

## Shrimp Futures: Current Challenges and Future Scenarios

The shrimp fishery in the Gulf of Mexico and South Atlantic is experiencing profound challenges that may jeopardize its future existence, yet it remains of vital cultural and economic importance to the regional economy, including fishing communities and underserved populations across the region. This project, consisting of a series of stakeholder workshops, seeks to address current and future challenges to the fishery in the face of economic and environmental uncertainties. The project will leverage NOAA-Fisheries experience in participatory conceptual modeling and contacts and information gathered during recent Equity and Environmental Justice (EEJ) Focus Groups. It builds on the National Seafood Strategy and aligns with the Climate Ecosystems and Fisheries Initiative (CEFI) in linking climate models to impacts on fishing communities.

The project will start with multiple workshops with state and federal shrimp fishery participants. Specifically, the workshops will target shrimp fishers, dealers, processors, and crew, including those representing the most vulnerable underserved communities, along with local shrimp experts to accomplish the following objectives:

- Characterize the current state of the shrimp fishery and identify the major challenges and drivers impacting the performance of the fishery.
- Identify immediate actions.
- Develop a short (2025), medium (2030) and long-term (2050) vision for the fishery, identifying preferences that include the future state of the ecological, economic and social conditions.
- Identify the conceptual management objectives related to the vision.
- Identify the major pathways, impediments and uncertainties towards achieving the short, medium and long-term visions.

The workshops will accomplish these objectives using the following methods:

- 1) **Participatory conceptual modeling:** Workshop participants will collaboratively develop a conceptual model encompassing economic, social, biophysical, and regulatory factors impacting the Southeastern US shrimp fishery. This model will serve as the foundation for subsequent discussions.
- 2) **Vision Identification:** Participants will develop short term and long-term visions, specifying key conceptual management objectives.
- 3) **Uncertainty Analysis:** Participants will use the conceptual model to identify the critical factors influencing the fishery, and develop a list of related short, medium and long-term uncertainties that will shape the future.
- 4) **Scenario Planning:** Participants will develop a set of initial short and long-term scenarios for the shrimp fishery taking into account identified uncertainties. Participants will discuss the likelihood of each scenario and potential impact on the envisioned futures, as well as identify strategies, interventions and major short, medium and long-term threats and impediments.

The scenario planning will include climate-informed forecasts of the resource and the environment, projections of the community demographics and port infrastructure, and other risk assessment information. For each scenario, we will contrast the impact of the 'no-action' alternative with interventions to illustrate key action points, highlighting the essential adaptations within the fishery and within a whole-of government approach required for the fishery to achieve its vision in the short and long-term. The workshop results will inform the development of an action plan to be presented to managers and decision-makers within and outside of NMFS, aiming to fortify the shrimp fishery against uncertainties and ensure its sustainable success despite evolving challenges.