Snapper-Grouper Management Strategy Evaluation: Situation Assessment

Susana Hervas & Kai Lorenzen University of Florida

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Overview

Management Strategy Evaluation (MSE) SAFMC Snapper-Grouper MSE Situation Assessment Approach Some Preliminary Results Implications for future of S-G MSE

Management Strategy Evaluation (MSE)

Aims: Evaluate performance of management systems and identify robust procedures

Involves modeling the whole fishery management system

Stakeholder involvement



Punt et al. (2014) Fish & Fisheries 17: 303-334

Stakeholder involvement in MSE

- Stakeholder involvement seen as improving buy-in, reducing implementation barriers, providing information, mutual learning
- Benefits from clearly defined roles, explicit and transparent process, goals and objectives
- Participatory modeling framework

Goethel et al. (2019) CJFAS 76: 1895-1913

	CATEGORY	MSE Steps	Participant Roles SCIENTISTS	MANAGERS & STAKEHOLDERS
error feedback	scoping	1 Identify the participants	Select modeling and subject mater experts to serve as the technical team for the course of the MSE.	Work with outreach coordinators to ensure a diverse and representative group of participants.
		2 Identify management objectives and quantitative performance statistics	Help facilitate workshops and describe process and candidate performance statistics.	Participate in workshops to provide feedback on objectives and performance statistics.
		3 Identify uncertainties to be evaluated in robustness testing	Present axes of uncertainty that will be considered to managers and stakeholders.	Provide feedback on uncertainties to be considered and make recommendations if key factors are missing.
	technical	4 Develop operating and implementation models	Develop analytical tools (operating and implementation models) and be prepared to provide plain language descriptions of general details.	Evaluate general configuration of operating and implementation models and participate in general discussion / Q&A with scientists.
		5 Parameterize / condition operating models	Provide the technical expertise to parameterize models in accordance with the system and strategies being evaluated.	
	scoping	6 Identify candidate management strategies	Provide guidance on the range of options that can be tested given the time and resources available.	Propose a set of realistic management strategies to be evaluated.
	technical	7 Simulation test each management strategy	Conduct analyses and provide status updates periodically.	Provide feedback when scientists encounter challenges or need to make changes to the methods or assumptions.
	evaluation	8 Summarize performance evaluation and revisit prior steps as needed	Develop summaries and graphics in collaboration with managers and stakeholders.	Collaborate with scientists in generating useful and relevant formats for presenting results.
		9 Adopt desired management approach	Answer questions and re-evaluate results as needed to inform quantitative trade-offs among competing management actions.	Weigh trade-offs and implement the desired management action which meets performance criteria and satisfies all parties.

SAFMC Snapper-Grouper MSE

- Council Initiative (2022-24), contracted with Blue Matter Science
- Focus on strategies to reduce the number of released fish to improve yield throughout the fishery snapper grouper fishery
- Considering the need for fishery access and resource use while preventing overfishing and rebuilding overfished stocks.
- Opportunity to evaluate different management strategies and their associated biological, social, and economic tradeoffs.



SAFMC Snapper-Grouper MSE

bluematter



SAFMC Snapper-Grouper MSE

Operating Models

- Base
- Low M
- High M
- Reduced (historical) rec. removals
- Effort creep
- Recent recruitment

Management Scenarios

- Status quo
- Full retention
- Minimum length limit
- Nearshore fishing only
- Offshore fishing only

Performance metrics

- Probability rebuild
- Relative short-term landings
- Relative long-term landings
- Fraction discarded

Stakeholder involvement in S-G MSE



THE ISSUE

While fishing for species that are in-season, many out-of-season snapper grouper species are also caught and must be released. Some of these fish die from the catch and release process. Within the last 10 years, we've sen the highest numbers of recreationally released snapper grouper species on record, so the numbers of dead releases have been at their highest levels, as well. These large snapper grouper dead releases are impacting the Council's ability to provide access to the fishery while also preventing overfishing.

SCOPING SESSIONS

The first of several scoping sessions is at 6pm on Wednesday, April 26, 2023, at the Hilton Garden Inn in North Charleston, SC (5265 International Blvd). Your comments will help the Council determine what management approaches should and should not be evaluated through the MSE. NEXT STEPS The Council has partnered with Blue Matter Science to develop a management strategy

- evaluation (MSE), a tool that evaluates different approaches to achieve management goals. • MSE's main goal: Reduce snapper grouper
- releases in the recreational fishery.First step: Define current and desired
- management positions. Why we need you: As we evaluate ways to get to better management, we want to include what is most important to fishermen participating in this fishery.
- At this scoping session, we will ask: • What are the most important snapper grouper species are in your area? • How do your chapter the way you fich for
- How do you change the way you fish for snapper grouper species in response to different regulations (e.g. bag limits, size limits, seasons), especially when regulations

- Multiple presentations to, and consultations with Snapper-Grouper AP, SSC, Council
- Public scoping sessions
- (Technical Working Group)

S-G MSE Next Steps

Project: Situation Assessment (this project)

Project: Recreational Angler Attitudes and Preferences in the South Atlantic Snapper Grouper Fishery

RFP: Continue Development of a Management Strategy Evaluation for the Snapper Grouper Fishery

Situation Assessment: Why and How

Helps guide the <u>stakeholder engagement and communication</u> aspects of the ongoing SAFMC snapper-grouper MSE.

Qualitative exploration to understand the breadth of perspectives within the snapper-grouper management context in relation to the fishery, its management, discard mortality, and the MSE.

Situation Assessment

Data collection

- Qualitative study
- Semi-structured interviews using general interview guide approach
- Some elements informed by theoretical framework of Reasonable Person Model
- Interviews (27) with wide range of fisheries and management stakeholders
- Purposive and snowball sampling
- Interviews conducted via zoom

Data analysis

Conventional Content Analysis to identify patterns and themes (Hsieh & Shannon, 2005)

Interview Guide overview

Section 1: Stakeholder Identity and Involvement in the South Atlantic Snapper-Grouper Fishery (SA-SG)	 Identity and personal experience
Section 2: SA-SG Fisheries Management and strategies	 Perspectives on fishery population, management, concerns, and science
Section 3: SA-SG discard mortality	 Experience, ideas to reduce discard mortality, and limitations
Section 4: Management and Engagement (Experiences with management)	 Participation and decision-making experience
Section 5: Views on the MSE	 Familiarity, role and management scenario ideas
Section 6: Performance and success criteria	 Success criteria for management options
Section 7: Perspectives on new administration	 Potential effects of new administration and possible exploration through MSE

Conventional Content Analysis

Key Steps

- Open coding: Code segments that capture significant aspects of participants' experiences and views.
- *Review*: Ensure consistency, merge redundant codes
- Develop Themes: Group codes into meaningful themes that represent key concepts
- *Refine*: Combine themes based on patterns.
- *Reflexivity*: Maintain awareness of personal biases to ensure transparency.

Reasonable Person Model

- People are more likely to engage constructively, make informed decisions, and cooperate when they operate within a supportive environment that meets their informational needs and fosters reasonableness.
 - *reasonableness* refers to a state where individuals can think clearly, make informed decisions, and act effectively in their environment
- Used to develop some interview questions and serve as a theoretical framework during analysis

Theoretical Framework

Reasonable Person Model (Kaplan & Kaplan, 2009)



27 Interviewees

Sector	No. of interviewees
Recreational fisher	5
Recreational association	2
Commercial fisher	5
Spearfisher	2
Charter capt	3
Headboat operator	1
Council member	8
Council staff	1
SSC member	2
SEP member	2
SG AP member	8
SG AP Rec member	6
Scientist (population, economics)	5
NOAA staff	3
State agency staff	3
ENGO staff	2

Some Preliminary Results (Analysis Ongoing)

Overview presented in order of interview guide

Highlighting some emerging themes

Reasonable Person Model

Perceived changes in the fishery

- Snapper-Grouper Populations
 - Decreased abundance for all species except red snapper
 - Causes: Development, climate change, habitat loss, wáter quality, species migration, increased fishing pressure, discard mortality, increased efficiency (tech)
 - Increased abundance of red snapper
 - Causes: Regulations, closures
- Industry make-up
 - Rapid increase in private rec. boats, charter growth, headboat reduction
- Technology
 - Increased efficiency

Perceptions on Council management of the Snapper-Grouper Fishery

- Overall, Council seen as 'doing what they can' under a limiting system where data are perceived as 'poor/old' and decisions are ultimately governed by the MSA.
- Slow bureaucratic process where decisions take years opposite to the dynamic nature of fisheries.
- Some decisions (or lack of timely decisions) aren't understood.
- Regional differences are not addressed well.
- Council could be nimbler, adapt more quickly
- Council could be more proactive and precautionary

Some perceived 'big picture' issues

- **MSA** seen as restrictive yet open to interpretation and in need of reauthorization to be updated to the times, address definitions, and phrasing (must vs may)
- **Private recreational sector** has increased greatly but is perceived as less closely monitored and regulated than the commercial and charter (headboat) sectors.
- Some stakeholders perceive lack of political will to monitor and regulate recreational sector and address discard mortality issue.
- Many stakeholders appreciative of **science** but feel that it's hampered by use of **poor and/or old data** (recreational removals, discard mortality rates, not accounting for changing environment) and underfunded. Some question scientific management targets ('abundance' vs. 'age-structure based').
- Management of red snapper discards perceived to be stuck in a loop. Needs new approaches and different mindset? Some perceive lack of political will to address the issue.
- Some perceived inter-sectoral equity concerns.

Perspectives on Engagement and Participation

- Decision making process is complex and has a learning curve.
- Those immersed for years are comfortable with it but newer folks or those in the periphery (attend meetings, public comment, etc.) find it difficult to grasp.
- Interacting through public comment feels generally less impactful that other more direct involvement. Sometimes public comment feels like the council must do that as a formality but don't listen.

Perceptions of MSE

- Many are usure about the role of the MSE, variously thought it was related to improving stock assessments, improving data, or using multispecies approach.
- Those most familiar with the MSE find it at least somewhat helpful.
- Skepticism since no new data are being used and only three species are considered.
- Some are hopeful that it can help 'get management unstuck'.
- Some doubt political will to implement identified strategies.
- Some believe it is too complex and will further erode peoples' trust.
- Those not involved in AP, SSC, Council were not familiar with the MSE

Some MSE Scenario ideas (out of 26 total)

- Effect of quality of recreational data on management
- Effect of closing bottom inshore
- Effects of gear modifications , spatial closures
- Test aggregate bag limit
- Catch and release fishery
- Address regional differences and needs
- Economic impact of regulations on charter/headboat operators
- Effects of increasing multiday boats to 1000lb of gag
- Effect of storm events

Some suggested performance metrics

- Biomass
- Recruitment
- Population health
- Stock sustainability
- Criteria depends on the species
- Fair and equitable access
- Realistic results

Perceived impacts of administration change

- Considered unknown/uncertain by most
- Possible impacts
 - 'More flexible regulations could get management out of its current rut'
 - 'Executive order on red snapper'
 - 'Less rules (10 for 1)' seen as either good or problematic
 - 'Loose staff'
 - 'Stop funds'
 - 'Will choose Council appointments'
- MSE generally not seen as opportunity to look at potential changes from new administration (adds complexity; leave politics aside)
- Some interested, e.g. MSE on opening RS fishery scenarios

Reasonable Person Model

Does the MSE help people to think clearly, make informed decisions, and act effectively?

Building Mental Models

- **MSE helped with model building,** but only for the most involved stakeholders.
- **MSE Understanding**: Stakeholders, particularly those not closely involved in management, are unclear on the purpose of the MSE, with conflicting expectations about its scope and function.
- Science and Data Issues: Use of data and assessments viewed as 'old', 'poor', and/or conflicting with own observations reduces trust in the MSE.

Being Effective

Complexity: Technical language and complex science create a barrier to asking meaningful questions — even for those who are motivated to participate.

Learning: At least some stakeholders are motivated to learn more technical aspects, especially when scientists are engaged and receptive to learning about stakeholder knowledge.

Slow process: Some feel disheartened by the slow timeline between science and management, which undermines their sense of agency or purpose. Some even stop engaging with the process.

Engagement limitations: Time constraints, information overload, and a lack of rapport with managers limit stakeholders' capacity to engage — even when opportunities are available.

Meaningful Action

Constraints imposed by MSA and Council process: Legal and bureaucratic constraints, such as the Magnuson-Stevens Act, are seen as limiting what stakeholders and managers can do. Nonetheless, importance in decision making of the individuals making up the Council was also highlighted.

Political influence: Ability to influence management through political means outside of the Council process varies among stakeholder groups and brings a sense of disempowerment to some.

Feeling unheard: Stakeholders not closely involved in the Council process often feel unheard, perceiving the public input process as dismissive or symbolic.

Importance of participating: Despite frustrations, stakeholders still see the importance of voicing their opinions and engaging with the process.

'Inside Game and Outside Game'



Modified from Jaffee (2020) Beyond Polarization, Island Press

Implications for Future of S-G MSE

- Need to provide opportunity for extended, in-depth engagement. Working group of representatives from different stakeholder groups and organizations.
- Systematic use of MSE to explore implications of concerns about data quality, discard mortality estimates etc.
- Stakeholder input to consolidate scenarios and performance metrics, interpret results, and promote identified strategies
- Future role of MSE depends in part on how it's used in the formal management process and outside

Thank You!

- All participants in the interview study
- SAFMC for funding

