



NOAA
FISHERIES

Southeast Geographic Strategic Plan 2020-2023



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A Message from Roy Crabtree (Southeast Regional Administrator) and Clay Porch (Southeast Science and Research Director)

The Southeast Region is unique in the complexity of its charge, covering four ecologically diverse Large Marine Ecosystems with hundreds of species of fish and various habitats—all supporting the second largest commercial fishery in the United States by volume and more recreational fishing than the rest of the nation combined. More than 90 stocks of dolphin, whales, and sea turtles also share our waters, along with many coral and other protected species. Not surprisingly, numerous management bodies share overlapping jurisdictions in the region, including three Regional Fishery Management Councils (Gulf of Mexico, Caribbean, and South Atlantic), two Interstate Marine Fisheries Commissions (Atlantic and Gulf), the International Commission for the Conservation of Atlantic Tunas, and scores of other state and federal agencies. The political, fiscal, and logistical challenges posed by so broad a charge are enormous, and it is clear that better planning and more effective collaborations are key to our success. We are therefore very pleased to introduce our first-ever region-wide strategic plan.

This Southeast Strategic Plan reflects the same practical approach to conserving our living marine resources and supporting the Blue Economy as outlined in the National Plan. We recognized from the beginning that available resources were not sufficient to meet all of the needs in the Southeast. Accordingly, we focused on aligning our science and management priorities on those activities that will most benefit our constituencies. These include modernizing our data information systems (taking advantage of new technology and leveraging the capabilities of other agencies), reducing the regulatory burden on our customers, supporting design and permitting processes to increase marine aquaculture production, streamlining stock assessments, improving organizational efficiency, and building trust and communicating more effectively.

Our strategic plan also recognizes that many other agencies are at work in the Southeast Region. Our staff are enthusiastic, capable, and committed, but they are only a small part of the wider enterprise. It is critical therefore to forge closer partnerships with the councils, states, federal and international agencies, academia, industry, and other stakeholders who share our stewardship mission. Together, we can implement an inclusive approach to natural resource management that is based on both common sense and world-class science.



Roy Crabtree
Regional Administrator
Southeast Regional Office



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Mission and Mandates

NOAA Fisheries is responsible for the stewardship of the nation's ocean resources and their habitat. We provide vital services for the nation, which ensure: productive and sustainable fisheries, safe sources of seafood, the recovery and conservation of protected resources, and healthy ecosystems—all backed by sound science and an ecosystem-based approach to management.

The Southeast Region boasts diverse habitats that support the largest saltwater recreational fishery in the United States, the second largest commercial fishery by volume, and a multi-billion-dollar scuba diving and marine ecotourism industry. The Magnuson-Stevens Fishery Conservation and Management Act stipulates that fisheries be regulated so as to achieve the optimum yield, particularly with respect to food production and recreational opportunities, while preventing overfishing and taking into account the protection of habitat and marine ecosystems. The Marine Mammal Protection Act and Endangered Species Act aim to conserve marine mammals, sea turtles, and other protected species such as corals, sturgeon, and sawfish. The Federal Power Act, Fish and Wildlife Coordination Act, Atlantic Tuna Convention Act, and other federal statutes support similar goals.

Several NOAA Fisheries offices serve the Southeast Region, including the Southeast Regional Office, Southeast Fisheries Science Center, Office of Sustainable Fisheries Highly Migratory Species (HMS) Division, Office of Habitat Conservation Restoration Center, and NOAA Coral Reef Conservation Program. Together, we work with other NOAA offices and many external partners to balance the competing objectives of the laws that govern our region and maintain thriving ocean ecosystems.

Key external partners include the Caribbean, Gulf of Mexico, and South Atlantic Regional Fishery Management Councils, the HMS Advisory Panel, the Atlantic and Gulf States Marine Fisheries Commissions, the International Commission for the Conservation of Atlantic Tunas (ICCAT), and the U.S. ICCAT Advisory Committee. We also work with the Western Central Atlantic Fisheries Commission, numerous federal and state agencies, commercial and recreational fishermen, national and regional aquaculture associations, foundations, domestic and international non-governmental organizations, academia, and other stakeholders.

We conduct extensive data collection programs in collaboration with states, and provide stock assessments and ecological and socioeconomic information required to manage federal and international fisheries and essential fish habitat. We work closely with the councils, HMS Advisory Panel, and state and international partners to develop and implement new and innovative ways to increase fishing opportunities while achieving our conservation mandates. Together with these partners, the Southeast Region has significantly reduced the number of fish stocks subject to overfishing and increased the number of rebuilt stocks through implementation of annual catch limits, stock rebuilding plans, habitat conservation and restoration, and other measures.

We work with the NOAA Fisheries Office of Protected Resources to conserve more than 90 stocks of marine mammals and sea turtles, as well as numerous fish, corals, and other species—protecting their habitats, protecting them from detrimental human activities, and monitoring activities that might impact them.

The NOAA Fisheries Office of Habitat Conservation is an important partner in the Southeast Region for conducting restoration and habitat conservation activities. The office works to restore degraded or injured habitat, remove dams and other barriers to provide fish access to high-quality areas, reconnect coastal wetlands, and rebuild coral and oyster reefs.

The Southeast Region also seeks to grow domestic marine aquaculture production, supplementing U.S. wild-caught fisheries while promoting business and employment opportunities. We accomplish this by working closely with the NOAA Fisheries Office of Aquaculture and with federal and state partners to support regional industry initiatives, including development of the first pilot and commercial-scale finfish operations in federal waters of the Gulf of Mexico.

NOAA Fisheries' Headquarters Office of Law Enforcement and its regional divisions, in partnership with states, territories, and other federal agencies, conducts compliance assistance and enforcement activities to ensure the success of our regulatory efforts.

In partnership with industry and consumer groups, we work to increase consumer confidence in seafood by ensuring safe, wholesome, and properly labeled seafood through inspection, law enforcement, and international cooperation.



Strategic Goals

Reflecting the vision of the Department of Commerce and NOAA to *Help the American Economy Grow*, our three Strategic Goals for 2020–2023 are to:

- Amplify the economic value of commercial and recreational fisheries while ensuring their sustainability.
- Conserve and recover protected species while supporting responsible fishing and resource development.
- Improve organizational excellence and regulatory efficiency.

Regional Fishery Management Councils

The Magnuson-Stevens Fishery Conservation and Management Act created eight regional fishery management councils. These councils are responsible for the fisheries requiring conservation and management in their region. Voting and non-voting council members, supported by NOAA Fisheries, represent the commercial and recreational fishing sectors and environmental, academic, and government interests.

Under the MSA, councils are required to:

- Develop and amend fishery management plans.
- Convene committees and advisory panels and conduct public meetings.
- Develop research priorities in conjunction with a Scientific and Statistical Committee.
- Select fishery management options.
- Set annual catch limits based on best available science.
- Develop and implement rebuilding plans.

NOAA Fisheries works closely with the councils to designate essential fish habitat for federally managed species, research and describe habitats essential for each life stage of many species, create maps, and designate Habitat Areas of Particular Concern.

The Southeast Regional Office and Science Center work closely with three councils:

- Gulf of Mexico Fishery Management Council
- Caribbean Fishery Management Council
- South Atlantic Fishery Management Council

Learn more about the Regional Fishery Management Councils.

<https://www.fisheries.noaa.gov/topic/partners#regional-fishery-management-councils>

Organizations

Southeast Regional Office

Our organization of 121 Federal employees and approximately 25 affiliates is headquartered in St. Petersburg, Florida. We manage, conserve, and protect living marine resources of the Gulf of Mexico, South Atlantic, and U.S. Caribbean and their habitats, and foster the development of marine aquaculture. We also have 10 field offices in Galveston, Texas; Baton Rouge, Louisiana; Stennis Space Center, Mississippi; West Palm Beach, Florida; Fernandina Beach, Florida; Charleston, South Carolina; Beaufort, North Carolina; San Juan, Puerto Rico, and Christiansted, USVI.

We are organized into four Divisions:

- **Sustainable Fisheries** works with three fishery management councils to maintain healthy fish stocks important to commercial, recreational, and subsistence sectors of fisheries, and to provide safe, sustainable seafood;
- **Protected Resources** conserves and manages marine mammals and endangered and threatened species to ensure their conservation and recovery.
- **Habitat Conservation** consults on activities that may impact important aquatic habitats, and works to restore habitat that has been altered or damaged.
- **Operations, Management, and Information** supports our core conservation programs through financial, human capital, information technology, acquisitions, grants, administrative and operational management and fishing permits.

Several other NOAA programs are also co-located in St. Petersburg, Florida. The programs include over 50 employees that work on habitat restoration, highly migratory species management, enforcement of fisheries and protected resources regulations, seafood inspection, legal guidance and support, fisheries finance, and marine sanctuary management.

Southeast Fisheries Science Center

The Center is headquartered in Miami, Florida and has science laboratories located in Beaufort, North Carolina; Panama City, Florida; Pascagoula and Stennis, Mississippi; and Galveston, Texas. We also have researchers located in Lafayette, Louisiana, as well as port agents and fisheries observers stationed throughout the region. Staffing includes 236 federal employees and approximately 135 contractors.

The Southeast Fisheries Science Center conducts multidisciplinary research to inform natural resource management in the Southeast United States, including the U.S. Gulf of Mexico, Caribbean and South Atlantic. Our science is used by NOAA, Regional Fishery Management Councils, Interstate and International Fishery Commissions, and other Federal, state and local agencies to make informed management decisions to protect and conserve the living marine resources in the Southeastern U.S. and Atlantic high seas.

There are four primary divisions conducting and supporting our science, as well as four laboratories throughout the southeast region. Also, dedicated research vessels that conduct trawl, longline, plankton, reef fish video surveys, and marine mammal observations. We work with our NOAA Fisheries counterpart, the Southeast Regional Office, to provide independent, objective science to inform regional fisheries management decisions.

The Local Landscape

The Southeast Region spans a geographic area from Texas to North Carolina, including the U.S. Caribbean. We work with many partners, including 17 coastal and inland states, two territories, three fishery management councils, two interstate marine fisheries commissions, the International Commission for the Conservation of Atlantic Tunas (ICCAT), the ICCAT Advisory Committee, the Western Central Atlantic Fishery Commission, nine U.S. Army Corps of Engineers districts, three U.S. Coast Guard districts, three U.S. Environmental Protection Agency regions, three Federal Emergency Management Agency regions, and two U.S. Fish and Wildlife Service regions.

Our region contains the largest recreational fisheries and the second largest (by volume) commercial fisheries in U.S. waters. We also co-developed and support the nation's first coordinated federal interagency permitting process to promote the growth of marine aquaculture in the Gulf of Mexico. Together with our regional fishery management councils and intergovernmental organizations, we manage more than 210 fish stocks/complexes, which generated over \$24 billion in sales and supported 259,000+ jobs in 2016. Our region covers over 29,000 miles of tidal shoreline, and the largest wetland acreage (31.3 million acres) and coral reef track in the contiguous United States. We are responsible for conserving more than 90 marine mammal stocks and 40 threatened or endangered species. We consult on a myriad of infrastructure and coastal development activities that may impact these important aquatic species and habitats to ensure a balanced approach to the development, use, and conservation of NOAA trust resources.

The Southeast Region is critical for energy production, military readiness, and water-borne commerce. The Gulf of Mexico's Central and Western Planning areas—offshore Texas, Louisiana, Mississippi, and Alabama—account for approximately 97 percent of all oil and gas produced in the Outer Continental Shelf. Waters off the Southeast Region contain five of the 10 U.S. military highly strategic over-water and in-water operating areas and two of three such areas of medium strategic importance. Six of the top 10 ports by tonnage are located in the Southeast Region, reflecting the critical importance to the nation's energy production and agricultural exports.

The broad geographic area we work in, and the great number of partners we coordinate with, require a diverse and agile workforce that can address evolving mission needs and operations. This plan is tightly focused on addressing our highest priorities and is informed by our local landscape.

Some of the *Issues* we face:

- Estuarine habitat loss due to subsidence, sea-level rise, and coastal development.
- Changing oceanic and coastal conditions affecting distribution, productivity, and sustainability of fish and other marine species.
- Loss of corals due to increasing nutrient loads, disease, ocean temperatures, and acidification.

- Loss of oyster reef production and reef area due to decreasing water quality, changes in freshwater inflows, disease, and predation.
- Increasing population growth and coastal development, which is increasing interactions with managed and protected species and their habitats.
- Shared international boundaries and illegal, unreported, and unregulated (IUU) fishing effects on the management of transboundary and highly migratory stocks.
- Large-scale ecosystem impacts to protected species and fisheries associated with red tide, hypoxia, oil spills, invasive species, and freshwater runoff.
- A national seafood trade deficit of \$14 billion.

Some of the *Challenges* we must address:

- Maintaining and improving data collection, surveys, and population assessments for marine resource management and conservation, including council-managed species, protected species, and highly migratory species.
- Modernizing fishery information collection systems to support better and more timely science for fisheries management of federally managed species, especially for highly migratory species and in the Caribbean.
- Integrating and calibrating multiple and fragmented data collection systems (e.g., state and federal surveys) with NOAA surveys for use in stock assessments and resource management.
- Reducing bycatch and discards of non-target species while supporting commercial, recreational, and international fisheries.
- Reducing or preventing take of protected species associated with coastal development, oil and gas, and maritime industries.
- Increasing stock assessment throughput to provide management advice for a large number of managed species and reduce uncertainty in fish stock status due to inadequate data, including the high degree of uncertainty about the level of recreational catch.
- Increasing regulatory efficiency and reducing regulatory burdens while conserving protected species and maintaining sustainable fisheries.
- Managing overcapitalized commercial fisheries and open-access recreational fisheries.
- Effectively allocating federally managed fishery resources among recreational and commercial fishermen.
- Increasing U.S. seafood production and reducing the seafood trade deficit, including expanding sustainable offshore aquaculture.
- Optimizing restoration funds managed for restoring trust resources in the Gulf of Mexico injured by oil spills while achieving synergistic benefits for fisheries science and management.
- Enhancing coordination and aligning staff and resources to meet mission needs across a broad geographic area of jurisdiction, especially as species' ranges shift.
- Coordinating internally, and across diverse agencies and jurisdictions, to address major factors impacting natural resources.
- Effectively implementing ecosystem-based fisheries management.

Some of the *Risks* we foresee:

- Aging infrastructure for many of our science laboratories, which is affecting safety, efficiency, and productivity.
- Increasing operational costs, stable or decreasing funding levels, and reduced vessel availability to maintain adequate survey and data collection levels, resulting in less robust stock assessments and greater management uncertainty.
- A workload in excess of available resources, which will require a priority-based approach and result in some work not being addressed.
- Loss of institutional knowledge due to retirements (e.g., half of the workforce in the Southeast Fisheries Science Center and one-third in the Southeast Regional Office are eligible to retire in the next 5 years), which makes succession planning critical.



Strategic Goal 1: Amplify the economic value of commercial and recreational fisheries while ensuring their sustainability

Key Strategies

1.1 Manage stocks for optimum yield

- Use Management Strategy Evaluation to prioritize data collection, test the extent to which potential harvest strategies are robust to major uncertainties (e.g., red tide, climate variability), and evaluate trade-offs among competing objectives (sustainability, stability, profitability; or biological, economic, and social).
- Develop and use decision support tools to help scientists and managers, including the management councils and intergovernmental organizations, evaluate the potential effects of proposed regulatory changes and international conservation and management measures on catch advice derived from stock assessments.
- Identify, develop, and simulate testing approaches that foster robust management of data-limited stocks.
- Conduct research to better characterize the uncertainty of stock assessments and applying those findings in collaboration with the councils, their scientific advisors, or intergovernmental organizations, as applicable, to assist in modifying or developing harvest control rules to incorporate adequate buffers.
- Study the differing social and economic objectives of recreational and commercial fishermen.
- Work with the councils and relevant intergovernmental organizations to develop spatial and other innovative strategies.
- Maximize the benefits of proposed management measures by evaluating their enforceability and effectiveness.
- Evaluate the relative contribution of various types of essential fish habitat (EFH) in supporting managed stocks and protected resources.
- Invest in habitat research to improve understanding of the support functions provided to sustainable fisheries to guide EFH consultations.
- Focus EFH resources and engagement on projects that present the potential for the most impactful conservation gains through avoidance, minimization, mitigation, monitoring, and adaptive management measures.
- Work with federal, state, and other partners to address priority habitat and ecosystem restoration needs related to increasing diadromous fish access to spawning and nursery habitat.

1.2 Increase U.S. marine aquaculture production

- Support farm design and permitting processes for new pilot and commercial-scale operations in federal and state waters.
- Communicate with councils, interstate commissions, and other partners regarding large-scale offshore, finfish aquaculture program development.
- Work with Sea Grant, other NOAA line offices, and interstate commissions to identify regional priorities for aquaculture grant competitions, and inform stakeholders about funding and financing opportunities, including the Fisheries Finance Program.
- Support federal partners in revising and updating current interagency guidance documents for aquaculture projects in Gulf federal waters to reflect new agency roles and responsibilities and assist with siting.
- Work to build capacity for aquaculture research by developing research collaborations and research foci in coordination with managers and other partners, and investigating the potential for aquaculture research at existing Southeast Fisheries Science Center and other regional NOAA line office facilities.

1.3 Adequately assess all prioritized stocks and maintain information for currently assessed stocks

- Collaborate with the councils, SEDAR, and relevant international organizations to develop and support NOAA Fisheries' Stock Assessment Prioritization process and provide leadership to the stock assessment and other scientific work of the International Commission for the Conservation of Atlantic Tunas and the Western Central Atlantic Fishery Commission.
- Evaluate data gaps and developing assessment models with appropriate complexity.
- Develop and evaluate "interim assessment" approaches (i.e., rapid approaches not requiring updating the full suite of data inputs) that use near-real-time information about stock abundance to adjust catch level recommendations and other appropriate international reference points between operational assessments (e.g., every 1-2 years).
- Document, streamline, and automate routine data extraction and analytical procedures.
- Streamline and automate assessment documentation to the extent possible to facilitate increased throughput.
- Explore the effects of time-varying environmental attributes, including artificial reefs, fish aggregating devices, and climate, on MSY and other reference points.
- Develop and incorporate ecosystem indicators (e.g., red tide) into stock assessments based, in part, on the Stock Assessment Improvement Plan.
- Support the development and implementation of council and Atlantic highly migratory species Fishery Ecosystem Plans and Ecosystem-Based Fishery Management Implementation Plans.
- Support intergovernmental organizations to identify and prioritize forage species (e.g., small tunas and mackerels) for data collection, assessment, and management and to explore how best to address this need from an ecosystem standpoint within the domestic and international structure/competencies.
- Increase fishermen's cooperation and engagement in fishery data collection, science, and management by continuing to support and participate in regional Marine Resource Education Program initiatives as funding permits.

1.4 Modernize fishery information collection, management, and dissemination systems, and enhance cooperative data collection and sharing

- Develop data collection methods that include electronic reporting tools when appropriate to increase timeliness and accuracy and reduce reporting burden in collaboration with the Atlantic States Marine Fisheries Commission, Gulf States Marine Fisheries Commission, and the associated Fishery Information Networks (FINs). FINs include GulfFIN and the Atlantic Coastal Cooperative Statistics Program (ACCSP).
- Work with state partners, through GulfFIN and ACCSP, to develop robust, MRIP-certified marine recreational surveys to meet the Southeast Region's assessment and management needs.
- Support Cooperative Research Proposals that engage regional fishing communities in data collection programs and research activities that improve domestic and international population assessments.
- Coordinate with other NOAA regions, ACCSP, GulfFIN, and the states to develop and implement electronic reporting programs for commercial and recreational fisheries and, where feasible and appropriate, artisanal fisheries on shared resources such as highly migratory species, factoring in the ability of enforcement to support the initiatives through accountability for illegal activity. This includes implementing for-hire and commercial electronic logbook programs in the Gulf of Mexico and South Atlantic.
- Collaborate with both GulfFIN and ACCSP, and internationally through relevant intergovernmental organizations, to eliminate where possible reporting redundancies and encourage the improvement, sharing, and integration of reporting systems for fishery-dependent data that are required by states, federal agencies, and international fisheries management organizations.
- Work with state, academic, and other partners to integrate decades of protected species encounter data into unified databases to facilitate stock assessments, Section 7 consultations, evaluation of population trajectories, and geographic range expansion or contraction.
- Streamline data management, including presenting near-real-time information on the Annual Catch Limits webpage, automating the compilation and delivery of data to assessment scientists and resource managers, and developing a shared non-disclosure agreement process.
- Encourage cutting-edge machine learning currently under development within NOAA Fisheries to support automated collection of fisheries monitoring data captured on video, such as images of discarded bluefin tuna.



- Eliminate, where feasible and appropriate, redundant reporting requirements for bluefin tuna discard information as a result of Vessel Monitoring System (VMS) data being integrated into the Individual Bluefin Quota data system.
- Collaborate with the Fisheries Information Systems working groups and intergovernmental organizations to identify and share tools and techniques to streamline data collection and management and secure funds to help modernize our systems and share data collaboratively.
- Modernize Catch Share and Permits database and front-end systems, taking into account the ability to provide a long-term stable solution for managing the Catch Shares system, and include updates and improvements that will increase system accessibility, compatibility, flexibility, and efficiency for constituents, managers, and NOAA Fisheries' Office of Law Enforcement.

1.5 Combat illegal, unreported, and unregulated (IUU) fishing and seafood fraud, and advance fair trade

- Ensure the latest advances in turtle excluder device technology are transferred to nations seeking certification under section 609 of Public Law 101-162.
- Train foreign government officials, shrimp fishermen, and marine enforcement personnel how to properly inspect turtle excluder devices.
- Provide technical review of fisheries and fishing methods to nations seeking exemption from section 609 requirements.
- Identify IUU fishing by countries that do not use turtle excluder devices and that fish in the waters of countries that require such devices as an area of concern for sea turtle conservation.
- Work with the U.S. Department of State, U.S. Customs and Border Protection, and countries that support the use of turtle excluder devices to identify IUU shrimp fishing by countries that do not require the use of such technology, and preventing shrimp from those countries from entering U.S. markets.
- Identify possible IUU fishing activities in highly migratory species fisheries per requirements of the International Commission for the Conservation of Atlantic Tunas and other domestic law.
- Ensure that certain commercial vessels comply with requirements to obtain an International Maritime Organization number and transmit that information to the International Commission for the Conservation of Atlantic Tunas.
- Conduct gap analyses and identifying methods to address gaps related to data reporting for shark, billfish, and other fisheries, as needed, under the competence of regional fishery bodies.
- Support efforts to monitor IUU vessels and associated seafood product, board/investigate vessels entering U.S. ports or arriving from international convention areas, and investigate credible reports of false labeling, mislabeling, and misbranding violations.

1.6 Increase consumer confidence in the quality and safety of U.S. seafood

- Provide headquarters access to fisheries data as needed during the course of investigations of seafood harvested from areas closed to harvest for reasons of human health and transported in interstate or international commerce.

Strategic Goal 2: Conserve and recover protected species while supporting responsible fishing and resource development

Key Strategies

2.1 Stabilize highest priority protected species

- Invest in research to improve and guide ESA consultations, recovery plans, and habitat restoration.
- Develop population evaluation tools and health assessments for the North Atlantic right whale; conducting surveys to delineate and understand the Gulf Bryde's whale's distribution, habitat needs, behavior, and status; assessing the status of other priority marine mammal, sea turtle, fish, and coral species; and evaluating potential threats and risks to their recovery.
- Collaborate with state and federal partners, and other stakeholders to explore the potential benefits of merging the Northeast and Southeast Implementation Teams for North Atlantic Right Whale Recovery into a coast-wide effort and to implement Species in the Spotlight for that species.
- Focus limited resources for Gulf of Mexico Bryde's whale conservation on high-priority areas, such as early engagement in Gulf restoration, advising on the siting of offshore activities that could impact the species, and recovery planning.
- Collaborate to set enforcement priorities regarding protected species considering resource limitations.
- Lead Natural Resources Damage Assessment projects to advance the scientific framework for assessing and managing the cumulative stressors impacting the Bryde's whale, sperm whale, and estuarine marine mammal stocks, and evaluating the stock status, population viability, and recovery priorities for Gulf sturgeon by river, region, and basin.
- Respond to stranded and entangled priority protected species.
- Collaborate to respond to and research the major disease outbreak affecting corals in the Caribbean and along the Florida reef tract; support coral nursery genetic management; collaborate with partners to implement reef-scale coral restoration initiatives that build on recent restoration successes; and research other new interventions, review their policy implications, and develop decision-making frameworks for their use as recommended by the National Academies of Science.
- Support status reviews of Kemp's ridley sea turtles and Johnson's seagrass to determine if those species meet delisting or downlisting recovery criteria.
- Formalize, through proactive coordination with broadened external partnerships, a watershed approach to fish passage by integrating hydropower and non-hydropower barriers into prioritization frameworks informed by the best available science.
- Research ways to further reduce bycatch of protected species, increase the survival rate of bycaught animals, and improve the precision of bycatch monitoring estimates in domestic and international fisheries, and will continue to provide required data and scientific

expertise to relevant intergovernmental organizations with respect to bycatch of protected species.

- Support efforts to compensate the public for injuries to protected resources by collaborating with the Office of Habitat Conservation to inform injury assessments and determine appropriate restoration measures.

2.2 Review and streamline permitting and authorization processes for energy development and national defense, while maximizing conservation outcomes

- Enhance regulatory efficiencies on high-priority infrastructure projects (e.g., wind energy, export of liquefied natural gas, oil and gas exploration and development, hydropower, port deepening and expansion, flood protection, coastal protection, and transportation) by providing early engagement and technical advice on ways to avoid and minimize impacts to marine mammals, other threatened and endangered species, critical habitat, and essential fish habitat, to facilitate expeditious decisions on these important infrastructure projects.
- Prioritize engagement in the large number of infrastructure and coastal protection projects Congress directed the U.S. Army Corps of Engineers (USACE) to permit in the wake of the 2017–2019 hurricane seasons, many of which are also covered under special procedures such as One Federal Decision or FAST-41. We will jointly explore with the USACE novel mechanisms to deliver conservation advice and consultation services (e.g., direct staff exchanges, direct contracting for consultation analyses).
- Continue the Early Warning System partnership with the Navy, U.S. Coast Guard (USCG), and USACE, to protect the highly endangered North Atlantic right whale where its calving and migration areas intersect with important military areas and ports, and work to expand the intensity and geographic scope of the Early Warning System flights, which will lead to greater protection of right whales, greater operational security for the Navy, USCG, and USACE, and enhanced scientific monitoring of this critical population.
- Enhance the recovery and protection of endangered and protected species in the Gulf of Mexico by ensuring preparedness, capacity, and training among partners to facilitate effective and rapid response to disasters and oil spills.

2.3 Minimize bycatch and entanglement of protected species while supporting fisheries

- Examine current programs to determine if data are collected consistently and effectively for monitoring protected species bycatch, injuries, and mortalities, with the goal of standardizing data to better understand risk levels across fisheries and prioritize conservation efforts.
- Coordinate stranding network organizations and prioritize collection of data on human interactions.
- Refine bycatch and serious injury/mortality estimation methods for a range of fisheries and protected species taxa, in consultation with NOAA Fisheries' Office of International Affairs and Seafood Inspection and the International Commission for the Conservation of Atlantic Tunas, as appropriate.
- Develop spatial tools that could be used to predict and perhaps avoid bycatch "hotspots."

- Work with industry and other stakeholders to develop new gear technologies, fishing configurations, or deterrents to reduce or eliminate incidental captures.
- Collaborate with the councils to apply a full range of bycatch reduction measures, including broad education efforts, targeted technology transfer, encouragement of voluntary changes, and, when necessary, new regulations.

2.4 Address the challenge of balancing water management for protected species with other uses

- Support the South Florida Ecosystem Restoration Task Force and the USACE with advice and consultation on the management of South Florida water resources, primarily the management of water storage and discharges to sensitive estuaries that are core habitats for three different ESA-listed species: Caloosahatchee (smalltooth sawfish), St. Lucie (Johnson's seagrass), and Biscayne Bay (seagrass and multiple coral species).
- Provide advice, coordination, and, in some cases, research support to help reduce or mitigate the impacts of hypoxia and large-scale Mississippi River diversion projects in Louisiana on NOAA trust resources.
- Work with partners (e.g., states, non-governmental organizations, Federal Energy Regulatory Commission (FERC), USACE) to restore access of diadromous fish to spawning and nursery habitat and examine the impacts of large infrastructure projects with potential ecosystem-level effects.
- Collaborate with partners (e.g., the National Water Center, U.S. Coral Reef Task Force, National Resource Conservation Service, territorial agencies, and others) to facilitate the development of improved methods to forecast and mitigate major hydrological introduction of land-based sources of pollution and to assess the impact of changes in land use in the Caribbean.
- Support NOAA's Regional Collaboration Network in the Gulf of Mexico, Southeast, and Caribbean and their work with NOAA's Water Initiative to identify regional water issues for evaluation and potential modeling.



Strategic Goal 3: Improve organizational excellence and regulatory efficiency

Key Strategies

3.1 Match a diverse workforce to mission needs

- Annually develop staffing plans and initiatives to fill priority vacancies.
- Provide training opportunities and empowering the growth of employees to enhance their professional development, leadership, and work skills.
- Prepare annual succession plans for SERO and SEFSC leadership.
- Share and exchange expertise among SERO, the SEFSC, Atlantic Highly Migratory Species Division, NOAA Fisheries Office of International Affairs and Seafood Inspection, intra- and inter-agency partners, and, where possible, relevant international partners, through temporary personnel assignments.
- Train hiring managers about special hiring authorities and opportunities to select and hire a diverse workforce with a wide range of experience and skills.
- Develop partnerships with local organizations, academic institutions, and national and regional internship programs to increase opportunities to recruit and hire candidates from underrepresented groups within NOAA.
- Promote an inclusive and safe workplace by completing workplace improvement initiatives, recognizing and rewarding innovation and excellence, empowering professional growth and leadership development, maintaining a harassment-free workplace and swiftly addressing prohibited personnel practices if they occur, and emphasizing effective communication and collaboration within and across SERO and SEFSC programs.

3.2 Recapitalize infrastructure and facilities

- Ensure the rigorous and integrated assessment of facility conditions, utilization requirements, and maintenance, restoration, and modernization needs.
- Invest in a flexible and sustainable facility portfolio that extends to facility replacement, including planning for the future of the Lafayette facility.
- Conduct thorough reviews and cost-benefit analyses (including geographic and remote locations and mobile work/occupancy arrangements) when deciding whether to construct or lease federal office space.
- Employ industry standards such as Enterprise Asset Management systems for managing and maintaining facilities throughout their lifecycle (from design to decommissioning and replacement), predictive approaches (i.e., going beyond reactive and preventative approaches) for forecasting and addressing maintenance problems, and energy audits to reduce costs and support sustainability.
- Provide access to facility-related services (e.g., information technology systems) that ensure productivity at field, mobile, and off-site work locations.

3.3 Institutionalize prioritization and performance management practices

- Hold annual work plan meetings, and collaborating with councils on annual planning and prioritization, to align management needs and science priorities with available resources.
- Institutionalize annual priority-based resourcing processes to ensure management and research investments meet conservation mandates and enable acquisition of the best available science, while maximizing economic return.
- Establish clear performance goals, along with the objectives and activities needed to achieve these goals, assessing risks at both the agency-wide and activity levels (within and external to the agency), and applying internal controls (detective and preventive tools and procedures) to mitigate risks based on severity.

3.4 Review agency regulations and remove or modify rules that unnecessarily burden businesses and economic growth

- Meet the objectives of E.O. 13771 section 610 reviews to determine whether rules with a significant economic impact on a substantial number of small entities are working as originally intended and whether they should be continued as is, amended, or rescinded.
- Review Limited Access Privilege Programs, per section 303A(c)(1)(G) of the Magnuson-Stevens Fishery Conservation and Management Act, to determine whether they are meeting program goals.
- Solicit input from councils and commercial and recreational stakeholders to facilitate the development of necessary but less burdensome regulatory actions.

3.5 Institutionalize the use of innovative technologies

- Collaborate with state partners, and councils to evaluate the current and future utility of our fishery-independent surveys and explore the potential for using additional surveys, gear modifications, new survey methodologies, and/or advanced technologies to improve or enhance the surveys.
- Better align fishery-independent survey data with stock assessment data requirements.
- Expand fishery-independent surveys to collect environmental and habitat information needed to model species abundance.
- Collaborate to explore and type approve innovative alternatives to VMS devices, which provide location information at reduced cost to fishermen (e.g., store and forward units that collect data at sea but only transmit in cellular range).
- Continue the use of electronic monitoring systems in the Atlantic pelagic longline fishery to obtain video imagery and metadata to verify vessel reported bluefin tuna data, as well as the disposition of live/dead shortfin mako sharks.
- Collaborate to explore ways to advance the use of electronic monitoring technology within the International Commission for the Conservation of Atlantic Tunas.
- Partner with NOAA's Regional Collaboration Teams to explore co-hosting with the Southeast Coastal Ocean Observing Regional Association a workshop that would explore the use of autonomous vehicles with acoustic and environmental sensor packages (Automated Underwater Vehicles, sail drones), towed systems (acoustic and optical), self-contained environmental sensors attached to fishing gear (sondes), and remote sensing platforms to reduce the cost of collecting and processing environmental and habitat data, and produce more accurate and timely scientific products.

- Implement barcoding technologies to modernize the collection, processing, tracking, and archiving of biological data.
- Work toward the development of Video and Image Analytics for a Marine Environment to automate reef fish video identifications and evaluate the application of this technology for processing videos collected on commercial fishing vessels.
- Tag and track protected species with innovative technologies (acoustic, satellite tags) to better understand the physical and environmental drivers for habitat use, site fidelity, and movement. This understanding will support targeted recovery actions and Section 7 consultations.
- Explore and apply new technologies to improve resource assessment, resilience, and adaptation, including:
 - Collaborating with NOAA's Atlantic Oceanographic and Meteorological Laboratory to conduct 'omics research (e.g., genomics, proteomics, etc.) to support classification of the genetic characteristics of individuals, populations, and communities, which will help improve the accuracy of population assessments, map the presence and distribution of organisms (particularly cryptic species), understand species associations (including predator/prey interactions), and assess disease exposure and resistance.
 - Collaborating with NOAA's Atlantic Oceanographic and Meteorological Laboratory on a suite of climate-related initiatives, including completion of climate vulnerability analyses, identification of opportunities to increase climate data collection through collaborative field work, development of hindcasts to establish environment-species relationships, and exploration of climate projection models for use in fishery forecast products, which will reduce scientific uncertainty, for example, by helping to predict undesirable bycatch interactions, or by informing climate-driven species distribution shifts or range expansions.
 - Exploring, in coordination with other NOAA fisheries science centers, the use of Near-Infrared spectroscopy for estimating fish ages, which could increase assessment data throughput by significantly reducing the time to age fish by 50 percent or more.
- Expand and create new technology solutions for managing, storing, and sharing data, and supporting NOAA Fisheries' Office of Law Enforcement, including:
 - Evaluating new ways to modernize the region's Online Catch Share system to ensure continuous operation of the system through local outages (e.g., hurricanes, infrastructure maintenance windows), while addressing a growing need to access the system through mobile devices.
 - Using cloud storage for catch shares, permits, and highly migratory species data.
 - Investigating the use of HTML5 (or similar) technology to develop online Highly Migratory Species Safe Handling, Release, and Identification and Atlantic Shark Identification training workshops.



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March 2020

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