finalized dealer-reported landings. We would

like to better understand exactly what goes into that number and how it changes as additional information becomes available.

Specifically, we are hoping to get answers to the following questions:

1. How are the weekly commercial Spanish mackerel landings estimates calculated?

What data sources are incorporated into the estimate, and what adjustments, projections, expansions, or other calculations are applied before the number is posted to the SERO ACL Monitoring webpage?

NMFS response

1. **Current year dealer reports:**
    - **GSAD weekly dealer reports from ACCSP and GSMFC**
2. **Estimated landings for non-reporting dealers (expansions):**
    - **Depending on fishery, based on either:**
    - **1. Current season average landings per day (ALPD) by dealer**
    - **2. Fishery prior year same day ratio (FPYSDR)**
    - **These estimates are then adjusted based on prior-3 year performance to reflect observed dealer reporting trends**
    - **Specifically for Spanish Mackerel NZ: prior-season ratio of state to federal landings ratio to account for missing state-only reports**

Landed Weight on website = Reported Weight + Expansion
In-season landings (reported + expansions) are posted to SERO ACL monitoring public website, updated on a weekly basis

2. Does the number reported by SERO represent fish that are estimated to have already been landed, or does it include projected future landings?

NMFS response:
The number presented by SERO on the ACL monitoring webpage is fish estimated to have already been landed. This is necessary due to a lag in dealer reporting. It does not include any fish estimated to be landed in future weeks.

For example, when a federal closure is announced, is the Science Center estimating landings that are expected to occur between the most recent available dealer data and the effective date of the closure?

NMFS response:
Although not reported on the SERO ACL Monitoring Webpage, the SEFSC does project when the landings will reach the commercial quota, and that is reported in a closure notice posted to the South Atlantic Fishery Bulletin. For example see:

https://www.fisheries.noaa.gov/bulletin/commercial-closure-northern-zone-federal-waters-atlantic-migratory-group-spanish

If so, we would like to understand how those projected landings are calculated and whether the number shown on the monitoring webpage represents an estimate of landings to date or an estimate of where total landings are expected to be by the time the state closure becomes effective.

NMFS response:
Again, the landings shown on the SERO ACL Monitoring Webpage are estimated landings to date. The forecast that projects when the landings will reach the commercial quota uses an Autoregressive Integrated Moving Average (ARIMA) model that is based on the current estimated in-season landings. The model is fitted to a time series in order to better understand it and predict future values. While the model and predicted landings trend is not included in the South Atlantic Fishery Bulletin, the date predicted for the closure is included there.

3. What exactly does the number displayed on the SERO ACL Monitoring webpage represent?

Is it:

Finalized dealer-reported landings;
Preliminary dealer-reported landings;
Expanded or estimated landings based upon incomplete reporting;
A combination of federal and state dealer reports;
Projected landings through a future date;
Or some combination of these?
Understanding the definition of that number would help us interpret the weekly monitoring information correctly.

NMFS response:
The SERO ACL Monitoring webpage represents preliminary federal and state reported in-season landings to date, expanded for non-reporting by dealers. The state reports are only from those state dealers reporting through SAFIS, which is a small amount of landings north of VA.

4. Is there a historical record of the weekly estimates that were posted during previous fishing years?

Being able to compare the weekly estimates with subsequently finalized landings may help identify when during the season the estimates begin diverging from the final numbers and which component of the estimate is responsible for that difference.

NMFS response:
We maintain the weekly history for 1,481 seasonal quotas and trip limit triggers since December of 2013.

5. What percentage of the Spanish mackerel landings used for quota monitoring comes through federal versus state dealer reporting systems?

We would particularly like to understand this for the Northern Zone.

For example, what percentage of total reported pounds are received directly through federal dealer reporting systems, and what percentage initially comes from state reporting systems and is subsequently transmitted to NOAA?

NMFS response:
For the Northern Zone, we receive roughly 67% of landings through federal dealer reporting systems. The remaining 33% from the states are received when data are finalized in spring of the following year and are added to the final landings for the ACLs that are presented to councils by SERO. This necessitates the use of expansions in the weekly estimate to account for the state landings we do not receive in near real-time.

If possible, we would also be interested in the number of dealers reporting Spanish mackerel through each system.

NMFS response:
In the 2024/25 season (most recent year with finalized state reports) for the northern zone, 56 dealers reported through federal channels and an additional 66 state dealers reported only state landings.

6. What is the reporting timeline for federal versus state dealer landings?

How quickly does NOAA generally receive federal dealer reports after a landing occurs?

NMFS response:
The deadline for reporting landings from Sunday through Saturday is Tuesday of the following week. Due to late reporting, there is typically an average ~2 week lag between when landings occur and when we see them in the system for federal dealers. This is accounted for in expansions.

How quickly are state dealer reports transmitted to NOAA and incorporated into the ACL monitoring estimate?

NMFS response:
Again, we do not incorporate the majority of the state-only reports in-season because they aren't reported in near real-time, but the weekly expansions account for this. The

state only reports we get after the season is a very small amount for most fisheries we monitor, except for Spanish Mackerel Northern Zone and Atlantic Spadefish.

If there is a meaningful difference in reporting lag between the two systems, how is that accounted for when estimating current landings?

7. Is any fisherman-reported information incorporated into the commercial ACL monitoring estimate?

For example, are vessel trip reports, electronic logbooks, GARFO VTRs, SERO reports, state trip tickets, or other fisherman-reported information used either directly or indirectly to estimate Spanish mackerel landings before dealer reports are complete?

NMFS response:
The system utilizes state electronic trip tickets reported at a weekly frequency by federal dealers. Logbook information is not utilized because of the current time lag for the SE logbooks, while all federal dealers have a weekly reporting requirement.

If so:

Which reporting systems are used?
How quickly is that information available?
Is it treated as actual landings or used to estimate/expand incomplete dealer data?
How is it reconciled with subsequent dealer reports?

8. How are vessels, dealers, and trips that may appear in multiple reporting systems reconciled?

This is one area we particularly want to understand.

NMFS response:
We only use the electronic trip tickets submitted by federal dealers in our ACL monitoring, with very small amounts from state dealers north of VA that use SAFIS for reporting trip tickets. We use electronic trip tickets mainly because not all vessels are reporting in an electronic VTR/logbook, but all federal dealers have that requirement, whether they are GARFO,SERO, or HMS permitted.

Some vessels operating in the Northern Zone may have federal reporting requirements involving both GARFO and SERO, while their landings may also generate state dealer/trip-ticket reports.

What safeguards or matching procedures are used to ensure that the same landing is not temporarily counted through multiple reporting streams?

NMFS response:
The electronic trip ticket system utilized by federal dealers is really meant to be a one-stop system, where the dealer fills out one electronic report and that single report is made available to GARFO, SERO, and HMS on a weekly basis. The state receives the same information per their required reporting frequency. Each trip has a single identifier across the various reporting systems to ensure we can identify the same trip and not double count a trip in our ACL monitoring system. Even updates for single trip tickets are strictly identified and only include the most recent update.

For example, could a landing initially appear through a GARFO vessel report, a SERO/federal dealer report, and a state trip-ticket/dealer report before those records are reconciled?

NMFS response:
No, this would not occur. We don't currently use GARFO VTRs on top of electronic dealer reports. As stated above, one report is created by the dealer and that is shared between the agencies to whom the dealer has a reporting requirement.

If duplicate records can temporarily exist in preliminary data, could that contribute to an in-season estimate being revised downward later?

NMFS response:
It would, but we have built in very stringent controls in the ACL monitoring database to ensure that duplicate records are identified before incoming data are loaded to the system.

9. What causes cumulative landings on the SERO monitoring webpage to decrease from one weekly update to another?

We have observed this periodically, and understanding the reasons for these revisions may help explain some of the larger differences we have seen between in-season estimates and final landings.

NMFS response:
In general, this is primarily driven by non-compliance with weekly reporting. We estimate landings for non-compliant dealers, then those are replaced with actual landings or "no fish" reports, which in some cases result in decreases to estimated landings. Additionally, it is always possible for dealers to make corrections to trip tickets after the fact, which may result in landings falling out of a given quota definition if the species, location, or gear type is changed.

Are these downward revisions generally caused by:

Duplicate reports being identified and removed;
Dealer reports being corrected;

State and federal records being reconciled;
Species or area coding corrections;
Adjustments to estimated unreported landings;

NMFS response:
Mostly this is caused by adjustments to estimated unreported landings. If dealers with late reports then report fewer pounds than expected, the poundage for that dealer can go down. Although, the same goes for the opposite direction, ie. more pounds are reported than expected. Changes can also be due to any of the above except the reconciliation of state and federal records, which occurs before data are incorporated into the system.

Changes to projections;
Or some other process?

10. Can the estimated component of the weekly number be separated from landings actually reported at that point in time?

NMFS response:
Yes, the CLM can report real vs estimated landings for a given week during the season, as these two quantities are additive to the number displayed on the webpage.

This may be the most useful information for understanding the issue.

For example, if the monitoring webpage showed 350,000 pounds at a particular point in the season, we would like to know how much of that 350,000 pounds represented dealer reports actually received and how much represented an estimate or projection for landings that had not yet been reported.

If historical data exist that separate those components, we would greatly appreciate receiving them.

NMFS response:
Yes, we store the weekly landings and estimates indefinitely, so we can provide summaries of prior year's weekly tallies of actual vs. estimated landings. These estimates are adjusted each year based on validation against what was reported vs. landed on a given date over the prior three years to ensure they accurately reflect dealer reporting trends. However, since a large component of the landings in this fishery come from state dealers that we do not receive in-season, the in-season snapshots back in time are not necessarily informative in relation to weekly summaries of the actual historical landings once they become finalized. See responses to your questions below for further explanation pertaining specifically to Spanish Mackerel NZ.

Our goal is not simply to compare preliminary numbers with finalized data. We understand that preliminary fisheries data will change as additional reports are received and records are corrected.

What we are trying to determine is whether there is a consistent source of upward bias in the in-season Northern Zone estimate. If the monitoring system has repeatedly estimated landings 150,000–350,000 pounds higher than what ultimately materialized, we would like to identify where that difference is entering the process and whether the estimation method can be improved.

NMFS response:
This observation is again related to Spanish Mackerel Northern Zone being primarily a state-waters harvested fishery. The weekly in-season estimates are adjusted upward for state dealer reports that we do not receive in-season. After the fishery closes, the estimates on the website for the prior season then return to what has actually been reported, which is what the system is designed for in terms of the vast majority of fisheries we monitor. This is why it seems the estimates seem biased upward and then drop, when in reality, when the state data become finalized and included in finalized landings, the landings have surpassed the Northern Zone ACL by substantial amounts for each of the last nine fishing seasons and likely will again this year. In other words, it is not particularly useful or informative to look at the prior season SERO webpage estimate for this particular fishery due to the webpage not including the state-only data. It may be helpful if SERO adds a footnote on the ACL monitoring page recommending to reference the ACCSP data warehouse for the most complete prior-season landings.

This is particularly important because these are not insignificant amounts of quota. If an in-season estimate is consistently precautionary by several hundred thousand pounds, that could result in the fishery closing earlier than necessary and quota ultimately being left unharvested.

NMFS response:
See response above. For 79 closures in the South Atlantic and Gulf totaling 37 fishery-years since 2017, the median final ACL percentage has been 103.6%. In general, forecasts have been quite accurate, and the consistent overages in SM-NZ fall outside of federal management jurisdiction. Less than 3% of the total NZ landings are typically harvested from federal waters, meaning a federal closure has minimal impact on landings if NC and VA decide to remain open, which they usually do. It seems a better management strategy should be considered for this reason.

If it would be easier, I would be happy to discuss these questions by phone or Teams with the appropriate staff from SERO and/or the Science Center. I think walking through one fishing year from the individual reporting sources, to the weekly monitoring estimate, to the final landings would be extremely helpful.