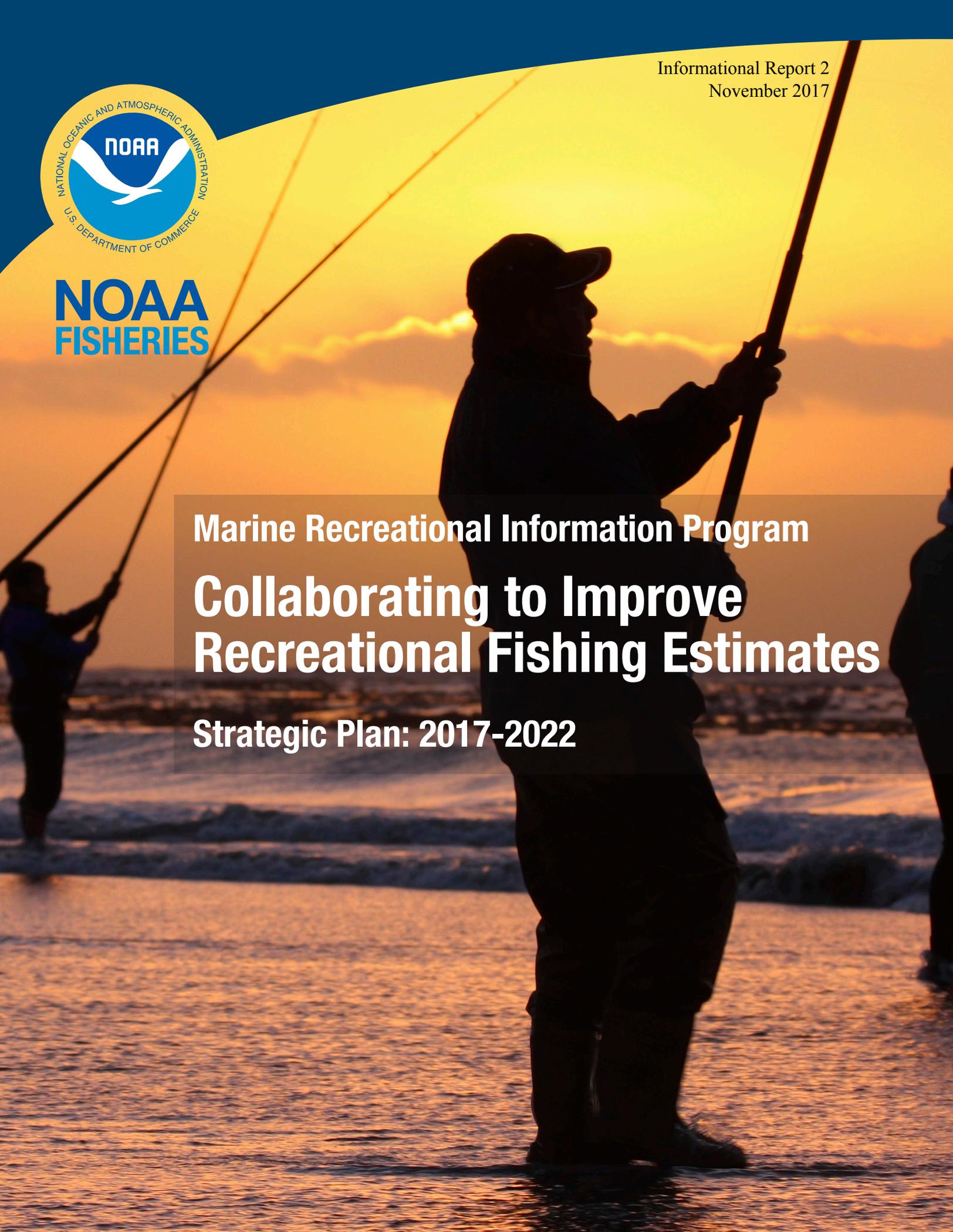


Informational Report 2
November 2017



**NOAA
FISHERIES**

The background of the cover is a photograph showing the silhouettes of several fishermen standing in shallow water, pulling a large fishing net. The scene is set against a bright, golden sunset sky with some clouds. The water reflects the light from the sun.

**Marine Recreational Information Program
Collaborating to Improve
Recreational Fishing Estimates
Strategic Plan: 2017-2022**





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The MRIP Strategic Plan

Where We're Headed and How We'll Get There

Overview

This 2017-2022 strategic plan for the Marine Recreational Information Program, or MRIP, defines the Program's vision, direction, and metrics for success; outlines a road map for charting our course; and provides a timeline for getting there.

In this section, we outline the six goals we are driving toward, and the strategies and tactics we will undertake to achieve them, including many that are already underway.

Goal 1—Meet Customer Needs

Provide recreational catch, effort, and participation statistics that meet defined, understood, and prioritized needs—including, for example, timeliness of delivery of estimates, spatial and temporal survey coverage, precision of estimates, and statistics for special needs fisheries—of identified regional and national customers.

How we'll get there:

- Understand the customers: Be certain that MRIP has identified its data customers, the manner in which they use MRIP-derived statistics, and their prioritized needs.
- Improve customer satisfaction.
- Work with customers to evaluate feasibility and costs of meeting their various needs.

Goal 2—Provide Quality Products

Achieve consistency, quality, timeliness, accessibility, and transparency in data collection, production of estimates, and program operations.

How we'll get there:

- In consultation with partners and expert consultants, develop comprehensive baseline national

survey and data requirements and processes for reviewing and certifying survey designs to ensure data comparability, interoperability, and usefulness; provide data that meet regional needs; and periodically review and revise established baseline requirements.

- Establish, maintain, and continuously improve an internal control program to provide quality assurance and quality control for survey data and statistics.
- Ensure complete transparency and stakeholder access for methods, standards, and controls.
- Ensure long-term continuity of comparable statistics as new surveys are implemented over time.

Goal 3—Increase Understanding

Strengthen two-way communications with partners and stakeholders to improve their knowledge of the properties and use limitations of catch statistics, and to build confidence in the data.

How we'll get there:

- Provide communications and outreach products that meet partner and stakeholder needs.
- Focus communication and education efforts on the key stakeholders most likely to pass information on to others and influence internal and external decision-makers.
- Increase key stakeholder, partner, and customer comprehension of the characteristics and requirements for surveys and the properties and limitations of catch and effort statistics.
- Actively solicit and integrate stakeholder feedback into outreach and education materials—and into the way information is communicated.



This strategic plan provides a clear and definitive overview of MRIP's vision, direction, and metrics for success; a road map for charting our course; and a timeline for getting there.

- Use the new MRIP website as a key component of education and outreach.
- Expand the breadth of communications strategies and tools to meet customer needs.
- Continually assess and evaluate the effectiveness of MRIP communications efforts and outcomes, and adjust the communications plan as necessary.

Goal 4—Ensure Sound Science

Maintain a strong science foundation for the program that includes robustness, integrity, transparency, and innovation, and that develops and incorporates new advancements in survey design and data collection and analysis.

How we'll get there:

- Maintain program capability and funding to conduct research and development of new/improved survey, estimation, and information management methods. Improved methods will address independent review recommendations, known sources of bias, and specific needs, and will incorporate state-of-the-art developments in survey design, and in data collection and management.
- Build and utilize expertise in survey design and estimation among staff, partners, and independent expert consultants.
- Maintain best practices and best available survey and estimation methods developed for program use.

Goal 5—Operate Collaboratively

Maintain effective collaborations with state, interstate, regional, and national partners for cost effective and responsive recreational data collection and catch estimation.

How we'll get there:

- Maintain a team-oriented program management structure that includes partners and key stakeholders in deliberations on program design, management, and implementation.
- Create and maintain an inventory of, and support meeting, partner data needs and priorities by enabling regional identification of data needs, preferred methods, and priorities.
- Assess feasibility and costs/benefits of expanding regional implementation of data collection and data management: field work by states and off-site telephone/mail/internet survey work, survey management, frame maintenance, estimation, and quality assurance/quality control (QA/QC) done by Regional Implementation Teams (e.g., Fisheries Information Networks (FINs) and ad-hoc teams like the Western Pacific Fishery Data Collection and Research Committee).

Goal 6—Meet Program Resources and Funding Needs

Ensure that the program's value and funding needs are well documented and communicated; resources are utilized efficiently; opportunities to expand capability through leveraging partner resources are fully explored; and actions are taken as authorized to ensure sufficient funding to support the needs of the program (federal and state support).

How we'll get there:

- Identify and maintain a prioritized inventory of essential program needs, including means to establish consistent, equitable, and cost-effective priorities across regions.
- Effectively and regularly communicate MRIP resource needs and priorities to NOAA Fisheries leadership, partners, and stakeholders.

Executive Summary

Overview

The Marine Recreational Information Program, or MRIP, is the state-regional-federal partnership responsible for developing, improving, and implementing surveys that measure how many trips saltwater anglers take and how many fish they catch. The coordinated regional data collection programs that make up MRIP operate with consistent standards and sufficient flexibility to meet national, regional, and state needs.

The vital information about recreational fishing collected through these data collection programs—combined with other data, such as commercial catch and biological research—enables scientists and managers to assess and maintain sustainable U.S. fish stocks. This strategic plan is intended to provide vision, direction, and metrics for success for the next phase of MRIP implementation and growth.

The MRIP Strategic Approach

Initial MRIP priorities were established in response to an independent review of our methods commissioned by NOAA Fisheries and conducted by the National Academies of Sciences in 2006.

To address the National Academies recommendations, the MRIP collaboration of federal, regional, state, and stakeholder partners was launched with a three-tiered strategic process for making improvements to our estimates of saltwater recreational fishing catch and effort:

- **Evaluation** of our existing methods to fully understand what's working well, what needs improvement, and the tradeoffs inherent in making changes to our surveys.
- **Innovation** aimed at developing new approaches and using emerging technologies to improve our surveys and the systems and processes that support them.
- **Implementation** of new methods at the regional level, working with partners to ensure a smooth transition between approaches.

This three-phase process was established as an ongoing cycle. As improved surveys are implemented in the field, we evaluate their performance and

Strategic Plan Definitions

Throughout the plan, there are references to customers, partners, and stakeholders, which are defined as follows:

- **Customer:** An entity that is the direct recipient and user of MRIP data to produce products that supports its mission. Examples include: NOAA Fisheries and state stock assessors; NOAA Fisheries and state fishery management staff; Regional Fishery Management Council staff and Scientific and Statistical Committees; NOAA Fisheries social scientists and economists.
- **Partner:** An entity that actively collaborates with NOAA Fisheries in the design and conduct of recreational catch and effort surveys. Examples include: NOAA Fisheries Science Center and Regional Office data collection programs; state marine fishery data collection programs; Fishery Information Networks; Regional Fishery Management Council staff.
- **Stakeholder:** An entity that is affected by and/or has an interest in MRIP data. Customers and partners may also be stakeholders. Other examples include: NOAA Fisheries/NOAA/DOC leadership; NOAA Fisheries Regional Offices; Interstate Marine Fisheries Commissions; Regional Fishery Management Councils; recreational anglers and businesses; commercial fisheries; state and federal legislative bodies.

Baseline Scope of MRIP and the Strategic Plan

from the Strategic Plan's Mission Statement:

- National in scope but regionally specific.
- Provides information on marine recreational fisheries for: catch of marine fin fish; effort; and participation.
- **Recreational Fisheries:** Defined consistently with the NOAA Fisheries National Recreational Fisheries Policy: “non-commercial activities of fishermen who fish for sport or pleasure, as set out in the Magnuson-Stevens Fishery Conservation and Management Act definition of recreational fishing, whether retaining (e.g., consuming, sharing) or releasing their catches...”

make adjustments as necessary. In addition, after addressing fundamental design issues, we have begun to focus on enhancing precision, timeliness, and coverage.

Creating a Comprehensive Strategic Plan

The need for an overarching strategic plan building on the three-phase process came into focus as MRIP evolved more fully into the implementation stage. Specifically, a 2015 Government Accountability Office (GAO) report conducted at the request of Congress recommended the development of a comprehensive strategic plan. This plan will guide our ongoing efforts to build trust among key stakeholders, strengthen and expand relationships among partners and stakeholders, and clearly articulate specific goals and milestones in our work to continuously improve recreational fisheries data collection, estimation, and reporting.

The development of this strategic plan was guided by MRIP's vision, mission, and values, as articulated by our Executive Steering Committee (ESC), the entity that provides management and guidance for the program.

MRIP Vision

MRIP will become the trusted source of U.S. marine recreational catch and effort statistics. NOAA Fisheries envisions MRIP as a program that is part of the best and most trusted marine data collection system available—one in which people are confident in the integrity of the information they receive, and one in which stakeholders are engaged and empowered partners in the data collection process. We want to ensure that the profound debates that take place about U.S. ocean policies center on the substance of the management decisions, not the quality of the data.

MRIP Mission

To carry out a collaborative, multi-institutional effort to develop and implement a national recreational fisheries statistics program. The program is a system of surveys that provides the best possible scientific information on recreational catch of marine fish, effort, and participation for use in management of the nation's marine recreational fisheries. Due to the dynamic nature of fisheries and fisheries management practices, MRIP must be:

- Flexible and responsive to ensure that surveys are capable of being updated, modified, expanded, or contracted to meet specific regional or local informational needs;
- Robust enough to provide the most timely, high-quality, precise, and least-biased information possible;
- Based on sound, robust scientific methods and practices that incorporate scientific integrity, independent peer review, innovation, and processes for continuous improvement;
- National in scope but regionally specific, recognizing that each region (Atlantic Coast, Gulf Coast, Pacific Coast, Pacific Islands, Alaska, and the Caribbean) has unique informational needs and data collection issues; and
- Inclusive and transparent, providing timely and open access to survey methods and products to partners, customers, and stakeholders, and providing scientists, managers, and stakeholders opportunities to participate in its development and use.

MRIP Executive Steering Committee (ESC)

Chaired by the director of NOAA Fisheries' Office of Science and Technology, the ESC oversees MRIP, providing:

- Assistance on strategic decisions and program management issues;
- A connection between MRIP and the federal and state marine fisheries agencies, Interstate Fisheries Commissions, and Regional Fishery Management Councils to ensure that user needs are being met;
- A means of accountability for MRIP's senior leadership; and
- Representation for MRIP in meetings of agencies and organizations outside of NOAA.

MRIP Values

- Collaboration and partnership.
- Commitment to meeting needs for high-quality data.
- Transparency by providing open access to products, tools, and processes for all partners, customers, and stakeholders.
- Commitment to scientific robustness, integrity, and innovation.

Integrating the MRIP Strategic Plan with the NOAA Fisheries Science Plan

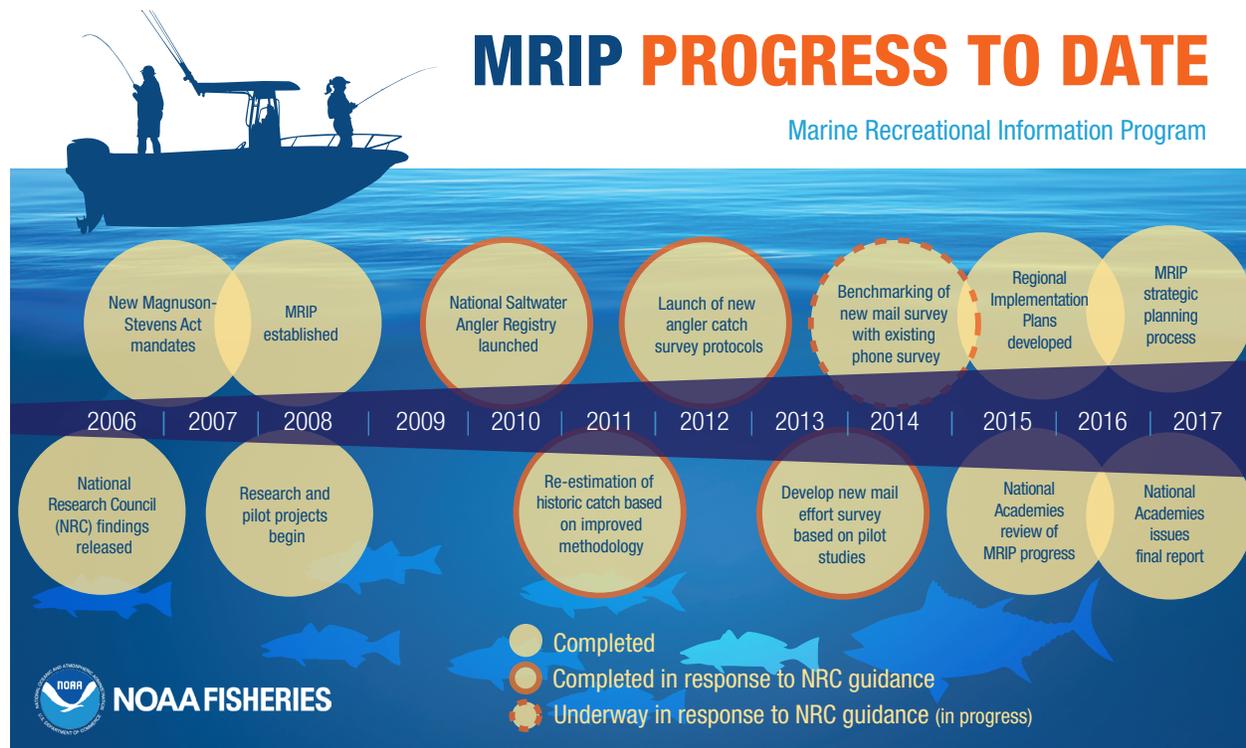
The MRIP Strategic Plan is intended to be fully integrated into the overall Office of Science and Technology's (OST) implementation of the NOAA Fisheries Science Plan process. In January 2013, NOAA Fisheries began a systematic peer review process at all six regional science centers and the OST. Internal and external experts examine the science programs on a five-year peer review cycle, with the goals of improving integration and identifying best practices. The review process incorporates input and involvement from Regional Fishery Management Councils, Interstate Marine Fisheries Commissions, the fishing industry, and other stakeholders.

With the completion of the MRIP Strategic Plan in 2017, annual implementation plans charting progress and annual priorities will be prepared over the next five years as part of the overall annual NOAA Fisheries and OST planning. A new strategic plan will then be developed in 2022, though the tactical timeline for this plan projects actions into 2023.

MRIP Progress to Date

An updated National Academies review published in 2017 determined that MRIP has made significant strides in addressing the 2006 National Academies recommendations and improving recreational fishery-dependent data. The Strategic Plan will optimize utilization of and build from the following key accomplishments and milestones, which include:

- **National Saltwater Angler Registry**— Launched in 2010, the National Saltwater Angler Registry works in tandem with state-level licensing and registration systems to provide a national directory for fishing effort surveys. Under this collaborative system, states have critical information they need to manage their resources effectively, while federal record-keeping and administrative resources needed are significantly reduced.



- **Re-Estimation**—Among the specific observations in the 2006 National Academies review was identifying a “mismatch” between the way we were gathering catch data, and the methods we were using to generate estimates from that data. In 2011, the MRIP team developed a new estimation method and then re-estimated all recreational catch dating back to 2004 to correct for this mismatch.
- **Access Point Angler Intercept Survey (APAIS)**—On the Atlantic and Gulf coasts, angler catch per trip is measured using the APAIS, which entails conducting in-person interviews with anglers at public-access fishing sites at the conclusion of their fishing trips. Samplers weigh, measure, and record the species of all landed fish, as well as ask and record information about discards. (For further information, an APAIS-At-a-Glance fact sheet is available [online](#).) An overhaul of APAIS to remove biases identified in its design was completed in 2013, with ongoing adjustments for continued enhancement of the survey. Because the new survey protocols produced different estimates, an interim calibration method was developed to accurately compare estimates across the historic time series. A final calibration method is expected to be implemented in 2018.
- **Fishing Effort Survey (FES)**—To measure recreational saltwater fishing effort of shore and private boat anglers on the Atlantic and Gulf coasts, as well as in Hawaii and Puerto Rico, MRIP uses the Coastal Household Telephone Survey (CHTS), a random-digit dialing phone survey of coastal households. However, the CHTS design is prone to several potential sources of error, particularly as landline use and the overall efficacy of telephone surveys have declined. After several pilot studies, MRIP began side-by-side testing of the CHTS with the FES, a mail-based survey that makes several improvements over the CHTS. With calibration and conversion efforts underway to ensure historical CHTS estimates are appropriately converted for accurate comparability to the new FES estimates, the program is on track to fully transition to the FES by 2018. For further information, see the [FES Transition Plan](#).
- **For-Hire Electronic Reporting (ER)**—Addressing the National Academies recommendation to move to mandatory logbook reporting in the for-hire sector, we are working with our partners to develop methods to replace random sampling of charter vessels with a complete census of all for-hire trips, including validation sampling. Several pilot studies have been completed to test hardware, software, and reporting and validation protocols. In 2016, we released a [comprehensive road map](#) for developing and certifying survey designs for validated, census-based for-hire ER.
- **Regional Survey Reviews and Supplemental Surveys for Specialized Needs**—We have also worked with partners, stakeholders, and independent experts to review sampling methods in the Pacific, Caribbean (the U.S. Virgin Islands and Puerto Rico), and Hawaii, and for Atlantic highly migratory species. Additionally, MRIP has developed methods for providing more timely and precise estimates of overall catch for specialized needs, including red snapper in the Gulf of Mexico, and continues to work collaboratively with the regional FINs, Councils and Commissions, state agencies, and other partners to apply best practices and lessons learned for other species.
- **Regional Implementation**—In 2013, MRIP’s ESC recommended to NOAA Fisheries that a hybrid approach to MRIP implementation be established, whereby NOAA Fisheries (through MRIP) would maintain a central role in developing and certifying survey methods and in establishing national standards and best practices, and regions (through the regional FINs or equivalent) would have responsibility for selecting survey methods and managing data collection.

By 2016, MRIP Regional Implementation Teams had been established for the regions, including the Atlantic Coastal Cooperative Statistics Program, the Gulf FIN Program, and the Pacific RecFIN Program, as well as ad hoc Regional Implementation Teams for the Caribbean, the Western Pacific Islands, and for Atlantic Highly Migratory Species. Each Regional Implementation Team includes representatives of the in-

volved state and territorial governments, the Regional Fishery Management Council(s), the Interstate Marine Fisheries Commission, the NOAA Fisheries Regional Office and Fisheries Science Center, and the NOAA Fisheries Headquarters Office. Each of these Regional Implementation Teams has begun the work of preparing its own unique implementation strategy, and determining which survey standards/baseline requirements and survey methods best suit its science and management needs. Their Regional Implementation Plans are expected to be completed by the end of fiscal year 2017.

- **GAO Review**—In response to a Congressional request, the GAO commenced a review of MRIP in July 2014, with the final report published in December 2015. The report focused on “(1) challenges that have been identified with the agency’s data collection efforts for managing marine recreational fisheries and (2) steps the agency has taken to improve data collection and challenges that remain.” The report recommended that NOAA develop a comprehensive strategy to guide the continued MRIP implementation process, a recommendation with which NOAA concurred and has addressed through this document.
- **Updated National Academies of Sciences Review**—With the 2015 initiation of the new FES,

MRIP had made substantial progress in addressing the recommendations from the initial 2006 National Academies review. Therefore, NOAA Fisheries requested a follow-up independent assessment of the current status and direction of MRIP. NOAA also asked the National Academies to identify any further improvements to ensure that MRIP continues to provide our partners and stakeholders with the best available data.

The National Academies issued its [findings](#) in January 2017. The National Academies recognized the agency for making “impressive progress” over the past 10 years, including “major improvements” to MRIP survey designs. The review also highlighted some remaining challenges and offered a series of recommendations for continued improvements to MRIP surveys. More details of the updated review are available in Appendix A.

Implementing the Strategic Plan

MRIP is committed to a multi-faceted, collaborative approach in fully implementing this plan. If you are interested in learning more or engaging with the program, please visit our web site, www.countmyfish.noaa.gov for updates, detailed information, and opportunities for involvement.



Tactics, Outcomes, Metrics, and Timeline

Goal 1—Meet Customer Needs	2017	2018	2019	2020	2021	2022	2023
Strategy — <i>Understand the customers: Be certain that MRIP has identified its data customers, the manner in which they use MRIP-derived statistics, and their prioritized needs.</i>							
Tactics:							
➤ Identify primary customers.		◆					
➤ Identify customer needs at intervals of not more than five years, in conjunction with reviews of Regional Implementation Plan updates.			◆			◆	◆
Strategy — <i>Improve customer satisfaction.</i>							
Tactic:							
➤ Assess customer satisfaction at intervals of two to three years.			◆		◆		◆
Strategy — <i>Work with customers to evaluate feasibility and costs of meeting their various needs.</i>							
Tactics:							
➤ Working collaboratively with customers, evaluate feasibility and costs of meeting different customer needs through regional implementation planning process and customer needs assessments (per the preceding tactic).							
➤ Modify survey designs, and properties and delivery of catch statistics, to improve customer satisfaction in ways that are both feasible and cost-effective.							
Outcome—Customers report that their needs (estimate products, timeliness, precision, coverage, etc.) are met.							
Metric—Measure of customer satisfaction with survey products as determined via customer satisfaction assessment.							

Goal 2—Provide Quality Products	2017	2018	2019	2020	2021	2022	2023
Strategy — <i>In consultation with partners and expert consultants, develop comprehensive baseline national survey and data requirements and processes for reviewing and certifying survey designs to ensure data comparability, interoperability, and usefulness; provide data that meet regional needs; and periodically review and revise established baseline requirements.</i>							
Tactics:							
➤ Create clear and concise baseline requirements for data collection, statistical estimation, access, and information management, and for providing measures of precision and sources of bias in:		◆					◆
• Data collection		◆	◆				
• Statistical estimation			◆	◆			
• Access and information management				◆	◆		
• Measures of precision and sources of bias					◆	◆	
➤ Collect data (i.e., conduct surveys) consistent with baseline requirements.	◆						▶
➤ Establish baseline quality (precision and absence of bias) standards for survey statistics provided to the public.		◆	◆				
➤ Seek periodic independent reviews of program, (i.e., OST five-year Science Plan reviews).		◆					◆
Strategy — <i>Establish, maintain, and continuously improve an internal control program to provide quality assurance and quality control for survey data and statistics.</i>							
Tactic:							
➤ Create and support regional bodies to monitor the consistency and quality of the data being generated and to assure continuous improvement of data quality (as part of regional implementation teams).			◆				◆
➤ Document the major elements of MRIP program management, policy and procedures (e.g., Organizational Governance, Planning and Implementation, Certification/Transition, Budget Processes).		◆	◆				
Strategy — <i>Ensure complete transparency and stakeholder access for methods, standards, and controls.</i>							
Tactics:							
➤ Develop complete documentation of survey and estimation protocols, quality assurance procedures, and data quality control procedures.	◆						▶
➤ Maintain public website with comprehensive documentation of methods, sample frames, and statistics.	◆						▶

Goal 2—Provide Quality Products (continued)	2017	2018	2019	2020	2021	2022	2023
Strategy — <i>Ensure long-term continuity of comparable statistics as new surveys are implemented over time.</i>							
Tactics:							
➤ Develop and execute transition plans that outline a process and timeline for implementing new and/or improved survey designs.	◆ →						
➤ Assess need for development and use of tools that convert statistics produced by surveys into common currency across all surveys and develop as necessary.	◆ →						
Outcome—Established baseline requirements are met.							
Metric—Proportion of established requirements met by current surveys OR number of surveys that do not meet established requirements (number will be reduced as surveys meet requirements).							

Goal 3—Increase Understanding	2017	2018	2019	2020	2021	2022	2023
Strategy —Provide communications and outreach products that meet partner and stakeholder needs.							
Tactics:							
➤ Conduct an internal annual assessment of partner and stakeholder communication and outreach needs, including an evaluation of the effectiveness of current communications products.	◆	◆	◆	◆	◆	◆	◆
➤ Develop outreach materials to provide consistent messaging regarding recreational fishing data improvement efforts among internal and external partners.	◆	→					
Strategy —Focus communication and education efforts on the key stakeholders most likely to pass information on to others and influence internal and external decision-makers.							
Tactics:							
➤ Identify and maintain contact with key stakeholders (e.g., Social Network Analysis).		→					
➤ Conduct a formal external MRIP communications and outreach feedback and needs assessment every three to five years.	◆			◆			◆
➤ Establish an MRIP onboarding process(es) for key stakeholders and primary customers (may be different processes).		◆					
Strategy —Increase key stakeholder, partner, and customer comprehension of the characteristics and requirements for surveys and the properties and limitations of catch and effort statistics.							
Tactics:							
➤ Develop targeted outreach materials and tactics to inform stakeholders on the importance of various survey components and limitations.	◆	→					
➤ Periodically evaluate stakeholder understanding of MRIP and adjust communications strategies, as needed.		◆					
➤ Host primary customer workshop to train participants to effectively access, analyze, and/or use data tools, including, for example, custom domain estimation; assess results and determine benefits of repeating.			◆				
Strategy —Actively solicit and integrate stakeholder feedback into outreach and education materials—and into the way information is communicated.							
Tactics:							
➤ Expand Communications and Education Team to include members of partner education and outreach programs.	◆						
➤ Pursue inclusion of MRIP in curricula for Marine Resources Education Program (MREP) and new Council member trainings.		◆	→				◆
➤ Provide support to a NOAA Fisheries recreational fisheries outreach and education initiative.		◆	→				
➤ Provide our partners with the tools and coordination necessary to enable consistent communications about recreational data collection methods, uses, and limitations.		◆	→				

Goal 3—Increase Understanding (continued)	2017	2018	2019	2020	2021	2022	2023
Strategy —Use the new MRIP website as a key component of education and outreach.							
Tactics:							
➤ Maintain current content on website, updating as necessary.	◆	→	→	→	→	→	→
➤ Assess web analytics to improve web content and usage.		◆	→	→	→	→	→
Strategy —Expand the breadth of communications strategies and tools to meet customer needs.							
Tactics:							
➤ Increase use of public relations; social and digital media.	◆	→	→	→	→	→	→
➤ Provide content for inclusion in stakeholder outreach products and publications (e.g., fishing magazines, blogs).	◆	→	→	→	→	→	→
Strategy —Continually assess and evaluate the effectiveness of MRIP communications efforts and outcomes, and adjust the communications plan as necessary.							
Tactics:							
➤ Revise/expand the MRIP Strategic Communications Plan to include the recommendations in the 2017 MRIP Review by the National Academies of Sciences, including measures to enhance two-way dialogue with key stakeholders and effective outreach to anglers.		◆					
➤ Adopt and execute communications plans for high-profile MRIP implementation actions (e.g., FES Transition).	◆	→	→	→	→	→	→
Outcome —The general level of understanding/awareness of MRIP methods and properties/use limitations of estimates among customers and stakeholders is increased over time.							
Metric —Feedback from Needs Assessment interviews on proportion of uninformed/skeptical contacts.							

Goal 4—Ensure Sound Science	2017	2018	2019	2020	2021	2022	2023
Strategy —Maintain program capability and funding to conduct research and development of new/improved survey, estimation, and information management methods. Improved methods will address independent review recommendations, known sources of bias, and specific needs, and will incorporate state-of-the-art developments in survey design, and in data collection and management.							
Tactics:							
➤ Support research aimed at designing, testing, and implementing new and/or improved recreational fisheries surveys that address independent review recommendations and specific partner needs (e.g., private access, discards).	◆ →						
➤ Evaluate the potential application of new electronic technologies into the program.	◆ →						
➤ Develop an analytical tool that enables optimization of sample allocation within and among surveys to address desired levels of precision for varying purposes, as identified in Regional Implementation Plans.			◆				
➤ Develop a plan for prioritizing and addressing the survey design improvement recommendations in the 2017 MRIP Review by the National Academies of Sciences.	◆						
Strategy —Build and utilize expertise in survey design and estimation among staff, partners, and independent expert consultants.							
Tactics:							
➤ Provide technical support for the program through hiring staff highly qualified in survey and mathematical statistics disciplines, and maintain peer-accepted external consultants.	◆ →						
➤ Increase staff expertise in survey statistics, survey operations, statistical software, new technologies, and survey management through trainings and other development opportunities.	◆ →						
➤ Publish research results in peer-reviewed journals and organize and/or participate in scientific symposia.	◆ →						
Strategy —Maintain best practices and best available survey and estimation methods developed for program use.							
Tactics:							
➤ Seek independent reviews of current and proposed survey designs, estimation methods, and data collection technologies that are on the MRIP Certification Track.	◆ →						
➤ Conduct periodic regional reviews of data programs to identify potential sources of bias and errors.			◆				
Outcome —Survey designs in use and desired by partners are certified.							
Metric —Number of survey designs in use or identified by partners for use that are not certified by MRIP (number will be reduced as surveys become certified).							
Outcome —Statistics produced from MRIP surveys are accepted for use in stock assessments with a minimum level of associated scientific uncertainty.							
Metric —Number of fisheries stock assessments that accept/utilize MRIP catch statistics.							

Goal 5—Operate Collaboratively	2017	2018	2019	2020	2021	2022	2023
Strategy — <i>Maintain a team-oriented program management structure that includes partners and key stakeholders in deliberations on program design, management, and implementation.</i>							
Tactics:							
➤ Conduct periodic reviews to ensure that partners are adequately represented and actively participating on the various MRIP Teams.		◆			◆		◆
➤ Assess partners’ sense of ownership in MRIP (i.e., do partners consider themselves partners?).		◆			◆		◆
➤ Periodically review management structure to address evolving program functions and priorities.		◆					◆
➤ Evaluate options to enhance recreational fisheries stakeholders’ participation in MRIP advisory structure.		◆					
➤ Expand MRIP collaborations, including adding additional experts in survey design and communications to MRIP consultant team.		◆—————▶					
➤ Revise program management and team structure periodically to assure full partner engagement, based on results of Strategy 5.1 reviews and provisions of Regional Implementation Plans.			◆			◆	
Strategy — <i>Create and maintain an inventory of, and support meeting, partner data needs and priorities by enabling regional identification of data needs, preferred methods, and priorities.</i>							
Tactics:							
➤ Develop Regional Implementation Plans that include R&D priorities for developing and certifying new methods that address partner needs.	◆—————▶						
➤ Attend and actively participate in FINs and FIN partner meetings when data needs are being discussed.	◆—————▶						
➤ In regions that do not have a FIN, create and maintain ad hoc regional implementation teams.	◆—————▶						
➤ Annually specify national priority-setting criteria for providing support for needs identified in the Regional Implementation Plans.		◆	◆	◆	◆	◆	◆
Strategy — <i>Assess feasibility and costs/benefits of expanding regional implementation of data collection and data management: field work by states and off-site telephone/mail/internet survey work, survey management, frame maintenance, estimation, and QA/QC done by Regional Implementation Teams (e.g., FINs and ad-hoc teams like the Western Pacific Fishery Data Collection and Research Committee).</i>							
Tactics:							
➤ Evaluate and, as appropriate, support and enable delegating responsibility of survey operations to regions, based on (yet to be established) standards to maintain data consistency and comparability.		◆—————▶					
➤ Conduct evaluation of costs/benefits of centralized vs. regionalized catch and effort estimation.			◆				
Outcome — Regional partner needs and priorities are fully documented.							
Metric — Number of Regions with up-to-date MRIP Regional Implementation Plans.							
Outcome — State and regional partners are fully engaged with MRIP in the program and are willing to undertake data collection and estimation tasks, and to invest partner resources.							
Metric — Number of states, FINs actively engaged with MRIP in survey operations.							

Goal 6—Meet Program Resources and Funding Needs	2017	2018	2019	2020	2021	2022	2023
Strategy —Identify and maintain a prioritized inventory of essential program needs, including means to establish consistent, equitable, and cost-effective priorities across regions.							
Tactics:							
➤ Develop and share criteria for priority-setting and decision-making on funding allocation to research and survey implementation.		◆					
➤ Use Regional Implementation Plans to develop a national inventory of partner needs and associated costs (see Regional Implementation Plan tactic in goal 5).		◆					
➤ Explore opportunities to expand program support through leveraging funding and capability of partner and stakeholder programs, including NOAA programs.	◆	→					
Strategy —Effectively and regularly communicate MRIP resource needs and priorities to NOAA Fisheries leadership, partners, and stakeholders.							
Tactics:							
➤ Provide a cost-benefit analysis of funding level options for primary stakeholders (i.e., NOAA/NOAA Fisheries).		◆					
➤ Advocate for meeting funding needs during annual DOC/NOAA budget opportunities.	◆	→					
➤ Utilize relationships with Interstate Marine Fisheries Commissions to help identify resources for recreational data collection.		◆	→				
➤ Document partner contributions for funding data collection efforts.		◆					
➤ Create a compelling narrative on MRIP and partner success stories to share with key stakeholders.	◆	→					
Outcome —NOAA and state/regional partner leadership are aware of program’s value and resources needs and priorities.							
Metric —Number of partner leaders confirming understanding of program’s value, resource needs, and funding priorities.							
Outcome —All high-priority program funding needs are met to the extent practicable.							
Metric —Number of high-priority funding needs that are not met each year.							



Appendix A

History of the Marine Recreational Information Program

Introduction and Background

Origin of MRIP

Under the Magnuson Fishery Conservation and Management Act of 1976, the Marine Recreational Fisheries Statistics Survey (MRFSS) was initiated in 1979 to collect information about recreational fisheries on a regional scale to meet the management needs of the time. In the ensuing decades, fisheries management programs grew in complexity. Where it was once believed that fisheries could be effectively managed on a stock-by-stock basis, it became clear that management decisions needed to be made in a broader context, which required data at a much finer scale than what the programs under the MRFSS could provide.

In response to constituents' concerns about the quality of recreational fishing information being used in management, NOAA Fisheries requested an independent review of existing recreational data collection programs by the National Academies of Sciences in 2004. The National Academies reported its findings in 2006 and made extensive recommendations for improving data collection and statistical analysis. It also recommended establishing a national registry of saltwater anglers to serve as the basis for future sampling programs. Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), signed into law in 2007, required NOAA Fisheries to fulfill the recommendations in the National Academies report to the maximum extent practicable, including development of a program to support registering saltwater anglers, by January 1, 2009.

MRIP Launched

Within the context of the 2006 National Academies recommendations and the enabling legislation of

the MSA, NOAA Fisheries established MRIP to develop and implement an improved recreational fisheries statistics program. Ultimately, MRIP was designed to become a national system of coordinated regional data collection programs that would address specific needs for recreational fishing information.

At the core of MRIP implementation was a collaborative and ongoing three-tiered strategic process to improve estimates of saltwater recreational fishing catch and effort:

- **Evaluation** of our existing methods to fully understand what's working well, what needs improvement, and the tradeoffs inherent in making changes to our surveys.
- **Innovation** aimed at developing new approaches and using emerging technologies to improve our surveys and the systems and processes that support them.
- **Implementation** of new methods at the regional level, working with partners to ensure a smooth transition between approaches.

As improved surveys are implemented, they are again evaluated for any necessary adjustments, and are ultimately scaled up to enhance precision, timeliness, and coverage.

Additionally, there was—and continues to be—a strong emphasis on communicating with and involving the public in our activities. To guide these efforts, we adopted a leadership and governance structure to help facilitate open, two-way communications with managers, stock assessment scientists, and other constituents to ensure that the needs of those who collect, use, and are impacted by the data were understood, documented, and consid-

ered as the program advanced. MRIP brought together federal, state, and interstate partners and constituents who are experts in fisheries management, survey design, statistics, and outreach to improve recreational fishing data collection.

An Executive Steering Committee (ESC) oversees MRIP. Chaired by the director of NOAA Fisheries’ Office of Science and Technology (OST), the ESC provides:

- Assistance on strategic decisions and program management issues;
- A connection between MRIP and the federal and state marine fisheries agencies, Interstate Marine Fisheries Commissions, and Regional Fishery Management Councils to ensure that user needs are being met;
- A means of accountability for MRIP’s senior leadership; and
- Representation for MRIP in meetings of agencies and organizations outside of NOAA.

Initially, the ESC established three leadership committees—Operations, Angler Registry, and Communications—which later evolved into the current structure of five leadership teams:

- **Operations**—Designs, tests, and recommends improvements to NOAA Fisheries’ recreational fishing data collection programs.
- **Registry**—Develops and maintains the federal National Saltwater Angler Registry, along with the program that manages exemptions to the Registry for states that develop and share data from their own saltwater licensing or registration systems.
- **Communications and Education**—Carries out strategic communications to ensure partners and stakeholders are engaged in the survey rede-

ESC Members

Ned Cyr, NOAA Fisheries, Office of Science & Technology (chair)

Gordon Colvin, Contractor, NOAA Fisheries, Office of Science & Technology (executive secretary)

Robert Beal, Atlantic States Marine Fisheries Commission

Dave Donaldson, Gulf States Marine Fisheries Commission

Randy Fisher, Pacific States Marine Fisheries Commission

Doug Mecum, NOAA Fisheries, Alaska Regional Office

Emily Menashes, NOAA Fisheries, Office of Sustainable Fisheries

Bonnie Ponwith, NOAA Fisheries, Southeast Fisheries Science Center

Russ Dunn, NOAA Fisheries, Office of Assistant Administrator

ESC Participants

Dick Brame, Marine Fisheries Advisory Committee and Coastal Conservation Association

Miguel Rolon, Caribbean Fishery Management Council

Kitty Simonds, Western Pacific Fishery Management Council

sign process and kept well-informed of MRIP’s progress, along with building awareness and support for the program and trust in the data.

- **Information Management**—Supports the national-level processing and management of recreational saltwater fishing data by ensuring the comparability and compatibility of statistics among regional data collection programs.
- **Transition**—Manages the multifaceted process of transitioning to improved survey methods by working together with Councils, Commissions, and NOAA Fisheries regions.



Addressing the 2006 National Academies Recommendations

National Saltwater Angler Registry

Among the initial steps MRIP took to address the 2006 National Academies recommendations was the development and launch of the National Saltwater Angler Registry. The impetus for the Registry was the National Academies finding that marine recreational fishing effort surveys relying on random telephone contacts of coastal county residents were both inefficient, since relatively few coastal households include active anglers, and prone to undercoverage, because many active anglers were unreachable, including those who do not reside in coastal counties or who don't have landlines. To resolve these significant sources of potential bias, the National Academies recommended the development of, and eventual sampling from, a comprehensive National Saltwater Angler Registry.

We set out guidelines in December 2008 through the federal rulemaking process for individual enrollment in the Registry, as well as for the standards and process by which states could apply for exempted designation based on use of state-level licensing or registration systems. The National Saltwater Angler Registry was launched at the beginning of 2010, with the majority of states ultimately qualifying for exempted state designation. Today, all coastal states and territories, with the exceptions of Hawaii, Puerto Rico, and the U.S. Virgin Islands, are designated as Exempted States. Under formal agreements with NOAA, the Exempted States provide lists of their licensed anglers and for-hire vessel operators (Atlantic and Gulf Coast states) or catch and effort data via a regional data collection program (Pacific Coast states and Island territories). Under this collaborative system, states have critical information they need to manage their resources effectively, while federal record-keeping and administrative resources needed are significantly reduced.

Re-Estimation

Among the specific observations in the 2006 National Academies review was that there was a “mismatch” between the way we were gathering catch data, and the methods we were using to generate estimates from that data. In 2011, the MRIP team developed a new estimation method, then re-

estimated all recreational catch dating back to 2004 to correct for this mismatch. The new method addressed potential biases in the estimates by properly accounting for things like possible differences in catch rates at high-activity and low-activity fishing sites, or the amount of fishing occurring at different times of the day. When the process was completed, there were no across-the-board trends in either the size or direction of change in the new estimates relative to the previous estimates. On a species-by-species basis, some estimates went down, some went up, and others remained about the same. In all cases, however, the numbers became more accurate.

Access Point Angler Intercept Survey (APAIS)

On the Atlantic and Gulf coasts, angler catch per trip is measured using APAIS, which entails conducting in-person interviews with anglers at public-access fishing sites at the conclusion of their fishing trips. Samplers weigh, measure, and record the species of all landed fish, as well as ask and record information about discards. (For further information, an APAIS-At-a-Glance fact sheet is available [online](#).) An overhaul of APAIS to remove biases identified in its design was completed in 2013. Improvements included: removing the latitude samplers have in choosing which sites to sample; sampling during all parts of the day, including trips that conclude at night; and creating a rigorous protocol for determining which sites to sample, for how long, and in what order.

Because the new survey protocols produced different estimates, an interim calibration method was developed to accurately compare estimates across the historic time series. A final calibration method is expected to be implemented in 2018.

Adjustments for continued enhancement of the survey are ongoing. Beginning in 2016, management of the onsite surveys shifted from federal contractors to the marine fisheries management agency of each state. This move will help build stronger relationships with anglers through closer interaction with their state agency, and will improve collaboration and information-sharing between NOAA, the states, and recreational fishermen.

Fishing Effort Survey (FES)

To measure recreational saltwater fishing effort of shore and private boat anglers on the Atlantic and

Gulf coasts, as well as in Hawaii and Puerto Rico, MRIP uses the Coastal Household Telephone Survey (CHTS), a random-digit dialing phone survey of coastal households. However, the CHTS design is prone to several potential sources of error, including undercoverage (many saltwater anglers either do not live in coastal counties, or do not have a landline); nonresponse (many people will not pick up the phone and answer questions, an issue common to all telephone surveys, regardless of subject); measurement (anglers may not remember all their fishing activity when asked over the phone); and inefficiency (since many calls go to non-angler households).

Over the past several years, we have conducted a series of pilot studies to develop a better method for fishing estimates that minimizes these potential sources of error. The FES makes several improvements over the CHTS, and will eventually replace the phone-based survey. Instead of limiting surveys to residents of coastal counties, the FES has the potential to reach all saltwater anglers by using two sample frames—the National Saltwater Angler Registry, which was developed to provide a national directory for surveying anglers, and data from the U.S. Postal Service, which allows the FES to sample potential anglers who are not required to register (such as seniors and children). The FES will also replace the phone-based survey with a mail survey, as research has found that response rates are much higher for mail surveys, and may result in more accurate reports of fishing activity than telephone surveys provided.

To provide for a smooth transition between the two surveys, the new mail-based survey is being conducted alongside the current telephone survey. Side-by-side benchmarking of the surveys will continue through 2017, along with the development of a calibration model to ensure that historical CHTS estimates are appropriately converted for accurate comparability with the new FES estimates. Once this conversion is completed, revised catch statistics will be incorporated into stock assessments and ultimately used in setting annual catch limits and other management actions. Currently, the program is on track to fully transition to the FES by 2018. For further information, see the [FES Transition Plan](#).

For-Hire Electronic Reporting (ER)

Addressing the National Academies recommendation to move to mandatory logbook reporting in the for-hire sector, we are working with our partners to develop methods to replace random sampling of charter vessels with a complete census of all for-hire trips, including validation sampling. Creating effective systems to be used instead of paper logbooks is a key element of this transition. Several pilot studies have been completed to test hardware, software, and reporting and validation protocols. In 2016, we released a comprehensive road map for developing and certifying survey designs for validated, census-based for-hire ER.

The road map was developed together with for-hire operators, state partners, fisheries managers, independent statisticians, and others. It details work completed to date, along with the requirements, process, and timeline for designing and certifying census-based electronic trip reporting systems. These systems can then be implemented by regional data collection partners—following necessary transition planning, benchmarking, and calibration—according to each Regional Implementation Plan.

Pacific, Western Pacific, and Caribbean Surveys Review and Improvement

We have also worked with partners, stakeholders, and independent experts to provide review of sampling methods in the Pacific, Caribbean (the U.S. Virgin Islands and Puerto Rico), and the Western Pacific (Hawaii, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands).

In the **Caribbean**, projects have included the 2013 initiation of a multi-year project in the U.S. Virgin Islands to establish baseline data on the recreational fishery, and pilot studies of the queen conch and spiny lobster recreational fishery in Puerto Rico.

In the **Western Pacific**, work has included a review of the Hawaii Marine Recreational Fishing Survey (HMRFS), with the development of a pilot study to apply the APAIS redesign to the state's surveys of private boat fishing and the unique characteristics of Hawaii's recreational fisheries. MRIP also funded a pilot study to document the effect of pulse/rare event fisheries, and to quantify catch generated from fishing methods not generally accounted for with the current creel survey in American Samoa,

Guam, and the Commonwealth of the Northern Mariana Islands. Across the Western Pacific Mariana Archipelago, we are also working to improve estimates of recreational spearfishing.

In the **Pacific states**, we have partnered with regional entities and states to provide consultation, technical support, and funding to improve upon existing methods. The Pacific States Marine Fisheries Commission (PSMFC) began development of ER technologies in 2012, while the Pacific Recreational Fishing Information Network (RecFIN) has taken the lead on updating its regional database to improve the user interface and enable efficient integration of data from new ER sources. At the state level, we have worked with Oregon and Washington to improve both states' sampling and estimation methods.

Highly Migratory Species (HMS) Data Collection

NOAA Fisheries' Office of Sustainable Fisheries HMS Management Division has led an ad hoc MRIP Regional Management Team that is developing an MRIP Regional Implementation Plan for Atlantic HMS. This plan will review and prioritize improvements of specialized data collections for offshore, big game fisheries.

The current design of the Large Pelagics Survey (LPS), conducted from Virginia to Maine, consists of a list-based telephone effort survey to estimate the number of trips by HMS permitted vessels and a dockside, intercept survey to estimate the catch per trip. The estimates from these LPS components are combined to estimate catch by species. Potential studies, identified in the HMS MRIP Implementation Plan, include reviewing and improving the LPS design to address potential sources of bias (from sampling or non-sampling error) and expanding the LPS to the Southeast to better cover the geographic range of Atlantic HMS species. In addition to new studies, previously completed MRIP pilot studies will inform the re-design of the LPS. Previous MRIP pilot studies have included projects to evaluate HMS tournament vs. non-tournament trip sampling and evaluate the non-response bias in the Large Pelagics Telephone Survey.

Review, improvement, and expansion of other current HMS data collection efforts, including the Recreational Billfish Survey (RBS, for HMS tournament reporting) and Catch Card Census (CCC)

programs, are also under consideration. Likewise, potential projects to improve information on recreational coastal shark fisheries, boost biological sampling of HMS (e.g. for genetic population analyses, age and growth studies, and natal origin), and reduce constituents' reporting burden are also part of the developing HMS MRIP plan.

Supplemental Surveys for Specialized Needs

Most saltwater recreational fishing surveys are designed to measure fishing activity over relatively broad geographic areas and time periods. However, when a large amount of fishing takes place over a short amount of time and in a limited area—like red snapper in the Gulf of Mexico and snowy grouper in the South Atlantic—managers and scientists are faced with a special challenge in sampling enough anglers to provide precise estimates during the brief seasons. This impedes managers' ability to make in-season adjustments based on whether current catch is exceeding or falling behind target limits.

In the case of red snapper, we have been working since 2013 with the states of Alabama, Florida, Mississippi, and Texas to develop methods for providing more timely and precise estimates of overall catch for this important recreational species across smaller geographic areas. Each state's approach is unique to its particular fishery, but all of the new surveys will undergo the MRIP certification and implementation processes, which include peer review and transition planning.

Building on the red snapper work, we are teaming up with the regional FINs, Councils and Commissions, state agencies, and other partners to apply best practices and lessons learned for other species. Solutions may range from conducting a census in very small fisheries, to implementing specialized permitting and reporting requirements, to using new statistical models to identify and sample anglers with the specialized fishing permits.

Regional Implementation

In 2013, the ESC recommended to NOAA Fisheries that a hybrid approach to MRIP implementation be established, whereby NOAA Fisheries (through MRIP) would maintain a central role in developing and certifying survey methods as well as in establishing national standards and best practices, and regions (through the regional FINs or

equivalent) would have responsibility for selecting survey methods and managing data collection. The ESC also established guidelines to aid in setting priorities for funding and resource investment (see preceding page).

Councils and states have been involved through their membership on the FINs, i.e. the Atlantic Coastal Cooperative Statistics Program (ACCSP – Atlantic), Gulf FIN (Gulf of Mexico), and Pacific RecFIN (West Coast). With assistance from the Caribbean and Western Pacific Councils, and the state territorial agencies, we are developing plans for those regions as well. Similarly, an ad hoc group has been established to set priorities for the Atlantic Highly Migratory Species fishery.

By 2016, each regional team had begun the work of preparing its own unique implementation strategy, and determining which survey methods best suit its science and management needs. The plans set the data collection standards for each region; identify appropriate methods for regional surveys from among MRIP-certified designs; set regional priorities for improved timeliness, precision, and coverage; identify any special regional needs; identify expected resource needs; and outline implementation costs and timelines. The Regional Implementation Plans are expected to be completed by the end of fiscal year 2017.

Regional Implementation Team Membership

MRIP Regional Implementation Teams are comprised of representatives from the following involved entities, agencies, and organizations:

- State and territorial governments
- Regional Fishery Management Council(s)
- Interstate Marine Fisheries Commissions
- NOAA Fisheries Regional Office
- NOAA Fisheries Regional Fisheries Science Center
- NOAA Fisheries Headquarters Office

Updated National Academies Review

With the 2015 initiation of the new FES, MRIP had made substantial progress in addressing the recommendations from the initial 2006 National Academies review. Therefore, NOAA Fisheries requested a follow-up independent assessment of the current status and direction of MRIP. NOAA also asked the National Academies to identify any further improvements to ensure that MRIP continues to provide our partners and stakeholders with the best available data.

The review began in September 2015 and included four regional public meetings. The National Acad-

Regional Implementation Funding Process

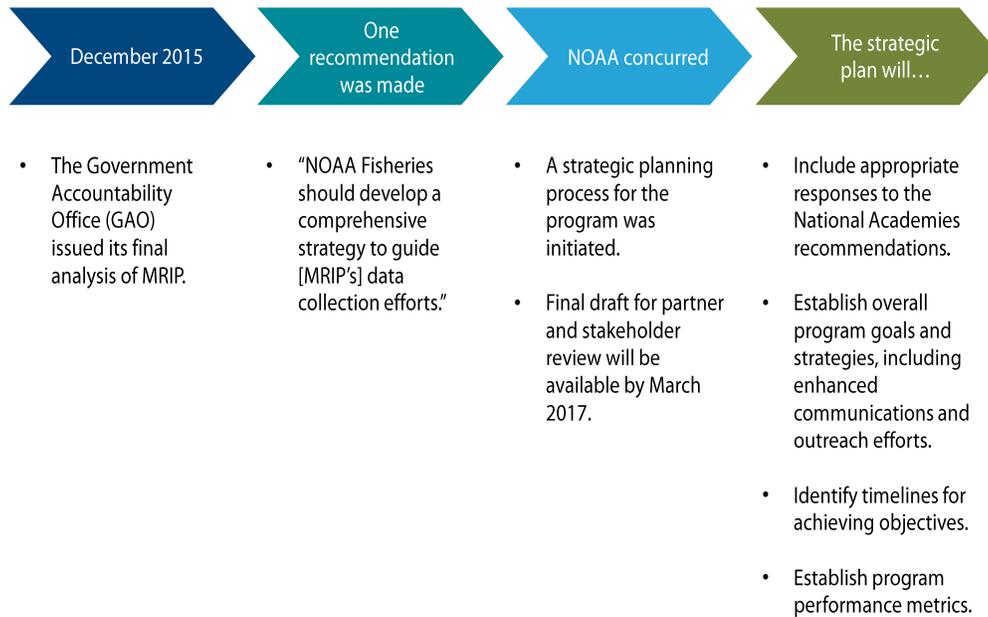
MRIP priorities for investment of resources for regional survey implementation are guided by whether the survey:

- Utilizes MRIP-certified survey designs or methodologies;
- Achieves MRIP standards for survey coverage and basic data elements; and
- Provides recreational/non-commercial catch estimates for fisheries managed under the MSA (including Atlantic HMS) or jointly by the states and NOAA Fisheries that are sufficient to:
 - Contribute to reliable stock assessments;
 - Support development of annual catch limits (ACLs) and accountability measures that meet the MSA requirements;
 - Support development of recreational regulations that minimize triggering of accountability measures; and
 - Allow reasonably precise tracking of recreational catch against ACLs.

With these guidelines in mind, Regional Implementation Teams developed sequential, prioritized plans to implement improved data collection designs to meet regional and national needs. The plans are reviewed annually by the NOAA Fisheries OST to establish agency funding priorities across regional programs, subject to ESC review and approval.

To the extent possible, funding for improved survey methods is permanent, though reductions to funding or changes to regional priorities (to be reassessed every five years) could trigger reallocations by the ESC or OST.

2015 GAO Review and Response



emies issued its findings in January 2017, recognizing the agency for making “impressive progress” over the past 10 years, including “major improvements” to MRIP survey designs. The review also highlighted some remaining challenges and offered a series of recommendations for continued improvements to MRIP surveys.

The National Academies review, which can be accessed [online](#), included 28 specific recommendations. Of these, 16 recommended exploration of methods to enhance the existing survey and estimation procedures for the FES and APAIS, nine addressed communications, one addressed in-season management, and two addressed cross-agency coordination.

- FES/APAIS Recommendations**—While the 2006 National Academies review identified critical needs for modification of survey design and estimation to address significant potential survey error, the 2017 review did not identify any such critical fundamental design needs. The new survey and estimation-related recommendations represent potential opportunities to further improve the catch estimates derived from the current FES and APAIS. With pilot studies

both already completed and in progress, MRIP will continue to evaluate methods to most cost-effectively address the technical recommendations.

- Communications Recommendations**—Among the challenges identified by the review were improving MRIP communications, particularly with anglers. The MRIP Communications and Education team will continue to drive the program’s commitment to improving communications with partners, stakeholders, data customers, and the public, including updating the MRIP Strategic Communications Plan in fiscal year 2017 in consultation with all partners.

Other Recommendations—The National Academies called for continuation of current MRIP actions, including regional coordination, updating documentation of survey and estimation methods, increased angler outreach, and transition plan execution. The review also recommended that NOAA Fisheries evaluate whether the design of MRIP is compatible with the needs of in-season management of annual catch limits, and, if not, determine an alternative method for in-season management. Data timeliness and in-season needs are expected to

be addressed during the development of Regional Implementation Plans, and MRIP will continue to work with data customers and stakeholders to determine specific needs for in-season management actions, as well as the feasibility of implementing surveys that can help to address in-season needs.

Government Accountability Office (GAO) Review

In response to a request by members of the Senate Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard, the GAO commenced a review of MRIP in July 2014, with the final report published in December 2015. The [report](#) focused on “(1) challenges that have been identified with the agency’s data collection efforts for managing marine recreational fisheries and (2) steps the agency has taken to improve data collection and challenges that remain.”

As part of its review, the GAO looked at relevant laws, policies, and NOAA Fisheries documents on recreational fisheries data collection. The GAO also conducted stakeholder interviews. Through this process, the GAO determined that while NOAA Fisheries, via MRIP, had taken numerous steps to improve data collection pursuant to the 2006 National Academies report and the 2007 MSA, efforts could be hampered by the lack of a comprehensive strategic plan to prioritize and guide individual efforts. The GAO therefore made the following [recommendation](#):

“To improve [NOAA Fisheries’] ability to capitalize on its efforts to improve fisheries data collection for managing marine recreational fisheries, the Secretary of Commerce should direct the National Oceanic and Atmospheric Administration’s Assistant Administrator for Fisheries to develop a comprehensive strategy to guide [NOAA Fisheries’] implementation of its marine recreational fisheries data collection program efforts, including a means to measure progress in implementing this strategy and to communicate information to stakeholders. As part of this strategy, [NOAA Fisheries] should clearly identify and communicate programmatic goals, determine the program activities and resources needed to accomplish the goals, and establish time frames and performance measures to track progress in implementing the strategy and accomplishing goals.”

In its official response to the GAO report, NOAA concurred with the recommendation for a comprehensive strategic planning process:

“The current initiatives to develop MRIP Regional Implementation Plans and initiate a new [National Academies] review of the program’s progress to date, represent important milestones on the path to developing a comprehensive strategic plan. Over the next year, we will work with our regional partners to develop MRIP Regional Implementation Plans that include milestones, timelines, appropriate performance metrics, and resource needs. We will simultaneously work to develop national-level strategic planning that will set overall programmatic goals, strategies and priorities; provide ongoing guidance to the regional planning efforts; and lay out a schedule for addressing remaining overall needs for improving the designs of the surveys (e.g. developing methods for assessing private access catch, evaluating accuracy of released catch data, etc.). This effort will be further informed by the findings and recommendations of the [National Academies] in its review of MRIP.

[NOAA Fisheries] will initiate this strategic planning effort in the second quarter of FY 2016, to be completed within 6 months of receipt of the new [National Academies] review, so that the [National Academies] findings and recommendations can be incorporated into the MRIP program.”

Strategic Plan Development Process

The MRIP Strategic Plan, as recommended by the GAO, was commissioned and organized by MRIP’s ESC. Representatives from MRIP’s ESC and other strategic teams (Operations, Registry, Communication and Education, Information Management, and Transition) formed a Strategic Plan Working Group (SPWG). The SPWG worked with an outside consultant to coordinate the strategic planning process, facilitate meetings and workshops, and provide ongoing advice and counsel.

The group began by coming to a consensus on MRIP’s vision, mission, and values, after seeking input from the full ESC, team leads, and key stakeholders.

The team then conducted an analysis of MRIP and the landscape in which it operates, using a suite of strategic planning tools and techniques.

These tools included:

- A **PESTLE** analysis, which examines the Political, Economic, Social, Technological, Legal, and Environmental factors that have the potential to influence MRIP.
- A **SWOT** (Strengths, Weaknesses, Opportunities, and Threats) analysis, which is used to detail primary and secondary strengths and weaknesses of MRIP, as well as the potential opportunities and threats the program faces.

The analytic process fed into the development of the specific goals for MRIP moving forward, along with strategies to address these goals.

Finally, in consultation with the full ESC, MRIP teams, and key stakeholders, the SPWG built out the timelines, performance measures, and decision-making criteria contained in this plan.

The SPWG held a series of meetings and workshops throughout 2016 and 2017 to support development of the strategic plan:

- **May 31, 2016:** Initial meeting to familiarize the team with strategic plan development process; initiate discussion of mission, vision, and values; and identify potential subjects for the environmental scan.
- **July 27–28, 2016:** In-person workshop to draft mission, vision, and values statements; undertake an environmental scan via PESTLE and SWOT analyses; and begin identification of strategic goals.
- **September 30, 2016:** Meeting to review potential goals, strategies, and tactics developed by two working sub-groups of the SPWG.
- **October 31–November 1, 2016:** In-person workshop to consolidate lists of goals, strategies, and tactics, and begin development of detailed planning and tracking tools. (See Appendix B.)
- **December 20, 2016:** Meeting to refine the tools, and to establish and assign what tasks must be completed prior to the final in-person workshop.
- **January 23–24, 2017:** In-person workshop to establish and prioritize objectives and short-term tactics, and to finalize the overall strategic plan.

MRIP Strategic Plan Working Group Team Members

Robert Beal, Executive Director, Atlantic States Marine Fisheries Commission

David Donaldson, Executive Director, Gulf States Marine Fisheries Commission

Kitty Simonds, Executive Director, Western Pacific Regional Fishery Management Council (supported by Marlowe Sabater, WPRFMC staff)

Gordon Colvin, Contractor providing management support to MRIP and ESC Executive Secretary

John Boreman, Ph.D., former chair of ESC and Director of NOAA Fisheries OST (retired)

Dave Van Voorhees, Ph.D., Division Chief, Fisheries Statistics Division, OST

John Foster, Recreational Statistics Branch Chief, OST

Lauren Dolinger Few, Chair of MRIP Information Management Team

April Bagwill, Contractor supporting MRIP Operations Team and Communications and Education Team

Jeff Fuchs, Contractor providing training and facilitation support to SPWG

Richard Cody, Ph.D., Contractor providing management support to MRIP

Laura Diederick, Contractor supporting MRIP Communications and Education Team

Karen Pianka, Contractor supporting MRIP Operations Team

Scott Ward, Contractor supporting MRIP Communications and Education Team

Input

The MRIP Strategic Plan was posted online for public comment from April 4 through June 30, 2017. NOAA Fisheries undertook a range of efforts to communicate the plan to the public and interested stakeholders, including distribution via the MRIP and NOAA Fisheries e-mail newsletters. More than 150 comments from individuals and organizations were received, including comments from NOAA's Regional Offices and Science Centers, Councils, states, eNGOs, and professional associations. The comments were reviewed by the Strategic Plan team and, as appropriate, were incorporated into this final version of the plan.

Plan Duration, Cycle, and Incorporation into NOAA Fisheries Science Plan Process

We intend for the MRIP Strategic Plan to be fully integrated into the overall OST's implementation of the NOAA Fisheries Science Plan process. In January 2013, NOAA Fisheries began a systematic peer review process at all six regional science centers and OST. Internal and external experts examine the science programs on a five-year peer review cycle, with the goals of improving integration and identifying best practices. The review process incorporates input and involvement from fishery management Councils, fishing industry, and other stakeholders.

The first full review cycle is scheduled to be completed in 2017, triggering the preparation of a new

overall strategic plan in 2018. The science programs have been reviewed as follows:

- Data collection and management (2013)
- Stock assessment programs (2014)
- Protected species science (2015)
- Ecosystem, climate, habitat science (2016)
- Economics and social science (2017)

With the completed development of MRIP's strategic plan, annual implementation plans charting progress and annual priorities will be prepared in conjunction as part of the overall annual NOAA Fisheries and OST planning process. For these annual plans, the Hoshin Kanri planning process will be applied to agency priorities and the objectives and tactics outlined in this plan.

A decorative header image showing a school of fish swimming in clear blue water, viewed from above. The fish are silhouetted against the light blue background.

Appendix B

MRIP Strategic Plan Hoshin X Matrix

The Hoshin X Matrix is a strategic planning tool that is used to ensure alignment among overall goals, strategies, tactics, and outcomes. It is also valuable for tracking progress and promoting accountability. The X Matrix used in the development of this plan is available for review on the MRIP website at: <https://www.st.nmfs.noaa.gov/recreational-fisheries/MRIP/mrip-strategic-plan>.

Appendix C

Tactical Implementation Schedule

This document, used in the development of the MRIP Strategic Plan, provides additional details about the tactics outlined in the plan, how they relate to one another, and the sequencing of events. The Tactical Implementation Schedule is available for review on the MRIP website at: <https://www.st.nmfs.noaa.gov/recreational-fisheries/MRIP/mrip-strategic-plan>.

Appendix D

Summary of Responses to Public Input

This document summarizes the comments submitted during the public comment period, provides NOAA Fisheries' responses to each comment, and describes the revisions made to the final plan resulting from the comments. The Summary of Responses to Public Input is available for review on the MRIP website at: <https://www.st.nmfs.noaa.gov/recreational-fisheries/MRIP/mrip-strategic-plan>.

Appendix E

Framework for Addressing the National Academies of Science Recommendations

This document lays out MRIP's approach for responding to specific recommendations included in the 2017 National Academies report, "A Review of the Marine Recreational Information Program." The Framework is available for review on the MRIP website at: <https://www.st.nmfs.noaa.gov/recreational-fisheries/MRIP/mrip-strategic-plan>.



U.S. Secretary of Commerce
Wilbur Ross

Performing the duties of
Under Secretary of Commerce for Oceans and Atmosphere
Benjamin Friedman

Assistant Administrator for Fisheries
Chris Oliver

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