

# DRAFT

## SAMFC Spawning Special Management Zones Management Effectiveness Metrics

The evaluation of protected areas is essential to ensuring the area is achieving the management goals. If the area is not achieving its goals and objectives, management should work to change the protected area so that it can achieve the goal. One tool to help with this is the Management Effectiveness Tracking Tool (Stolton et al. 2020). The tool has some great qualities to evaluate protected areas; however, the tool appears to be evaluating much larger areas with broader goals and objectives than the Spawning Special Management Zones (SSMZs) created by the South Atlantic Fishery Management Council (Council). The Council took a strategic approach when creating the areas to “protect important spawning habitat for snapper grouper species that can be designated for protection to enhance spawning and reduce bycatch and bycatch mortality of snapper grouper species, including speckled hind and warsaw grouper (SAFMC 2016).” The SAFMC created five SSMZs to protect important spawning habitats or areas suspected to be important spawning habitats: three natural hard-bottom SSMZs have sunset provisions that will remove protections in 2027 if management action is not taken and two artificial reef SSMZs, which were created by South Carolina Department of Natural Resources to be protected areas, do not have a sunset provision. An evaluation of the hard-bottom SSMZs can help the Council determine if the regulations for these areas should stay in place, be modified, or be allowed to sunset. The regulations should be reviewed for each location because they are likely performing differently.

Council staff have developed a strawman for the System Management Plan Workgroup (Workgroup) to evaluate the SSMZs. This is not a final document and should be edited to ensure the Workgroup is satisfied that any tool used to evaluate the protected area is useful to develop recommendations to the Council. Similar to the METT, it has different sections related to planning, inputs, process, outputs, and outcomes. If the Workgroup would like this type of approach pursued, staff will refine the metrics and develop a dashboard that has similar outputs to the METT.

### Potential metrics related to governance

#### Planning

- A. Are objectives developed for the protected area.
  - a. No objectives have been agreed upon.
  - b. Objectives are developed but management is not achieving the objectives.
  - c. Objectives are developed but management is only partially meeting the objectives.
  - d. Objectives are developed and management is achieving the objectives.
- B. Management has been set up to review and evaluate SSMZs.
  - a. No mechanism is available to evaluate the effectiveness of the SSMZs.
  - b. System Management Plan has been developed but review has not occurred for the SSMZs.
  - c. Review of the SSMZs has occurred.
  - d. Stakeholders are participating in the review of the SSMZs that can lead to co-management.

- C. SSMZs are appropriate in size, shape, and location to protect important spawning locations.
  - a. SSMZs' size, shape, **and** location are not sufficient to protect important spawning locations for any of the focal species.
  - b. SSMZs' size, shape, **or** location are not sufficient to protect important spawning locations for any of the focal species.
  - c. SSMZs' size, shape, and location are sufficient to protect important spawning locations for a single focal species.
  - d. SSMZs' size, shape, and location are sufficient to protect important spawning locations for multiple focal species.

#### Process

- D. Regulations and coordinates of the SSMZs are available.
  - a. Regulations and coordinates are only listed in the Code of Federal Regulations or amendments.
  - b. Regulations and coordinates provided on webpages but may not be available when offshore.
  - c. Other.
  - d. Regulations and coordinates can be accessed using apps designed to be used when on in cellphone range and available on commercial fishing maps.
- E. Information on the SSMZs is provided to stakeholders on a regular basis.
  - a. No outreach efforts occur to inform stakeholders about SSMZs.
  - b. Educational materials are available online but a communication plan has been not developed.
  - c. A communication plan for outreach has been developed but not implemented.
  - d. A communication plan for outreach has been developed and is implemented. Provides information to stakeholders on a regular basis.
- F. Regulations can be enforced.
  - a. Regulations cannot be enforced.
  - b. Deficiencies in the regulations prevent enforcement of the area.
  - c. Regulations are sufficient for enforcement but could be improved to help protect the area.
  - d. Regulations are sufficient to protect spawning habitats.
- G. Management related survey or research work.
  - a. There is no survey or research taking place in the SSMZs.
  - b. There is a small amount of survey or research work, but it is not directed toward the needs of the SSMZs.
  - c. Survey or research work is being conducted in the SSMZs, but it is only partially directed toward the needs of the SSMZs.
  - d. There is a comprehensive survey or research program, which is relevant to the goals and objectives of the SSMZs.

#### Inputs

- H. Staff are available to monitor and evaluate SSMZs.
  - a. No staff are available.
  - b. Staff are available but have limited training in monitoring and evaluating data.
  - c. Staff are available but do not have dedicated time to assist in monitoring and evaluating SSMZs.

- d. Dedicated staff are available to monitor and evaluate SSMZs.
  - I. Funds are available to monitor and evaluate SSMZs.
    - a. No funds are available.
    - b. Work to monitor and evaluate SSMZs are leveraged from other projects.
    - c. Grant funds or time-limited funds have been received to monitor or evaluate.
    - d. Dedicated funds are available to monitor and evaluate SSMZs annually or on a regular basis.
  - J. Funds and staff available to assist in managing and monitoring the SSMZs compared to previous reviews.
    - a. No funds or staff have been dedicated to the SSMZs.
    - b. A decrease in available funds or staff to monitor the areas has led to decreased ability to monitor or managed the SSMZs.
    - c. There have been minimal changes in funds or staff dedicated to monitor or evaluate the SSMZs.
    - d. Funds or available staff have led to increased monitoring or improved evaluation of the SSMZs.
  - K. Staff, equipment, and funds are available to enforce the regulations of the SSMZs.
    - a. Staff, equipment, and funds are not available.
    - b. Staff, equipment, or funds are available but enforcement extremely limited.
    - c. Enforcement occurs infrequently in the SSMZs.
    - d. Enforcement occurs regularly in the SSMZs.
- Outcomes (Potential metrics related to spawning) (Could be done for each site).
- L. Direct or indirect evidence of spawning.
    - a. No indirect or direct evidence of spawning within the SSMZ.
    - b. Indirect evidence of spawning of focal species is available for the SSMZ.
    - c. Direct evidence of spawning for one focal species within the SSMZ or multiple species with indirect evidence
    - d. Direct evidence of spawning within the SSMZ for multiple focal species.
  - M. Comparison of SSMZ with nearby areas
    - a. Information indicates there are fewer individual or focal species spawning in SSMZ compared to nearby open areas.
    - b. No comparison information is available.
    - c. Information is available to compare the number of individuals or focal species in the SSMZ with nearby open areas but not sufficient to detect a difference.
    - d. Information indicates there are more individual or focal species spawning in SSMZ compared to nearby open areas.
  - N. Larval Connectivity
    - a. Larval dispersal from the SSMZ is unlikely to contribute to habitats in South Atlantic region for any of the focal species.
    - b. No information is available to indicate larval connectivity is available.
    - c. Larval dispersal from the SSMZ is likely to contribute to habitats in South Atlantic region for one of the focal species.
    - d. Larval dispersal from the SSMZ is likely to contribute to habitats in South Atlantic region for multiple of the focal species.
  - O. Mapping of the SSMZ and nearby areas are mapped.
    - a. No mapping is available for SSMZ or nearby areas.

- b. Mapping of SSMZ is completed.
- c. Habitat within the SSMZ is characterized.
- d. Habitat within the SSMZ and nearby areas are characterized.
- P. Research is conducted to understand social impact of the SSMZs
  - a. .
  - b. .
  - c. .
  - d. .
- Q. Research is conducted to understand economic impact of the SSMZs.
  - a. .
  - b. .
  - c. .
  - d. .
  - e. .

#### Outputs

- R. Emerging Threats. This can include impact of climate change such as rising temperatures.
  - a. Emerging threats are negatively impacting the focal species or habitat in the area.
  - b. No emerging threats have been identified for the area.
  - c. Emerging threats have been identified.
  - d. Emerging threats have been identified and potential negative impacts have been addressed.
- S. Condition of the SSMZ compared to first designation. This can include number of invasive species such as lionfish.
  - a. Condition of the SSMZ is declining.
  - b. Condition of the SSMZ is unknown.
  - c. Condition of the SSMZ is stable.
  - d. Condition of the SSMZ is improving.
- T. Trends in spawning
  - a. Fewer individuals of focal species with **indirect** evidence of spawning in the area or fewer focal species with **indirect** evidence of spawning are observed in the area.
  - b. No change in the number of focal species or individuals spawning in the area.
  - c. More individuals with **direct** evidence of spawning in the area or more species with **direct** evidence of spawning are observed in the area.
  - d. More individuals with direct evidence of spawning in the area **and** more species with direct evidence of spawning are observed in the area.
- U. Trends in compliance with regulations
  - a. Compliance with the regulations is decreasing.
  - b. Compliance with the regulations is unknown.
  - c. Compliance with the regulations is improving.
  - d. Compliance with the regulations is high and stakeholders are engaged in monitoring the area.
- V. Trend in ..... (socio-economic) of the SSMZs.
  - a. No research has been conducted on social value of the SSMZs.
  - b. .

- c. .
- d. Research is available on the .