

NOAA Fisheries Southeast Regional Office Science Needs (12/05/2016)

Aquaculture
Fisheries
Habitat
Protected Resources
Joint/Cross Program Priorities

GENERAL TOPIC	FOCUS AREA	SPECIES	ACTIVITY	Priority L, M, H
Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Bycatch	Estimation	Marine Mammals, Bottlenose Dolphin	Characterize frequency, scope, and scale of bottlenose dolphin interactions with recreational rod/reel fishing gear	H
Bycatch	Estimation	Sea Turtles	Improved methods/models/techniques for estimating sea turtle bycatch in commercial fisheries including accounting for life stage and recovery unit (where applicable) impacts	H
Bycatch	Estimation	Sea Turtles	Produce annual bycatch estimates for the shrimp trawl fisheries, pelagic longline, Gulf and South Atlantic reef fish, and Gulf and South Atlantic shark gillnet and bottom longline fisheries	H
Bycatch	Estimation	Sea Turtles	Estimate sea turtle CPUE by species in the skimmer trawl sector of the southeastern shrimp fisheries	H
Bycatch	Estimation	Sea Turtles	Standardize shrimp fishery effort data between the Gulf and South Atlantic areas	H
Bycatch	Estimation	Sea Turtles	Estimate sea turtle CPUE by species in the otter trawl sector of the southeastern shrimp fisheries	H
Bycatch	Monitoring	Fish, Protected Species	In coordination with MRIP, test and validate the use of on-board recording systems (e.g., electronic logbooks) for capturing information on discarded fishes and bycatch of protected species in the commercial and recreational fisheries including species, length, depth, location, and disposition; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams	H
Bycatch	Monitoring	Fish, Protected Species	Enhance existing tools (e.g., observers, logbook requirements, electronic technologies) to collect bycatch data that inform agency bycatch priorities; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams	H

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Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Bycatch	Monitoring	Fish, Protected Species	Invest in new, innovative fishery monitoring techniques, such as electronic fishing logbooks and video monitoring, to provide a cost-effective means of producing more information to effectively quantify bycatch; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams	H
Bycatch	Monitoring	Sea Turtles	Implement monitoring program to assess bycatch of sea turtles in recreational fisheries, including piers, jetties, head boats and FMP-covered recreational fisheries	H
Bycatch	Monitoring, Estimation	Marine Mammals	Provide quarterly and annual marine mammal bycatch update reports to monitor bycatch and communicate with PLTRT per the PLTRP	H
Bycatch	Monitoring, Observers	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by augmenting observer coverage in inshore state waters, including non-federally permitted vessels and skimmer trawls	H
Bycatch	Monitoring, Observers	Marine Mammals, Bottlenose Dolphin	Enhance and increase observer coverage for gillnet fisheries under the BDTRP by focusing observer coverage in specific geographic areas and fisheries, improving observer data collection and quality, and measures of fishing effort, as well as coordinating with state observer programs	H
Bycatch	Monitoring, Observers	Sea Turtles	Develop and improve analytic methods for sea turtle bycatch estimation and sampling design to optimally allocate observer coverage and identify gaps and recommend improvements/changes to improve sea turtle bycatch information	H
Bycatch	Monitoring, Observers	Sea Turtles	Ensure sea turtle bycatch data collected across fisheries is standardized and contains all necessary elements to assess post-interaction mortality and to inform conservation management	H
Bycatch	Reduction	Marine Mammals	Model the impacts of proposed Pelagic Longline Take Reduction Plan regulations for future with and future without NEPA alternatives	H

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Bycatch	Reduction	Red Snapper	Identify fishing tactics and gear that can be used to reduce red snapper interactions and discard mortality in the South Atlantic and Gulf with hook-and-line gear	H
Bycatch	Reduction	Sturgeon	Identify the spatial and temporal distribution of Atlantic sturgeon bycatch throughout the species' range and identify measures that can be implemented to reduce bycatch and/or bycatch mortality	H
Bycatch	Reduction, Release Mortality	Sea Turtles	Conduct gear research and technology transfer to reduce sea turtle interactions and mortalities in both domestic and foreign trawl, longline, and gill net fisheries	H
Catch Shares	Expansion	Recreational	Evaluate the potential economic and social effects of catch shares for the recreational sector	H
Climate	Resilience	Corals	Research mechanisms to enhance adaptation/acclimation of ESA-listed corals to increases in climate stress	H
Fish	EM/ER		Develop software, acceptance criteria, and data standards for electronic reporting on for-hire and commercial vessels in the Gulf and South Atlantic	H
Fish	Fishery- Independent and Dependent Data, Surveys		Continue to invest in maintaining and improving both fishery dependent (including sample processing) and fishery-independent data from MRIP, MARMAP, SEFIS, SEAMAP, and Gulf video surveys in the South Atlantic and Gulf (greater sample sizes) that are crucial inputs for stock assessments	H
Fish	Stock Assessment		Improve and streamline the Southeast Data Assessment and Review (SEDAR) process to increase the quantity of stock assessments and better acknowledge and communicate about key decision points addressing scientific uncertainty and other issues, and to enhance assessment methods for data-poor stocks	H
Fish	Stock Assessment, Data-Poor Stocks		Develop/enhance stock assessment methods, particularly for data poor species	H
Fish	Stock Assessment, Standardization		Conduct a Fishery Dependent Data Modernization workshop in coordination with SERO per the Regional EM/ER Implementation Plan	H

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Habitat	Assessment, Characterization		Increase habitat mapping and assessment to support EFH, mitigation and restoration, and ecosystem valuation activities; high priority habitats are nearshore hardbottom, tidal freshwater/oligohaline wetlands, and coastal inlets	H
Habitat	Suitability, EFH		Conduct Habitat Assessment Prioritization for stocks in the southeast according to the process developed by the Habitat Assessment Prioritization Working Group	H
Project Effects Analysis	Aquaculture		Develop a tool to model flushing rates of proposed offshore aquaculture sites using hydrologic measurements provided in applicants' baseline environmental surveys	H
Project Effects Analysis	Dredging		Evaluate effects of dredging on use of ebb/flood shoals as nursery, spawning and foraging habitat	H
Project Effects Analysis	Ecosystem Modeleing	Diversions	Advance ecosystem modeling (including bottlenose dolphin) and socioeconomic impact assessments of Mississippi River Sediment Diversions	H
Project Effects Analysis	Sound	Protected Species	Understand the biological impacts of specific sound sources on protected species: priorities are G&G, large offshore construction (e. g., wind farm construction), explosives	H
Protected Resources	Biology, Life History	Sea Turtles	Work collaboratively with state sea turtle programs to design a robust, reliable, comprehensive, long-term in-water sea turtle monitoring program for the southeast U.S., building on existing efforts and developing specific in-water research plans to be collectively implemented in a prioritized manner based on conservation management/recovery needs	H
Protected Resources	Biology, Life History	Sea Turtles	Identify and prioritize most critical gaps in demographic information, by species, that are necessary for improving population modeling and population status and trends to improve conservation management and recovery	H

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Protected Resources	Distribution, Habitat Utilization	Sperm Whale	Determine the distribution, density, abundance, movements and habitat use of sperm whales, particularly in the Mississippi Canyon and De Soto Canyon, and southeastern Gulf areas during winter and summer months	H
Protected Resources	Distribution, Habitat Utilization	Sturgeon	Conduct surveys and presence/absence studies to determine distribution and abundance of shortnose sturgeon in river systems	H
Protected Resources	Gulf Restoration	Marine Mammals	Develop scientific input and guidance for all aspects of restoration planning, implementation, monitoring, and evaluation for all injured stocks of marine mammals. Assist with developing Gulf-wide strategic plan for marine mammals and specifically for the NRDA process; identify and help implement methods for monitoring restoration for marine mammals in the Gulf; provide support and scientific expertise for developing specific restoration plans; implement appropriate restoration scientific activities; provide scientific guidance and training to build scientific capabilities within Gulf states to facilitate partnership research projects that contribute to restoration	H
Protected Resources	Monitoring	Sea Turtles	Determine and monitor sea turtle nesting female survival rates	H
Protected Resources	Monitoring, Survey	Protected Species	Maintain and increase the capacity of the National Coral Reef Monitoring Program and targeted demographic surveys for ESA-listed corals in the Keys and Puerto Rico, and invest in surveys for ESA-listed corals in the USVI	H
Protected Resources	Recovery	Corals	Determine size-class specific best practices for relocating coral	H
Protected Resources	Recovery	Corals	Improve understanding of genetic and environmental factors that lead to variability of coral bleaching and disease susceptibility	H
Protected Resources	Recovery	Corals	Study organismal response of ESA-listed coral species to nutrients, sediments, and contaminants	H
Protected Resources	Recovery	Corals	Conduct research on the effects of grazing herbivores on coral recruitment	H
Protected Resources	Recovery	Sturgeon	Develop Atlantic, Gulf, and shortnose sturgeon fish passage devices	H

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Protected Resources	Stranding, Response	Sea Turtles	Devise a plan to increase effectiveness of STSSN data management including ensuring data are current and accessible	H
Protected Resources	Survey, Stock Assessment	Marine Mammals	Develop and conduct broad scale surveys to produce Gulf of Mexico abundance estimates for marine mammals	H
Protected Resources	Survey, Stock Assessment	Marine Mammals, Bottlenose Dolphin	Conduct bottlenose dolphin abundance estimates and associated PBRs for priority dolphin stocks managed under the BDTRP, especially to assess post-Atlantic UME impacts	H
Protected Resources	Survey, Stock Assessment	Marine Mammals, Bottlenose Dolphin	Develop software, acceptance criteria, and data standards for electronic reporting on for-hire vessels in the Gulf and South Atlantic	H
Protected Resources	Survey, Stock Assessment	Right Whale	Conduct a study or convene a workshop to determine the best methods for assessing North Atlantic right whale status and trends	H
Protected Resources	Survey, Stock Assessment	Right Whale	Assess right whale population size, survival rates, and trends on a regular basis	H
Protected Resources	Survey, Stock Assessment	Sea Turtles	Collect abundance and distribution data for sea turtles via aerial surveys in the Gulf	H
Protected Resources	Survey, Stock Assessment	Sturgeon	Implement a long-term Atlantic sturgeon population monitoring program to help determine distribution, abundance, and population trends	H
Protected Resources	Survey, Stock Assessment	Sturgeon	Continue current Gulf sturgeon telemetry study for estimating mortality	H
Social Science	Allocation	Commercial	Develop the methodology for the estimation of the economic value up the retail chain beyond the vessel for a commercially harvested species	H
Social Science	Allocation	Recreational, Commercial	Estimate the economic value of allocation decisions to the commercial, private angler, and for-hire sectors, as well as seafood consumers	H

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Social Science	Allocation	Recreational, Commercial	Evaluate the social impacts of past and present allocations of harvests (ACLs/quotas) among competing user groups including the commercial, private angler, and for-hire sectors	H
Social Science	Catch Shares		Collect baseline data needed to evaluate the economic and social effects of current commercial catch share programs	H
Aquaculture	Stock Enhancement	Fish, Protected Species	Explore and evaluate the potential for stock enhancement as a tool to increase fishing opportunities and recover protected species	L
Bycatch	Monitoring, Observers	Sea Turtles	Develop sea turtle observer programs for commercial fisheries not currently observed but for which data are needed	L
Climate	General		Research impact of climate change on river flows and delivery of freshwater to estuaries.	L
Climate	Resilience	Sea Turtles	Model climate change effects on sea turtle sex ratios	L
Fish	Biology, Life History, Population Dynamics	Red Grouper, Shallow Water Grouper	Study the reproductive biology of red grouper and other shallow water groupers to determine latitudinal variation in spawning periodicity and habits	L
Fish	Biology, Life History, Population Dynamics	Red Snapper	Quantify the size and species composition of red snapper killed by explosive removal of oil and gas platforms	L
Habitat	Indicators, Resilience	Diversions and Gulf Hypoxia	Determine plant responses to varying nutrient loads on above ground and below ground biomass	L
Habitat	Indicators, Resilience		Determine which processes are controlling wetlands elevations in the Gulf (e.g., accretions/erosion, relative sea level rise, organic matter accumulation, etc.) and what environmental changes (e.g., sediment, salinity, nutrient, etc.) are most influential in overall marsh health	L
Habitat	Restoration		Develop and evaluate restoration practices for tidal freshwater forested/emergent wetlands	L
Habitat	Suitability, EFH	Shrimp, Summer Flounder, Gray Snapper	Study salinity-zone specific useage within estuaries by larval and post-larval penaeid shrimp, summer flounder, and gray snapper	L

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Habitat	Suitability, EFH		Increase information on life history bottlenecks and the timing of mortality events relative to density dependent compensation	L
Project Effects Analysis	Dredging	Sturgeon	Assess the direct and indirect effects of blasting, dredging, and in-river disposal of dredge materials on Atlantic, Gulf, and shortnose sturgeon	L
Project Effects Analysis	Dredging		Evaluate effects of dredging on use of offshore shoals as nursery, spawning, and foraging habitat	L
Project Effects Analysis	Marinas	Right Whale	Develop framework for determining estimated right whale take levels from proposed small boat marina/development projects	L
Protected Resources	Biology, Life History	Sturgeon	Conduct life history studies on the biological and ecological requirements of little known or inadequately sampled life stages of Gulf, Atlantic, and shortnose sturgeon	L
Protected Resources	Distribution, Habitat Utilization	Pilot Whale	Investigate preferred habitat of pilot whales in the Mid-Atlantic Bight region	L
Protected Resources	Distribution, Habitat Utilization	Right Whale	Identify physical, chemical, biological, etc. features of right whale migratory habitat in Mid-Atlantic	L
Protected Resources	Distribution, Habitat Utilization	Sawfish	Develop a functional assessment model of juvenile sawfish habitat use within the critical habitat units	L
Protected Resources	Monitoring	Sea Turtles	Continue monitoring and assessing long-term impacts on sea turtle hatchling sex ratios	L
Protected Resources	Monitoring	Sea Turtles	Monitor status of hybrid sea turtle species	L
Protected Resources	Recovery	Right Whale	Develop U.S. capabilities to expedite individual genotyping of North Atlantic right whales	L
Protected Resources	Recovery	Sea Turtles	Assess effects of contaminants on sea turtle species	L
Protected Resources	Recovery	Sea Turtles	Assess effects of noise on sea turtle species	L
Protected Resources	Recovery	Sturgeon	Examine Gulf, Atlantic, and shortnose sturgeon toxic contaminant and biotoxin impacts and thresholds	L

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Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Protected Resources	Stock Structure	Sea Turtles	Collect sea turtle tissue for genetic analysis through stranding response, directed capture, and observer programs to refine population delineation	L
Protected Resources	Stock Structure	Sea Turtles	Support compilation, analysis, and interpretation of existing and new sea turtle genetic information for population identification	L
Protected Resources	Stock Structure	Sturgeon	Conduct shortnose sturgeon genetic assessments to couple genetic heritability of expressed phenotypes to determine the basis for observed genetic differences between populations	L
Protected Resources	Stock Structure	Sturgeon	Continue current Gulf and Atlantic sturgeon genetic analyses work	L
Protected Resources	Stranding, Response	Pilot Whale, Risso's Dolphin	Evaluate and update pilot whale/Risso's dolphin disentanglement techniques and protocols	L
Protected Resources	Survey, Stock Assessment	Marine Mammals	Expand use of unmanned aircraft systems and autonomous underwater vehicles for protected species applications	L
Protected Resources	Survey, Stock Assessment	Sea Turtles	Use satellite telemetry to collect sea turtle movement and dive behavior data to determine availability for detection during surveys	L
Aquaculture	Genetics		Store and test genetic material (e.g., maternal/paternal lineage testing) for wild broodstock and cultured juveniles.	M
Aquaculture	Genetics		Develop genetic markers for species targeted for culture	M
Bycatch	Catch Shares	Red Snapper, Grouper, Tilefish	Evaluate the impacts of the Gulf individual fishing quota program on bycatch including whether discards are due to harvest of undersized fish or lack of sufficient allocation	M
Bycatch	Estimation	Marine Mammals, Bottlenose Dolphin	Augment ability to use genetic samples to assign fishery-related mortality to bottlenose dolphin stock	M

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Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Bycatch	Estimation	Snapper-Grouper, Reef Fish, Dolphin, Wahoo, Coastal Migratory Pelagics	Improve the discard estimates needed for informing snapper-grouper, reef fish, dolphin wahoo, and coastal migratory pelagic SEDAR assessments in the next 3-5 years	M
Bycatch	Estimation	Snapper-Grouper, Reef Fish, Dolphin, Wahoo, Coastal Migratory Pelagics	Characterize the species composition, age, sex, size, and disposition of all snapper-grouper, reef fish, dolphin wahoo, and coastal migratory pelagic species that are captured in commercial and recreational fisheries and are expected to be assessed in the next 3-5 years	M
Bycatch	Estimation, Reduction	Marine Mammals, Bottlenose Dolphin	Characterize dolphin interactions with otter and skimmer trawls, including better understanding of entanglement and interaction risk factors and ways to reduce these	M
Bycatch	Monitoring, Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving stock identification of bycaught animals	M
Bycatch	Monitoring, Estimation	Pilot Whale, Risso's Dolphin	Observationally characterize and investigate interactions between pilot whales/Risso's dolphins and the pelagic longline fishery	M
Bycatch	Reduction	Fish, Protected Species	Analyze the relative effectiveness of economic incentive-based approaches to bycatch reduction such as cap and trade programs, risk pools, and certification programs	M
Bycatch	Reduction	Fish, Protected Species	Analyze the effectiveness of existing and new bycatch reduction measures (e.g., circle hooks, TEDs, "hot spot" area closures, etc.)	M
Bycatch	Reduction	Marine Mammals	Evaluate the effects of implemented PLTRP management measures	M

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Bycatch	Reduction	Marine Mammals, Bottlenose Dolphin	Examine the feasibility and potential effectiveness of crab pot gear modification(s) (e.g. stiffer buoy lines, reduce buoy line length, modified bait wells) to reduce bottlenose dolphin interactions and entanglements	M
Bycatch	Reduction	Pilot Whale, Risso's Dolphin	Experimentally investigate possible attractants/deterrents for pilot whale/Risso's dolphins to pelagic longline gear and gear modifications to decrease the likelihood of hooking and/or entanglement	M
Bycatch	Reduction, Release Mortality	Sea Turtles	Develop tools to reduce recreational fishing bycatch including on piers/jetties	M
Bycatch	Release Mortality	Pilot Whale, Risso's Dolphin	Determine survivorship of pelagic longline hooked/entangled pilot whales and Risso's dolphins	M
Bycatch	Release Mortality	Reef Fish	Identify gear and tactics that can be used to return regulatory discards to depth in the recreational and commercial reef fish fisheries to minimize or reverse pressure-related fishing trauma	M
Bycatch	Release Mortality	Sawfish	Determine the post-release mortality of sawfish from various types of fishing gear	M
Catch Shares	Expansion	Commercial	Evaluate the potential economic and social effects of catch shares for the small-scale commercial fisheries sectors	M
Climate	Resilience	Sawfish	Develop a tool to assess vulnerability of sawfish to climate change at a regional scale: SLR and shoreline/shoreline vegetation changes	M
Climate	Resilience	Sturgeon	Develop a tool to assess vulnerability of sturgeon to climate change at a regional scale: freshwater delivery/salinity regimes	M
Ecosystem	Characterization		Improve the understanding of shore-side factors, such as land use, run-off, coastal development, etc., on the marine ecosystem and associated fisheries resources	M
Ecosystem	Modeling	Reef Fish, Snapper-Grouper	Assess the potential impact of red snapper recovery on reef fish populations in the Gulf and South Atlantic in terms of potential competitive interactions and catch based estimates of abundance	M

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Ecosystem	Modeling		Model ecosystems at spp.-complex level or even single species level (ie. incorporating red tide into gag assessments)	M
Fish	Biology, Life History, Population Dynamics	King Mackerel	Monitor the mixing rates of Gulf and South Atlantic king mackerel	M
Fish	Biology, Life History, Population Dynamics	Snapper-Grouper, Reef Fish, Dolphin, Wahoo, Coastal Migratory Pelagics	Collect and analyze life history, genetics and fecundity data in the Gulf, Caribbean, and South Atlantic needed to inform SEDAR assessments expected in the next 3-5 year timeframe	M
Fish	Biology, Life History, Population Dynamics		Collect information on the locations of spawning aggregations and how spawning aggregation areas supply recruits to other areas	M
Fish	EM/ER	Reef Fish, Snapper-Grouper	Electronic Reporting for wreckfish ITQ system; jointly work with SERO to transition paper-based wreckfish ITQ system to an online IFQ system	M
Fish	EM/ER		Increase efforts to implement electronic reporting for private recreational fisheries, including the use of smart phone and tablet apps for collection of volunteer angler data	M
Fish	Fishery-Dependent Data, Surveys	Reef Fish, Snapper-Grouper	Continue to invest in maintaining and improving the fishery-dependent data for the reef fish and snapper-grouper fisheries that are crucial inputs for stock assessments	M
Fish	Monitoring, New/ Expanded	Red Snapper	Monitor the expansion or repopulation of reefs by red snapper along the west coast of FL and South Atlantic	M
Fish	Monitoring, New/ Expanded	Reef Fish, Snapper-Grouper	Develop methods for monitoring and predicting recruitment of reef fishes in the Gulf, South Atlantic, and Caribbean	M
Fish	Stock Assessment, Status Determinations	South Atlantic Stocks	Develop annual abundance indices for all managed stocks adequately sampled by the expanded SEFIS program, including methods to merge new sampling with earlier MARMAP efforts for use in stock assessment and management evaluations	M

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Fish, Habitat	Artificial Reefs, Platforms	Reef Fish	Investigate the value of artificial reefs and Gulf oil rigs as fish habitat for reef fishes as well as their potential as habitats to enhance stock building efforts	M
Habitat	Assessment		Develop tools that evaluate the ecosystem values of different habitats (e.g., Integrated Ecosystem Assessments, Habitat Equivalency Analyses, Uniform Mitigation Assessment Method)	M
Habitat	Indicators, Resilience	Diversions and Gulf hypoxia	Determine the impacts of varying nutrient loads and salinities on soil shear strength and marsh sustainability	M
Habitat	Indicators, Resilience	Wetlands restoration and Diversions	Determine plant responses to varying flood heights and duration	M
Habitat	Indicators, Resilience	Wetlands restoration and Diversions	Determine to what extent soil shear strength is a reliable indicator of long term marsh health	M
Habitat	Indicators, Resilience		Develop mechanistic models to forecast responses under novel and/or rapidly changing habitat conditions	M
Habitat	Performance Measurement		Develop metrics, processes, programs, and visual aids to quantify and report the effectiveness of habitat conservation efforts (e.g., acres/linear feet of various habitat types protected)	M
Habitat	Suitability, EFH		Define and develop an inshore-offshore decision support tool to effectively help habitat managers evaluate the impacts of management decisions effecting onshore habitats on the productivity of offshore fish populations	M
Habitat	Suitability, EFH		Post-stratify fishery abundance surveys using habitat information	M
Habitat	Suitability, EFH		Conduct research to enable essential fish habitat designations to include complex, guild, or life-stage specific designations	M
Habitat	Suitability, EFH		Conduct density dependence studies using a habitat context to examine the potential effects of habitat on catchability and selectivity	M

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Invasive Species	Competition		Study the factors contributing to the spread of invasive species (lionfish, orange cup coral, Halophila, etc.) and evaluate the abundance of invasive species and their impact on ecosystems, including food web dynamics and habitat competition with native species, with particular emphasis on stocks managed by fishery management councils	M
Marine Protected Areas	Monitoring		Develop a sampling strategy for closed areas such as MPAs and SMZs, and evaluate the effectiveness of current closed areas with regard to achieving management objectives	M
Project Effects Analysis	Dredging		Evaluate effects of dredging on larval transport through inlets	M
Project Effects Analysis	Oil and Gas	Marine Mammals	Assess and improve existing measures and programs to monitor marine mammal impacts from oil/gas activities	M
Project Effects Analysis	Oil and Gas	Right Whale	Better define risk to right whales from offshore structures and G&G activities	M
Protected Resources	Biology, Life History	Sea Turtles	Assess whether/how prey availability/prey shifts due to anthropogenic activities (including commercial harvest) affects sea turtles	M
Protected Resources	Biology, Life History	Sperm Whale	Investigate population structure/demography of sperm whales including age and sex structure, reproductive rates, birth rates, and health status	M
Protected Resources	Distribution, Habitat Utilization	Bryde's Whale	Determine the density, distribution, movements and behavior of Bryde's whales in the Gulf	M
Protected Resources	Distribution, Habitat Utilization	Right Whale	Investigate right whale spatio-temporal use of Mid-Atlantic	M
Protected Resources	Distribution, Habitat Utilization	Right Whale	Investigate attachment mechanisms for LIMPET tags in baleen whales and determine right whale movement patterns and habitat use in Mid-Atlantic	M
Protected Resources	Distribution, Habitat Utilization	Sawfish	Investigate movements (short-term and seasonal) of adult sawfish to identify aggregation habitats and habitat use patterns	M
Protected Resources	Distribution, Habitat Utilization	Sawfish	Develop habitat models to identify potential sawfish nursery habitats in areas unsurveyed or outside of the currently known habitat areas	M

NOAA Fisheries Southeast Regional Office Science Needs (12/05/2016)

Aquaculture				
Fisheries				
Habitat				
Protected Resources				
Joint/Cross Program Priorities				
GENERAL TOPIC	FOCUS AREA	SPECIES	ACTIVITY	Priority L, M, H
Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Protected Resources	Distribution, Habitat Utilization	Sea Turtles	Spatially identify seasonal inshore and near-shore habitat utilization by juvenile sea turtles in the Northern Gulf	M
Protected Resources	Distribution, Habitat Utilization	Sea Turtles	Conduct state space modeling to characterize focal sea turtle habitats and associated environmental variables	M
Protected Resources	Distribution, Habitat Utilization	Sperm Whale	Develop spatial planning tools for sperm whales that inform and facilitate decision-making and reduce cumulative impacts to sperm whales	M
Protected Resources	Distribution, Habitat Utilization	Sperm Whale	Investigate the diurnal and/or seasonal feeding patterns and ranges used by sperm whales, how prey distribution influences whale distribution, how feeding patterns and areas co-occur with anthropogenic stressors	M
Protected Resources	Distribution, Habitat Utilization	Sperm Whale	Identify where sperm whales generally co-occur with various human activities such as shipping and oil and gas operations	M
Protected Resources	Distribution, Habitat Utilization	Sturgeon	Identify Atlantic and shortnose sturgeon spawning and nursery grounds and overwintering areas	M
Protected Resources	Distribution, Habitat Utilization	Sturgeon	Identify essential habitats important to each life stage of Gulf and Atlantic sturgeon in river basin and contiguous estuarine and neritic waters, including spawning, feeding, and developmental habitats	M
Protected Resources	General		Develop the Protected Species Toolbox to support ESA and MMPA decisionmaking	M
Protected Resources	Monitoring	Marine Mammals	Use simulation techniques to evaluate marine mammal monitoring approaches to maximize the statistical power of population surveys	M
Protected Resources	Monitoring	Right Whale	Assess effectiveness of SER surveys at meeting objectives for right whale monitoring	M
Protected Resources	Monitoring	Right Whale	Determine detection distances for passive acoustic devices monitoring for right whale vocalizations along the East Coast	M
Protected Resources	Monitoring	Sea Turtles	Estimate stage-and size-specific sea turtle survival rates	M
Protected Resources	Monitoring	Sea Turtles	Use simulation techniques to evaluate sea turtle monitoring approaches to maximize the statistical power of population surveys	M

NOAA Fisheries Southeast Regional Office Science Needs (12/05/2016)

Aquaculture				
Fisheries				
Habitat				
Protected Resources				
Joint/Cross Program Priorities				
GENERAL TOPIC	FOCUS AREA	SPECIES	ACTIVITY	Priority L, M, H
Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Protected Resources	Recovery	Corals	Conduct research on optimizing coral larval settlement rates and survivorship/growth in the laboratory and after outplanting	M
Protected Resources	Recovery	Corals	Improve understanding of population dynamics, population distribution, abundance, trends, and structure through research, monitoring, and modeling of ESA-listed coral species	M
Protected Resources	Recovery	Corals	Identify stressors and causal pathways for disease in ESA-listed coral species	M
Protected Resources	Recovery	Corals	Identify determinants of reproduction and recruitment success for ESA-listed coral species	M
Protected Resources	Recovery	Right Whale	Develop quantitative recovery criteria population models to determine extinction risk, and parameters to validate the model predictions	M
Protected Resources	Recovery	Sea Turtles	Assess effects of vessel strikes on sea turtle species	M
Protected Resources	Recovery	Sturgeon	Identify oxygen demanding sources and impacts across Gulf, Atlantic, and shortnose sturgeon life stages	M
Protected Resources	Stranding, Response	Marine Mammals	Enhance capacity to quickly and more thoroughly respond to marine mammal stranding events and UMEs	M
Protected Resources	Stranding, Response	Right Whale	Model carcass detection probabilities for right and other large whales along the Atlantic Coast	M
Protected Resources	Stranding, Response	Sea Turtles	Monitor and model sea turtle carcass drift to infer origin and potential causes of mortality	M
Protected Resources	Survey, Stock Assessment	Marine Mammals	Complete Atlantic marine mammal surveys as identified in the FY 2016 Fleet and Aircraft Allocation Plans	M
Protected Resources	Survey, Stock Assessment	Marine Mammals	Continue to research the use of passive acoustic technologies for marine mammal population assessment	M
Protected Resources	Survey, Stock Assessment	Marine Mammals	Develop and conduct broad scale surveys to produce South Atlantic and U.S. Caribbean abundance estimates for marine mammals	M
Protected Resources	Survey, Stock Assessment	Right Whale	Develop comprehensive east coast-wide aerial right whale survey strategy	M

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GENERAL TOPIC	FOCUS AREA	SPECIES	ACTIVITY	Priority L, M, H
Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Protected Resources	Survey, Stock Assessment	Right Whale	Determine detection probabilities for right and other large whales from aerial surveys	M
Protected Resources	Survey, Stock Assessment	Sawfish	Continue current sawfish surveys as these will be the basis of monitoring recovery	M
Protected Resources	Survey, Stock Assessment	Sawfish	Conduct adult surveys throughout the range of smalltooth sawfish to determine a relative abundance estimate, the distribution of adults, and to identify sawfish mating and pupping habitats	M
Protected Resources	Survey, Stock Assessment	Sawfish	Conduct juvenile sawfish surveys beyond the boundaries of current surveys (e.g., east coast or north of Charlotte Harbor) to refine a baseline abundance estimates and monitor recovery	M
Protected Resources	Survey, Stock Assessment	Sea Turtles	Incorporate updated population structure, vital rate, life history, demographic, and bycatch information into existing population models to improve assessments	M
Protected Resources	Survey, Stock Assessment	Sea Turtles	Develop a plan with recommendations, including a standardized format, for assessing/reporting on existing population status/trends data on recurring basis to inform 5-year reviews and/or status reviews	M
Protected Resources	Survey, Stock Assessment	Sea Turtles	Evaluate feasibility of using acoustic technologies (e.g., AUV-borne sidescan sonar, Didson, Aris) for detecting sea turtles and measuring abundance	M
Protected Resources	Survey, Stock Assessment	Sea Turtles	Develop and conduct broad scale surveys to produce South Atlantic and U.S. Caribbean abundance estimates for sea turtles	M
Social Science	Baseline Data		Collect baseline data needed to evaluate the economic and social effects of fishery management measures in the U.S. Caribbean	M

NOAA Fisheries Southeast Regional Office Science Needs (12/05/2016)

Aquaculture				
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Joint/Cross Program Priorities				
GENERAL TOPIC	FOCUS AREA	SPECIES	ACTIVITY	Priority L, M, H
Bycatch	Estimation	Marine Mammals	Improve marine mammal bycatch estimates in the Gulf shrimp trawl fishery by improving knowledge of fishery effort in inshore waters and where they are fishing	H
Social Science	Characterization	Recreational, Commercial	Collect social and economic information on crew members/mates who are not owners or operators in the commercial and for-hire fisheries , including, but not limited to, basic personal and household demographic information, personal and household income and debt, employment patterns (seasonal, across fisheries, non-fishing), economic and other social measures of well-being, and attitudinal information concerning fishing, fisheries management, and expectations of future well-being and continued participation in the fishing industry; sample to support analysis by fishery and gear-type	M
Social Science	Characterization	Subsistence	Evaluate the existence and magnitude of subsistence fishing in the Gulf, South Atlantic and Caribbean regions	M
Social Science	Coastal Development	Recreational, Commercial	Examine the social and economic effects on fishermen, their families, and their communities of coastal development and coastal land management in the U.S. Caribbean, including, but not limited to, impacts on participation and production in the commercial, recreational, and subsistence fishing sectors	M
Social Science	Modeling	Commercial	Develop a simulation model to forecast the expected change in commercial fishing behavior to changes in, for example but not limited to, the stock size, regulations, and economic factors (costs and fish prices). Apply the model to one species managed with catch shares and one species not managed with catch shares	M
Social Science	Modeling	Recreational	Develop a simulation model to forecast the expected change in recreational angler fishing behavior to changes in, for example but not limited to, the stock size, regulations, and economic factors (costs)	M
Social Science	Modeling	Recreational	Develop a simulation model to forecast the expected change in for-hire (vessel) fishing behavior to changes in, for example but not limited to, the stock size, regulations, and economic factors (costs)	M