



**NOAA  
FISHERIES**

**Sustainable  
Fisheries**

# National Standard 1 – Technical Guidance

July 2019 Gulf SSC meeting  
Tampa, FL

**Richard Methot**  
Senior Scientist for Assessments

# NS1 Technical Guidance Workgroup

Purpose: Develop technical guidance on NS1 guideline topics to support decision-making

- Address key concepts within 2009 and 2016 revisions
- Will result in multiple work products

# NS1 Technical Guidance Workgroup

- Divided into 3 subgroups
  - Subgroup 1: Reference points
  - Subgroup 2: Carry-over and Phase-in
  - Subgroup 3: Data limited stocks

# Subgroup 3 – Data limited stocks

- Chair: Dr. Jim Berkson
- Council staff liaisons
  - Dr. John Froeschke (GMFMC)
  - Marlowe Sabater (WPFMC)
- Subgroup 3 has focused on:
  - identifying stocks for which setting and/or managing to an ACL pursuant to the NS1 Guidelines is not effective;
  - recommending alternative approaches for defining and managing to an ACL that comply with the MSA and prevent overfishing; and
  - identifying assessment approaches that may be used to generate valid estimates for certain types of data poor stocks.

# Subgroup 2 – Carry-over and Phase-in

- Chair: Dr. Dan Holland
- Council staff liaisons
  - Dr. Ryan Rindone (GMFMC)
  - Josh DeMello (WPFMC)
- Tech Memo: Advice and recommendations for designing, evaluating, and implementing carryover and phase-in provisions
  - Carry-over and phase-in examples
  - Approaches to implement and evaluate carry-over and phase-in
  - Characteristics of fish stocks/fisheries/management that impact risks and benefits of carry-over and phase-in
- Status:
  - Draft under internal review
  - Plan to present to CCC in November

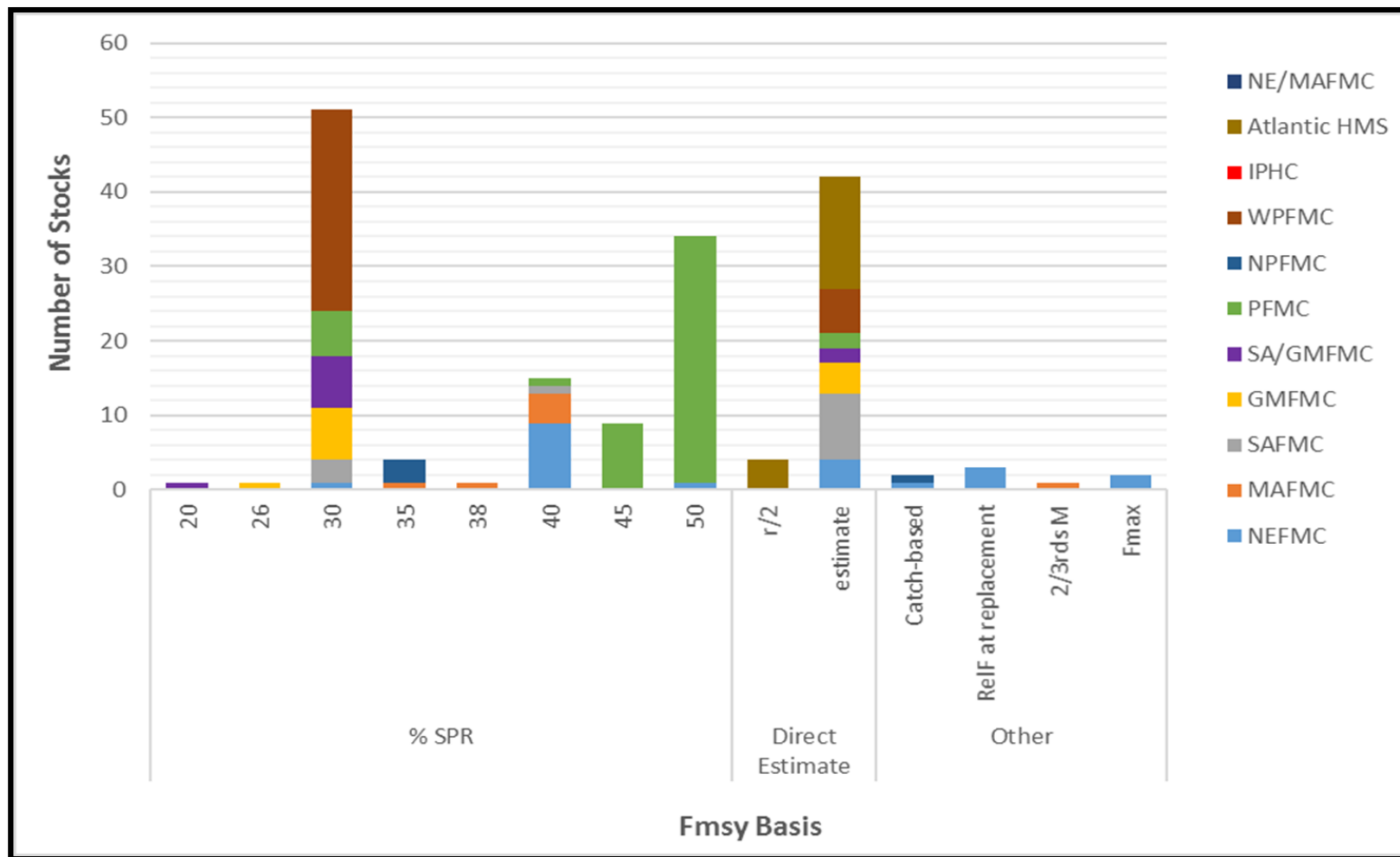
# Subgroup 1 – Reference points

- Pursuing multiple projects:
  - Summarize current approaches in FMPs
  - making overfished determinations when biomass time series not estimated
  - Total catch accounting
  - Known to unknown status changes
  - Approaching an overfished condition
  - Estimation of  $F_{MSY}$ ,  $B_{MSY}$ , and proxies
- Chair: Dr. Richard Methot
- Council staff liaisons
  - Dr. Diana Stram (NPFMC)
  - Mark Fitchett (WPFMC)
  - John DeVore (PFMC)
  - Dr. Michael Sissenwine (NEFMC)

# Summarize Fmsy and Bmsy Approaches

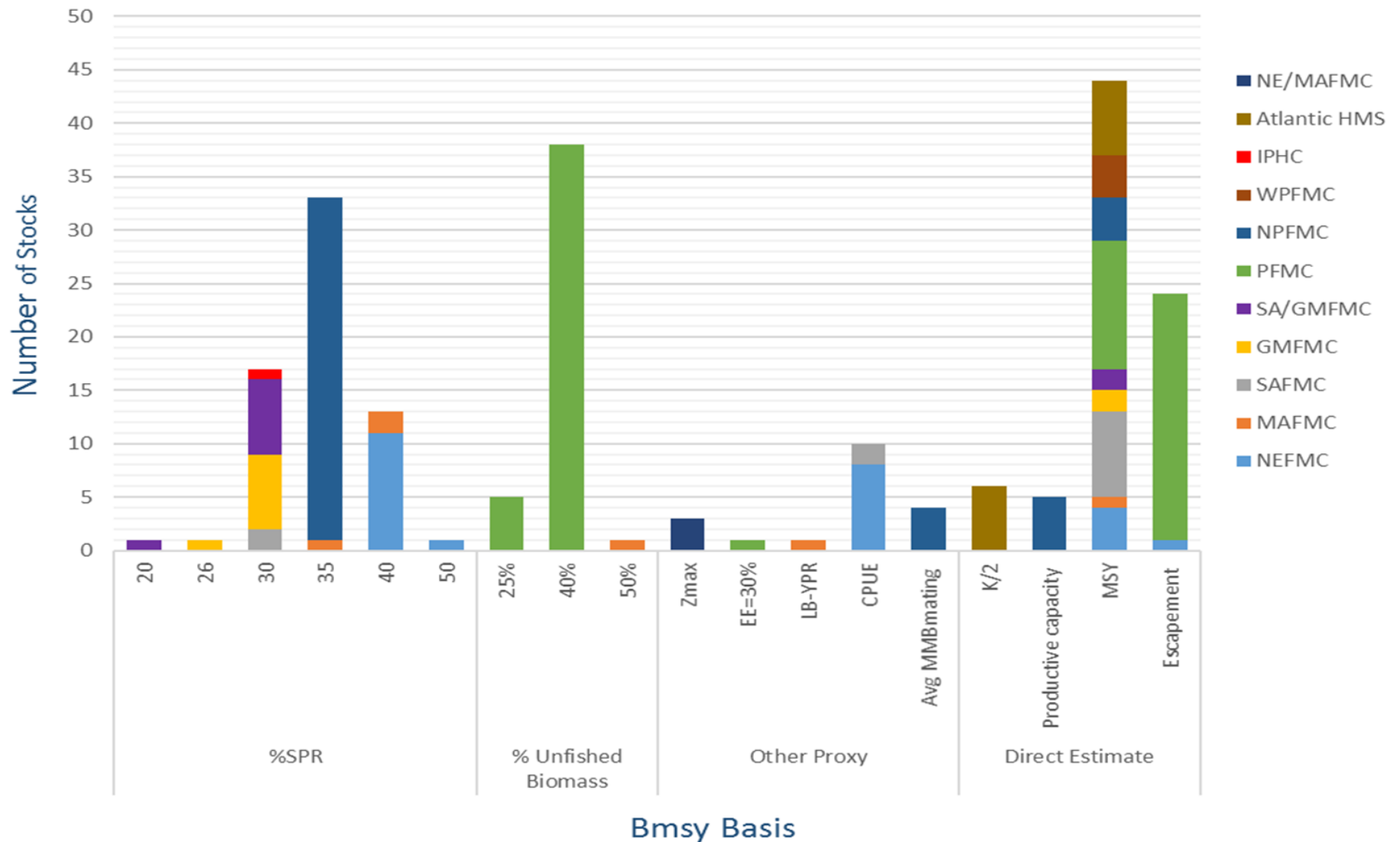
- Most stocks have Fmsy based on a proxy
- Typically that proxy is expressed in terms of SPR:  
Spawner Potential Ratio
  - Fished Spawning Biomass per Recruit / Unfished Spawning Biomass per Recruit
- Selected SPR proxies range from 20% to 50%

# Fmsy and proxies in current FMPs





# Bmsy and proxies in current FMPs



# Status Determination From SPR

- Generally the agency has not made overfished status determinations from a measure of static SPR
- A study in late 1990s showed it could perform poorly in tracking status of a stock with changing abundance
- Development of data-limited methods that often rely on equilibrium assumptions poses a new situation in which a contemporary measure of SPR could provide inference on biomass level also

# Catch Accounting

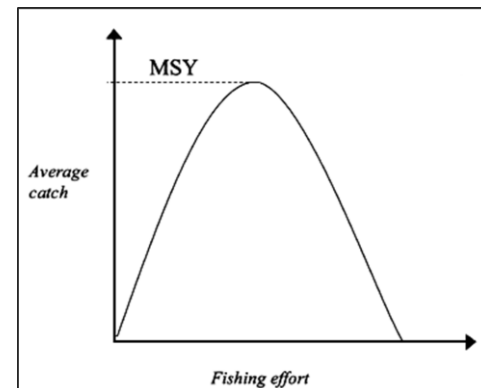
- White paper: Best practices for fulfilling catch and fishing mortality accounting requirements
  - Issues related to catch accounting
  - Best practices in accounting for total catch
  - Deals with bycatch, research catch, and other sources of non-landed catch.

# Known to Unknown Status Change

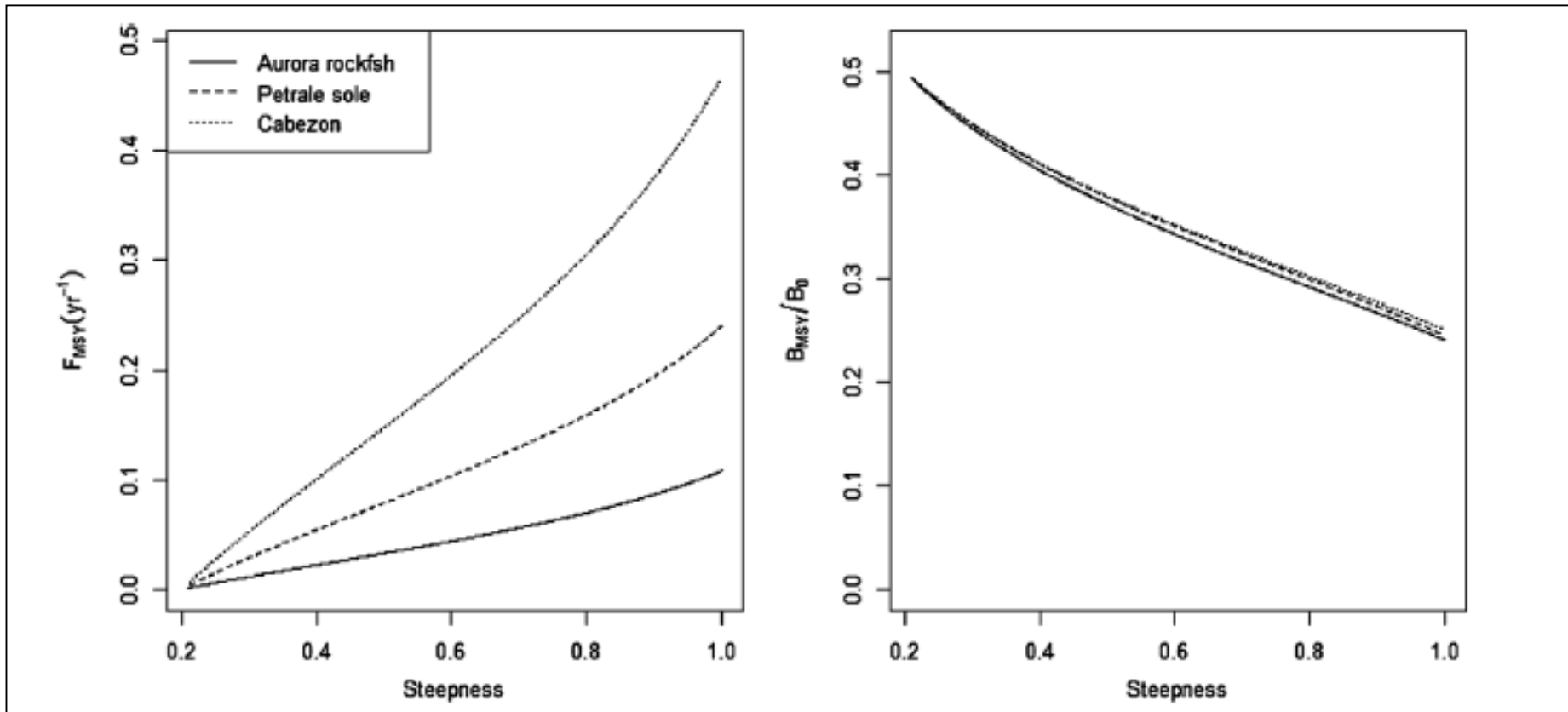
- NOAA Fisheries is developing guidance that helps guide agency decision over when to change stock status from a "known" status to an "unknown" status.
- The draft guidance is in development and could be finalized within the year.
- Over the years, assessments have changed stocks with a known status to an unknown status. The reasons for these changes are generally a result of a rejected stock assessment, scientific uncertainty, and/or stock management unit changes.
- The agency responds to these changes on a case-by-case basis, and decisions have not always been consistent
- We are attempting to develop clear guidance to allow for transparent and consistent decisions when changing stock status from known to unknown. The overall goal is to retain a "known" stock status as much as possible, although often at a lower assessment level.

# Biomass vs Age-Structured

- Biomass Dynamics Assessments
  - MSY,  $F_{msy}$ ,  $B_{msy}$  fall out naturally
  - Hard to tell if they are accurate
- Age-Structured Assessments
  - MSY,  $F_{msy}$ ,  $B_{msy}$  depend on many factors that biomass dynamics is blind to
  - Sensitivity to factors can be tested
  - Morass of factors can distract us
  - Proxies nearly always needed



# Spawner-Recruitment Parameters



# Considering State of Science On:

- Productivity Function
- Parameter Estimation
- Accounting for Fleet Complexity and Bycatch
- “Pretty Good Yield”
- Spatial Issue
- Regime Shifts and Environmental Changes
- Moving Beyond Maximizing Yield (in biomass)
- Refining the Units of Reproductive Potential
- Point Estimate or Integrate Across Uncertainty

# Summary

- Work on several sub-topics underway
- Products will roll out individually; phase-in first
- Degree to which we can settle on technical guidance vs. reviewing the current state of the science depends on the topic



# Questions?

