Potential Hybrid Approach

MRIP Transition Team Workshop
February 23-25, 2022
Overview

The assessment calendar will not halt while the state surveys undergo the transition process. How can we move through our assessment calendar and transition timeline in tandem?
Guiding issues

• Assessments cannot be run with multiple competing data sets – an agreed upon approach is essential in order to use the assessments for management during the transition period.

• Assessments undergo review either by CIE or the SSC, and the method for determining BSIA for recreational catch and discards can’t be revisited for each species until the transition process is over.
Essential questions

• Is there a potential hybrid approach whereby all available recreational catch and discard series are considered for use in assessments while research is ongoing?
  • Under what circumstances?
    • Number of state survey’s involved?
    • Anticipated changes of recreational fishing through time?
    • What is the management currency?

• Which aspects of the approach be standardized over species across assessments?
  ● Which species are in each survey?
  ● What is the relative distribution of removals among state waters? Open/closed season records available?
  ● Are there catches in federal waters or other modes that the state surveys miss?
  ● How will the state survey be calibrated back in time to provide a historical catch time series?
Can the different data streams be used without calibrations in either the combined or separate run approaches? (No)

- If the assessment fits a time series of landings that suddenly drops in the last 5-10 years, the model will infer one of two things, either the stock has crashed or the fishery has reduced its operations.
Shifting the catch down only changes the assessment scale, not the status

SA Cobia example
No change in status
Illustrating Calibration Scenarios
MRIP and State Program Private Boat Red Snapper Landings Estimates, 2000-2019

- Ratio = 10.9
- Ratio = 7.3
- Ratio = 1.8
- Ratio = 2.7
- Ratio = 5.6
Simple Ratio Calibration Calculations

Calibrating MRIP to State Programs

Calibrated MRIP = MRIP / ratio

Calibrating State Programs to MRIP

Calibrated State Program = State Program * ratio
Florida Private Boat Red Snapper Landings with Simple Ratio Calibrations

SRFS and Calibrated MRIP

MRIP and Calibrated SRFS

ratio = 2.7
Alabama Private Boat Red Snapper Landings with Simple Ratio Calibrations

Snapper Check and Calibrated MRIP

MRIP and Calibrated Snapper Check

ratio = 7.3
Mississippi Private Boat Red Snapper Landings with Simple Ratio Calibrations

Tails and Scales and Calibrated MRIP

MRIP and Calibrated Tails and Scales

ratio = 5.6
Louisiana Private Boat Red Snapper Landings with Simple Ratio Calibrations

LA Creel and Calibrated MRIP

MRIP and Calibrated LA Creel

ratio = 1.8
Texas Private Boat Red Snapper Landings with Simple Ratio Calibrations

CCS and Calibrated MRIP

MRIP and Calibrated CCS

ratio = 10.9
Distributions of Total Private Boat Red Snapper Landings, 2016-2019

State Program Estimates

Proportions of Total Landings by State, 2016-2019
using State Program Estimates

- FL SRFS: 56.0%
- MS Tails and Scales: 3.0%
- AL Snapper Check: 18.0%
- LA Creel: 16.0%
- TX CCS: 7.0%

MRIP Estimates, State Program Estimates Calibrated to MRIP

Proportions of Total Landings by State, 2016-2019
using MRIP, Estimates Calibrated to MRIP

- FL MRIP: 38.6%
- TX MRIP*: 17.8%
- LA MRIP*: 6.9%
- MS MRIP: 5.0%
- AL MRIP: 31.7%
Gulf of Mexico Private Boat Red Snapper Landings with Simple Ratio Calibrations

State Programs and MRIP Series

State Programs and MRIP Series Indexed to Means
Considerations for Calibration Scenarios

Calibrating to State Programs

- Assessment results in units that match monitoring programs
- Differing survey designs likely introduce issues with inter-state comparability
- Allocation determinations would likely need to consider any differences among state program scales or “currencies”
  - Direct state program estimates only available for recent years (except Texas)
  - Only calibrated MRIP estimates available for earlier years (except Texas)
- Additional calibrations may be needed to address data or coverage gaps (closed seasons, released catch)
Considerations for Calibration Scenarios

Calibrating to MRIP

- Common design improves inter-state comparability, but information is (very) limited for Louisiana and Texas
- Assessment results in units that must be calibrated to match state programs used for monitoring and management
- For allocation determinations, MRIP estimates are available for historic time series (except Texas), but calibrations would be necessary for both Louisiana and Texas to use MRIP estimates from recent years
Calibration Decision Points for Assessments

- Calibrate to State Program units or MRIP units (currencies)
- For cases with multiple years of overlapping estimates:
  - Use State Program estimates
  - Use MRIP estimates
  - Use composite estimates (simple arithmetic mean, weighted mean, etc.)
- Fix years used to calculate calibrations or update them when/if more years become available
- Standard approach applied to all species or allow for decisions to vary by species
- Program specific decisions on any missing information
- Revisit when additional information allows for other calibration/integration methods