

Tab B, No. 8

Improving Recreational Estimates

GMFMC April 2018

Background

- Based largely on a presentation to the SAFMC Snapper Grouper Committee, March 2018
- SAFMC Snapper Grouper Amendment 46 is considering private recreational reporting and permitting
 - Largely in response to longstanding concerns with private recreational catch estimates

Ongoing Concern with Recreational Catch Estimates

- Issues

- Unknown, challenged accuracy
- High uncertainty for some species (expressed as PSE)
- Extreme year to year variability
- Difficulty with short seasons

- Causes

- Low # Observations / Intercepts, particularly offshore/Snapper Grouper
- Influence of Rare Sample Events (most Snapper Grouper are 'rare')
- Offshore effort is low, typically 10% of estimated effort



Changes in survey methods cannot address the underlying challenge of patchy distributions and rare sampling events

MRIP Process – VERY Briefly

Effort X Catch Rate = Estimated Catch

Effort: “FES” = Fishery Effort Survey.

Was phone, now mail, survey of licensed anglers.

Catch Rates: APAIS = Access Point Angler Intercept Survey.

Dockside sampling for catch rates

Fine Print:

Weighting Factors: not all fishing sites, days, etc are created equal; not all anglers are sampled

By-Variables: Modes, Wave, State, Area

MRIP is a survey intended to reflect regional trends. It is not a CENSUS.

Census Reporting?

What does it take to move beyond the Effort X CPUE challenge?

A CENSUS – every trip is reported, catch is simply added across all trips

Headboat Survey is a Census (~160 vessels in SE)

Commercial Reporting is a Census – all trips reported.

For-hire census reporting systems can still rely on survey and MRIP estimates

- GARFO for-hire VTRs.
 - Reported Effort is applied to MRIP (APAIS) CPUE for catch estimates.
- SC DNR 20+ years of charter reporting
 - Awaiting MRIP certification

Example Estimation Issues Raised by SAMFC

- Hogfish
 - Closed 2015, 1 wave estimate 3.8x the ACL, 3x the annual average over 25y
- Blueline Tilefish
 - Closed 2015, 1 wave estimate exceeded annual landings for 17 out of 20 years
- Cobia
 - 2015 landings 1.5x prior high.
 - Persisted into 2016
- Greater Amberjack
 - 2017 2 intercepted trips (out of 72) account for over half of the catch
- Snowy Grouper
 - 2012 1 cell = 79% of total catch, ~3x prior recent average
- Red Snapper
 - Short openings, discard dominated

How are Uncertain Data Addressed in Assessments?

- Smooth “outlier” points
 - What is really an “outlier”?? Zero can be / truth is unknown
- Smooth uncertain time series
 - Model fitting is ‘smoothing’: may underrepresent uncertainty
 - Now looking toward multi-year estimates
- Adjust the relative influence of datasets
 - Model needs to be told something is reliable
 - Catch typically amongst the best, even when uncertain
- Specify uncertainty level for input data
 - May over-represent precision
 - Models may not solve (converge) if reported “PSE” is used

Monitoring Improvements Underway

- MRIP – nearing completion
 - Revised APAIS (dockside intercept component)
 - Revised FES (effort survey component)
- MRIP - Future
 - Alternative Estimation methods for rare species
 - Minimum CV for providing estimates
 - Including ancillary data (voluntary reporting, state programs)
- SAFMC
 - For-hire reporting (approved)
 - Myfishcount voluntary reporting (underway)
 - Snapper Grouper Amendment 46 - snapper grouper rec permits & reporting?

SAFMC Future Plans & Considerations

- Continue to work with MRIP on improvements
 - Minimum acceptable PSE
 - Alternative approaches for rare species
 - Define S-G sample frame through a permit?
- Continue to pursue alternative data streams
 - Myfishcount
 - Amendment 46 reporting requirements
- ABC Control Rule Amendment
 - Allow SSC to better address uncertainty (such as PSE assumptions)
- Accountability Measure Revisions
 - Remove in-season closures, allow multi-year evaluation