

Science Center for Marine Fisheries (SCeMFis)

Science & Industry Working Together for Sustainable Fisheries

Lead Institution: University of Southern Mississippi
Partner Institution: Virginia Institute of Marine Sciences
Website: <http://www.SCeMFIS.org>
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Mission Statement: SCeMFIS utilizes academic, recreational, and commercial fisheries resources to address urgent scientific problems limiting sustainable fisheries.

Center Goals and Rationale: SCeMFIS will provide academic research products essential for the sustainable management of shellfish and finfish resources. SCeMFIS seeks to simultaneously achieve the goals of sustainable fish and shellfish stocks and sustainable fish and shellfish fisheries. A multi-decadal evolution in fisheries management in the U.S. has formalized the criteria for sustainability and developed sophisticated modeling tools to achieve this goal; but success is limited by insufficient information on the finfish and shellfish stocks and fisheries and insufficient development of numerical applications to surmount the modeling challenges posed by these sustainability goals. Rapid climate change continues to expose the limitations of present-day data resources and assessment, exacerbating the gap between data resource availability and data resource needs. Increasingly complex management requirements continue to reveal limitations in data resources, data analysis, and model construction, thereby limiting the attainment of maximum sustainable yield.



The attainment of the dual goals of sustainable fish stocks and sustainable fishing industries requires a dual focus on (a) the assessment process that determines the status of the stock and (b) the regulatory process that provides the vehicle by which the fishery is managed to optimize stock status while supporting a robust industry. SCeMFIS supports an academic research program encompassing both components of the management process. SCeMFIS' capabilities encompass the range of oceanographic, fisheries, and marine biological disciplines essential for addressing the data resource and analytical challenges faced by modern-day fisheries management.

Research Program: The science agenda of SCeMFIS includes the development of essential biological data on fish stocks, including fecundity, age structure, and sources of mortality; improved models of sampling design, population dynamics, habitat, and fishery performance; evaluation of geographic and depth variations in stock structure and how these relate to the genetics, physiology and sexual dimorphism of species; improved approaches to fishing to limit discard reduction through gear innovation, but also through modifications in fleet deployment consistent with oceanographic processes; improved assessment model formulations to better integrate available data; and refined approaches to establishing biological reference points.

All data resource projects will provide raw data to the appropriate federal or state database; in most cases, these data will be submitted to the appropriate National Marine Fisheries Service database. All project reports will be provided to the appropriate federal or state agency contacts; in most cases, this will include the stock assessment lead at the appropriate NMFS science center and the management leads for the regional management councils (e.g., the Mid-Atlantic Fisheries Management Council, the Gulf of Mexico Fisheries Management Council, the Atlantic States Marine Fisheries Commission).

