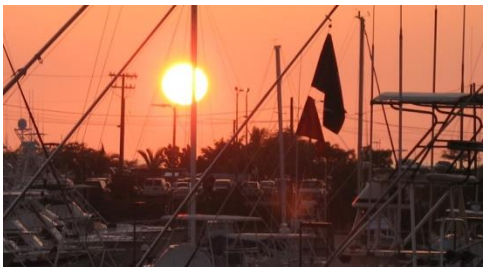

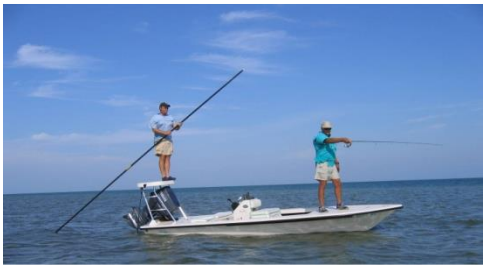

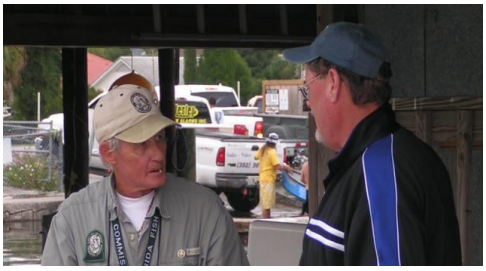

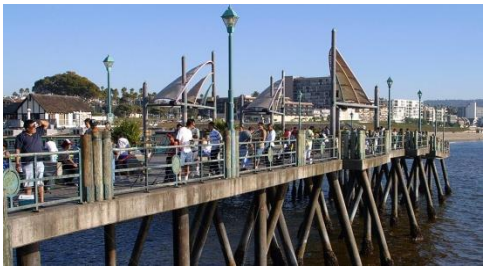

MARINE RECREATIONAL INFORMATION PROGRAM

Implementation Plan
Revision 6: 2014-2015 Update
October 2014

MARINE RECREATIONAL INFORMATION PROGRAM

YOUR TRUSTED SOURCE FOR FISHING DATA

To help ensure the long-term sustainability of U.S. fisheries through enhanced estimates of marine recreational catch and effort, a partnership of public and private organizations is developing the Marine Recreational Information Program, an improved national system of regional surveys. This Implementation Plan outlines the history of the program, its current status, and future course.

www.CountMyFish.noaa.gov

Marine Recreational Information Program
Implementation Plan: 2014-2015 Update

October 2014

The *MRIP Implementation Plan* is a joint product of the MRIP Operations, Transition, Communication and Education, Information Management, and Angler Registry Teams prepared with guidance from the Executive Steering Committee. The Implementation Plan provides an update on progress to date, as well as the blueprint for putting MRIP into action. A dynamic document, the *Implementation Plan* will continue to evolve in response to the latest science and the emerging needs of fisheries managers, regulators, policy makers and stakeholders.

MRIP 2014-15 Implementation Plan Update

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Introduction

Over the past year, MRIP continued the evolution that began with the July 2013 Executive Steering Committee Implementation Workshop from an initiative focused primarily on creating the tools to address issues raised by the National Research Council (NRC) to a lead partner among numerous stakeholders ensuring the smooth implementation of those tools in the field. This next year will be a significant juncture in the life of MRIP, and will enable us – and our state, regional, federal and Fisheries Information Network partners – to apply the lessons we've learned working together these past several years toward the ultimate MRIP vision of recreational data collection. The vision is a series of regionally appropriate data collection programs: implemented from the ground up to meet the unique and specific needs of different fisheries, states and regions while adhering to a set of mutual, clear and transparent standards.

This Implementation Plan Update discusses the specific MRIP initiatives that have taken place over the past year and outlines the priorities for 2015 that will keep the program on target to meet its goals.

2014 Milestones

The MRIP teams methodically catalogue the strengths and challenges of current recreational fishing catch and effort estimation methodologies, and develop and test improvements to what we have done in the past. Building on the improved catch estimation method that MRIP rolled out in 2012, this past year was also marked by a significant move toward on-the-ground implementation of new methodologies.

Significant research and implementation milestones from the past year include:

- **Conclusion of Effort Survey Studies.** NOAA has traditionally used a survey method called "random-digit dialing" (RDD) through the Coastal Household Telephone Survey (CHTS) to contact households in coastal counties and collect effort data on the Atlantic and Gulf Coast. For years, RDD has been widely accepted as a highly effective survey method, and focusing on the coastline was the best way to find saltwater anglers. At the same time, there are also several well-known shortcomings with this method, as well as unique concerns that were raised by the National Research Council in its review of our estimation methods. These include the facts that RDD is inefficient at targeting anglers, response rates to all telephone surveys have dropped significantly in recent years, and fewer households have landline phones. In 2015, we will begin moving away from RDD in favor of mail surveys that target anglers by using the National Saltwater Angler Registry and the U.S. Postal Service address database as sampling frames.
- **Creation of a Transition Team**. To facilitate the process of different states and regions transitioning from existing methodologies to improved surveys, in 2014 MRIP formally constituted a Transition Team as part of its operational structure. Made up of a cross-disciplinary group representing fisheries scientists, stock assessors, managers, partners and stakeholders, the Team is charged with identifying, planning for and helping to manage the myriad of complexities associated with moving from one survey method to another.
- **Expanded regional efforts.** In maintaining its role as a national initiative helping to develop solutions to data collection needs in the regional level, over the past year numerous MRIP pilot studies have focused on specific regional innovations and needs, such as testing mobile data collection applications for onsite intercept surveys on the

West Coast, addressing undercoverage in the Pacific Islands and working to revise precision standards for Atlantic Coast states. In addition, the MRIP Communications and Education Team formally expanded to include regional representation as a means of facilitating dialogue and information-sharing internally and externally.

Priorities for 2015

As outlined in the body of this Implementation Plan Update, a major priority for 2015 will be the staged implementation of the new Fishing Effort Survey to replace the Coastal Household Telephone Survey. In addition, as we implement solutions to challenges identified by the NRC, we will continue the shift toward studies that address unique and specific needs of different regions and fisheries, as well as innovations in data collection technologies that have the promise to enhance efficiency or accuracy.

MRIP will continue working to fully incorporate regional needs into every aspect of the program. We will build upon our current robust process, backed by the highest levels of NOAA leadership, to think through and proactively address issues that may arise as years of pilot studies lead to improved survey methods. The more accurate and reliable data shown by these studies support the core mission of NOAA Fisheries: to ensure productive, sustainable fisheries for generations to come.

Team Reports

Executive Steering Committee

An Executive Steering Committee (ESC) guides MRIP priority-setting and decision-making processes. Representing state, federal and public interests, the role of the ESC is to provide:

- 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 met;
- A means of accountability for the senior leadership of MRIP;
- Assistance in strategic decisions for MRIP; and
- Representation for MRIP in meetings of agencies and organizations outside of NOAA.

In 2014, the ESC oversaw the creation of the Transition Team, outlined in detail below, as an extension of the decisions made at the 2013 Implementation Workshop. Among the outcomes of the meeting, the ESC agreed to recommend to NOAA Fisheries that a hybrid approach to MRIP implementation be established; NOAA Fisheries (through MRIP) would maintain a central role in developing and certifying survey methods and establishing national standards, and regions (through the regional fishery information networks or their equivalent) would be responsible for selecting survey methods and managing data collection.

The ESC agreed to take on a larger role in MRIP by including overview of the implementation phase of the program in addition to its overview of the research and development phase. The ESC also recommended expansion of the Operations Team's charge to include monitoring implementation and recommending priorities for investment of MRIP funds and resources to assist regional implementation efforts. In its expanded role, the ESC also agreed to identify key

gaps in implementation coverage, and monitor feedback from information users, particularly fisheries managers and stock assessment scientists.

Transition Team

As outlined in the 2013 Implementation Plan Update, a key MRIP priority for 2014 is ensuring a smooth transition to potential changes in catch and effort estimates that may result as improved survey methods, designed and tested over the past several years, are implemented in the field.

In addition to the modifications we have already made to the roles and responsibilities of the MRIP Executive Steering Committee (ESC), MRIP has created a new interdisciplinary **Transition Team** tasked specifically with the job of managing issues that can arise when implementation of improved survey methods lead to unanticipated changes in catch or effort estimates for a given wave, mode, species or geographic area.

The charge for the Team, from Acting Assistant Administrator for NOAA Fisheries Sam Rauch, calls for the establishment of

> *"a standardized process for transitioning from [the] use of estimates produced with current survey design and estimation procedures to the use of estimates resulting from new or modified survey designs/estimation. The process should describe, and provide for consistency in, the approach and methods to be used to assess and determine when and how Councils and Regions apply recreational catch estimates derived from new/improved approaches for setting annual catch limits, for monitoring catch against the limits and for assessing the need for[,] and selection of, accountability measures."*

Why Estimates Change

The improvements we are making under MRIP are designed to remove potential sources of bias from our past survey and estimation methods. The MRIP process began with a review of these methods by the independent National Research Council, which made a series of recommendations for improvements. As we meticulously address these recommendations and implement our results, we improve the quality of our estimates.

However, effective fisheries science and management is based on the ability to have a decades-long view of the health of fish populations. So when catch and effort statistics that result from use of the new MRIP survey methods indicate fishing activity at a higher or lower level than those that resulted from the previously used methods, it is critically important to determine, to the extent possible, whether those changes resulted from an actual change in fishing behavior, the removal of a source of bias, or a combination of the two.

The challenge is compounded by the fact that it is not always possible to predict in advance how the implementation of a new, or improved, survey design may affect estimates. You may know that the survey design you have replaced or modified had *potential* for bias, but you can't know whether it actually caused bias until you are able to measure consistent differences between the new and old designs in their results. Another reason why it is difficult to predict the impacts of any design improvements is the sheer number of factors – fishing mode, species, location, time of year, day of week, time of day, etc. – that can influence survey estimates of recreational fishing catch and effort.

Roles and Responsibilities

Under the Terms of Reference approved by the MRIP ESC, the new Transition Team will:

1) Develop and recommend a standardized process for transitioning from historical estimates to estimates derived from improved sampling and estimation designs. The recommended process will describe and provide consistent approaches and methods for Councils, Interstate Commissions and Regions to apply to recreational catch estimates derived from new or improved approaches for:
   a) Setting annual catch limits;
   b) Monitoring catch against catch limits;
   c) Assessing the need for and selection of accountability measures; and
   d) Conducting analyses leading to the adoption of recreational fishing regulations.
   e) This process description will include flow diagrams and timelines for illustrative purposes.
2) Develop and recommend methods to be used to compare legacy estimates to estimates produced by using new or modified MRIP designs in a statistically robust manner.
3) Determine when calibration or other means of linking legacy data sets with MRIP-derived data sets are feasible and necessary, and identify the requirements and methods for making such linkages.
4) To minimize disruptions to stock assessments, catch monitoring, and management regulations, establish guidelines, in consultation with Regional Implementation Teams, to facilitate decisions on when and how implementation of changes to MRIP survey methods are introduced.
5) Report to the Executive Steering Committee (ESC) on the status of the transition and any impediments to progress, along with suggestions for overcoming the impediments, at least on an annual basis.
6) Submit all recommendations to the MRIP ESC for approval and conveyance to the NOAA Fisheries Science Board and Regulatory Board.

In carrying out its work, the Transition Team will consult with the MRIP Regional Implementation Teams and with the affected NOAA Fisheries Regional Offices and Fisheries Science Centers, the NMFS Office of Sustainable Fisheries and Office of Science and Technology, and the States, Interstate Commissions and Regional Fishery Management Councils. The Team may establish one or more Work Groups to develop proposed processes and analytical methods.

Activating the Transition Team

For any given methodology, the Transition Team's role will begin when the MRIP approval process has been finalized and the decision has been made to implement the method in the field. At that point, the Transition Team will work with fisheries scientists, stock assessors, fisheries managers, state and regional partners, and stakeholders to develop a detailed implementation plan that outlines strategies to address:

- The need to benchmark current and legacy data sets against the new data sets if the difference between the two is likely to cause a significant disruption to the historical time series.
- The need for further study or testing based on whether differences in estimates between the two methods can be fully explained at the time of implementation. For instance, it is important to know if differences can be attributed to the fact that data from a new survey is the result of an actual change in fishing activity vis-à-vis the previous method, or if the

new survey is simply doing a better job of capturing activity that has remained more or less consistent across a time series.

- The creation of a transparent, scientifically sound and statistically valid means of calibrating new data vs. legacy data to ensure appropriate comparison of the two in terms of time series, stock assessments, economic assessments, ACL monitoring and allocation decisions. This process will include:
    - **Revising the Time Series**: Once a reliable calibration model that can be applied to previous years has been developed, that model will be applied by the Working Group to revise the historical time series of fishing effort and catch statistics based on the survey design to be replaced. It may also be necessary to use the revised historical estimates to adjust the historical time series of MRIP fishing participation statistics.
    - **Incorporation into Stock Assessments**: The revised time series of catch statistics will immediately be made available for use in stock assessments.
        - Stock assessments due for an update should use the revised time series and set new ACLs for use in fisheries management.
        - Stock assessments not immediately due for an update should use the revised time series and then set new ACLs as scheduled.
    - **Incorporation into Economic Assessments**: The revised time series of fishing effort and participation statistics will at the same time be made available for use in economic assessments. It will be important to coordinate stock assessment updates with updates to stock-specific economic assessments to the extent possible.
    - **Monitoring of Catch relative to ACLs**: It will be important to produce catch statistics that can be used in comparison with the time series of catch statistics that were the basis of the initial ACL.
        - If the ACL was set by a stock assessment that did not use the revised time series, then cumulative catch statistics based on the current design should be used to monitor catch relative to the ACL.
            - Depending on the calibration method and available data, it may necessary to use a forward calibration method to convert cumulative catch statistics based on the new design into catch statistics comparable to those based on the old design. This approach could be used when monitoring catch relative to ACLs after the design to be replaced has been phased out in favor of the new design.
        - If the ACL was set by an updated stock assessment that used the revised time series, then cumulative catch statistics based on the new design should be used to monitor catch relative to the ACL.
    - **Incorporation into Allocation Decisions**: It will be important to make revised time series available to fishery managers for possible use in allocation decisions.

Once these steps have been completed and the calibration model has been used to revise the historical time series, the old survey design can be phased out, and the new survey design can be implemented at levels deemed appropriate to provide the necessary precision in terms of species, timeframe and geographic area.

Priorities for 2015

- Develop the model transition approach as outlined in the Terms of Reference.

- Develop a calibration approach for the new Fishing Effort Survey, incorporating lessons learned from the ongoing calibration work of the Access Point Angler Intercept Survey.
- Create and begin the execution of an overall transition plan for the FES, and evaluate its use as a model for other transitions. Based on the cumulative knowledge gained through implementing new methods, and making revisions to existing methods, develop and overarching approach to calibrating estimates made between one methodology and another.

Operations Team

The MRIP Operations Team (OT) designs, tests and recommends improvements to NOAA Fisheries' recreational fishing data collection programs. Each year, the OT collaborates on research projects with teams of experts in survey design and management, natural resource management and stock assessment science, and individuals representing the recreational saltwater fishing community. Since 2008, the OT has funded 93 projects to develop improved survey designs that increase the accuracy of recreational fishing catch, effort and participation estimates.

In addition to its role in improving survey method designs, in late 2013 the OT and the ESC updated the OT Terms of Reference to include the responsibility for the development of a process for NMFS/MRIP to make additional investments in survey implementation and operations. The goals of this process are to 1) support implementation of certified methods that satisfy the minimum needs for management and science, and result in regional survey programs that achieve at least the minimum MRIP standards for coverage, resolution, and data elements, and 2) establish a consistent, priority-based foundation for investment of available funds for data collections that exceed minimum needs.

Below are just a few of the projects getting started or finishing in 2014. Complete descriptions of all MRIP-funded projects are available on the MRIP website at www.CountMyFish.noaa.gov.

Designing a New Fishing Effort Survey
MRIP has been working to improve the way we estimate fishing effort. A series of pilot studies has been underway since 2009, and a new survey design is currently being evaluated.

MRIP recently completed a pilot test of the new survey design, which moves away from a random-digit dialing telephone survey design to a mail survey approach that samples from both a comprehensive directory of U.S. households and the National Saltwater Angler Registry. An independent peer review endorsed the project's conclusion that the new survey design is more efficient and less susceptible to bias than the Coastal Household Telephone Survey (CHTS), the methodology currently used to estimate fishing effort on the Atlantic and Gulf coasts. MRIP is currently planning the transition and will conduct both the CHTS and the new mail survey design side by side in 2015, allowing us to better understand and quantify the differences in effort estimates produced by the two methods. This benchmarking effort will enable the Transition Team to establish the basis for calibration of effort estimates over the historic time series and to plan for a transition from the CHTS to the mail survey as the primary basis of effort estimation where the CHTS is currently in use.

Electronic Data Collection

Sampler Data Collection

As NOAA Fisheries moves to incorporate electronic reporting and monitoring into how we collect and record fishery-dependent data, MRIP has embraced the challenge and is working with our partners to develop efficient electronic data collection methods.

On the west coast, our partners in California, Oregon, and Washington are designing, developing, and testing mobile data collection applications for onsite intercept surveys. These devices will be used by dockside samplers to enter data at the time of the interview, increasing both the efficiency and quality of data collection. Similarly, the Oregon Observer Program is developing and testing electronic mobile devices for the recreational groundfish fishery data collection.

Mobile Applications for Angler Reported Data

In the Gulf of Mexico, three projects are underway to assess the use of smartphone applications for collecting angler-reported catch information, specifically for the recreational red snapper fishery. In Alabama, a new regulation was established prior to the start of the 2014 red snapper season requiring a red snapper permit and mandatory reporting or red snapper landings. The Alabama Department of Conservation and Natural Resources developed a smartphone application, *Snapper Check*, as well as an online reporting tool to aid anglers in complying with the new regulation. MRIP funded two projects in Alabama focused on the private and for-hire recreational fishing sectors to aid in this development of electronic reporting of red snapper catch. The third project is supporting the development and testing of a smartphone application, *iSnapper*, by validating angler-reported data through a panel study design. The goal of these projects is to improve timeliness of data collection and provide supplemental information for use in the evaluation of the red snapper fishery.

Addressing Undercoverage in the Pacific Islands

In American Samoa, Guam, and the Commonwealth of the Northern Marianas, a new project is underway to address the issue of undercoverage of rare event, or 'pulse' fisheries, as well as nighttime fishing. To complement the existing creel survey and build upon a project started in 2013, this project will document and determine the effects that limited data on these underrepresented types of fishing have on the expansion of catch and effort estimates.

In Hawai'i, current methods are being revised to test complementary on- and offsite survey designs for estimating recreational fishing effort. The project team will be testing an offsite mail survey, an onsite roving creel survey, and an aerial survey. By including offsite methods to estimate fishing effort, the proposed designs will decrease undercoverage bias by collecting data from remote, private, and military bases as well as nighttime fishing activities. The proposed surveys will be implemented alongside the current Hawai'i Marine Recreational Fishing Survey, allowing for comparison of effort estimates between the two designs.

Revising Proportional Standard Error (PSE) Targets

The Atlantic Coastal Cooperative Statistics Program (ACCSP) partnered with MRIP to host a workshop in late September to evaluate the impacts of uncertainty in recreational harvest estimates on the assessment process, and establish standards for the precision of estimates. Experts and stakeholders met to review results from a Management Strategy Evaluation that looked at the effect various levels of data uncertainty can have on different management strategies to determine acceptable biological catch. Speakers at the workshop included various

partners from ACCSP, NMFS, Atlantic States Marine Fisheries Commission, Mid-Atlantic Fishery Management Council, and Rutgers University.

Priorities for 2014/2015

In 2015, the Operations Team will continue to implement and evaluate alternative data collection designs. As described above, we will prioritize ongoing studies, and will design and implement necessary follow-up studies to finalize data collection approaches. To date, research efforts have generally focused on addressing concerns identified by the NRC, such as evaluating sampling and estimation designs for large-scale catch and effort surveys administered or funded by NOAA Fisheries. As new sampling and estimation approaches are implemented, research priorities will shift toward more subtle refinement of data collection methods to better address stakeholder needs. Examples of possible project areas include:

- Projects that further develop or test recommendations from MRIP-funded reviews of existing data collection designs or previous MRIP pilot studies (i.e. follow-up studies)
- Assessment of data needs (e.g. precision, resolution, timeliness, etc.) to support science and/or management;
- Development of methods to estimate catch and effort at greater levels of temporal and spatial resolution, including both design- and model-based approaches;
- Assessment of non-sampling errors, such as non-response error, coverage error, and measurement error, in recreational fishing surveys;
- Development and testing of new technologies, such as electronic data capture and online reporting, to support recreational fisheries data collection.

National Saltwater Angler Registry and State Exemption Program Report

The Magnuson-Steven Act (Section 401(g)(1)) requires NOAA to register and collect identification and contact information for anglers and for-hire vessels if they fish in the exclusive economic zone (EEZ), for Continental Shelf fishery resources beyond the EEZ, or for anadromous species throughout their range, including state waters. However, anglers and vessels that are licensed or registered by a state are exempt from the federal registration requirement if the state provides sufficient identification and contact information for use in recreational surveys. The resulting federal registry must address both the qualifications and procedures for registering anglers and vessels, and for exempting qualified states' anglers and vessels from the federal registration requirement. Federal regulations were adopted in 2008 to implement the National Saltwater Angler Registry. The regulations include:

- Standards and process by which states may apply for exempted state designation based on their provision of license/registry-based sample frames;
- Standards and process by which states may apply for exempted state designation based on use of state license/registry data to perform surveys of recreational catch and effort;
- Detailed requirements and process by which anglers and for-hire vessels from non-exempt states enroll in the federal registry; and
- Requirements for registration fees beginning January 1, 2011.

The registry regulations are available online at http://bit.ly/NSARregs.

During 2010 and 2011, NOAA Fisheries entered into Memoranda of Agreement (MOAs) with each of the states that qualify for Exempted State designation. Pursuant to the MOAs, those states have been formally designated as Exempted States, and the states have begun to submit data as called for in the MOAs. The Exempted States are:

- *For submission of state license holder or registry data:* Texas; Louisiana; Mississippi; Alabama; Florida; Georgia; South Carolina; North Carolina; Virginia; District of Columbia; Maryland; Pennsylvania; Delaware; New Jersey; New York; Connecticut; Rhode Island; Massachusetts; New Hampshire; Maine.
- *For participation in and submission of catch data from an approved regional survey:* Alaska; Washington; Oregon; California; Guam; American Samoa; Commonwealth of the Northern Mariana Islands.

2013/2014 Registry Program Activities

In 2013/2014, NOAA Fisheries:

- Received angler registry data from each of the Atlantic and Gulf coast states and entered the data into the national registry database.
- Continued to make funds available for grants to states, through the Interstate Marine Fisheries Commissions, to support initial data quality improvement projects.
- Supplied registry data from the states of Massachusetts, New York, North Carolina and Florida to support the frame matching component of the MRIP Project *Finalize Design of MRIP Fishing Effort Surveys.*
- Supplied registry data from the Atlantic and Gulf coast states for a national survey of recreational trip expenditures.
- Initiated collection of state for-hire vessel registries as a part of the MRIP Vessel Registry project.

2014/2015 Planned Activities

In 2014/2015, we will:

- Continue to work with states to complete registry data quality improvement plans that address the recommendations of the advanced data quality reports provided to states in 2011/12, and any other requirements of the states' MOAs.
- Continue to provide grants to states through the Interstate Marine Fisheries Commissions to assist them in implementing the provisions of their data quality improvement plans.
- Maintain registry databases for the Atlantic and Gulf coast states and make them available for implementation of the new MRIP Fishing Effort Survey beginning in CY 2014.
- Continue to obtain state data on for-hire vessel licenses and registrations to support the MRIP effort to establish a new and more compete for-hire vessel registry

Information Management Team

The Information Management Team (IMT) supports the national-level processing and management of Recreational saltwater fishing data by ensuring the comparability and compatibility of recreational fishing statistics among regional data collection programs. In 2013, the IMT began implementation of a three-year operations plan focused on data access, analytical tools and data quality management. These priorities address NOAA Fisheries directives for data management, as well as recommendations from the NRC. In 2014, the IMT continued to improve the accessibility and use of MRIP data through projects and initiatives, including:

PIMS/MDMS
The original MDMS (Version 1.0) was a metadata collection interface. Versions 2.0 and 3.0 of the MDMS system focused on integrating data management into the day-to-day business practices of MRIP teams and projects by expanding the MDMS system to include proposal, project plan and monthly report tracking functionality. Version 4.0 was planned to focus on four specific areas: (1) the collection of additional information management requirements, (2) annual/final report and peer review functionality, (3) broader use by multiple MRIP teams, and (4) a public interface where general public can submit requests for proposals for grants. Early on it became apparent that the expanded scope would have considerable application outside of MRIP as a consolidated tool for managing requests for proposals, as well as a publication tracking system and repository. In light of the increase in scope, MDMS has been rebranded the Program Information Management System (PIMS).

Continued development of the MRIP Site Register
The IMT, in cooperation with our state partners, continued the enhancement the online registry of coastal fishing sites. As the requirements of the APAIS survey changed during the 2014 sampling season, the Site Register was updated to accommodate these changes. One of the most significant changes to the sampling method in 2014 was the addition of "site groups." The site group went through several iterations, requiring rapid software changes and cooperation with our partners.

Continued release of data query tool features
Enhancing the query tools is an ongoing task for the IMT. In 2014, the most notable updates included adding an updates page, expansion of the directed trips tools, and the addition of a data download query.

The data updates page informs the public of when and why estimates and survey data are posted or changed. The directed trip query was released with enhanced features, allowing users to select a combination of catch types. Both the query and program template were updated to account for grouped catch when TYPE A catch is selected. A new query was released to streamline the data downloads, which allows users to subset our survey data and estimates during download.

Priorities for 2014/2015:
- Include fully documented metadata (the contents and context of data) for all ongoing and legacy programs and make it available online to the public.
- Add tools to help new users correctly interpret the characteristics, uses and limitations of the data.
- Develop analytical tools to enhance the understanding of the data.
- Continue to add selection, download and output options to the website query tools.
- Continue development of an integrated for-hire vessel directory.

Communications and Education Team

In recommending improvements to our recreational data collection and reporting methods in its 2006 review, the National Research Council noted the importance both of sound science, and of effectively communicating that science to all stakeholders whose lives and livelihoods are impacted by recreational fishing:

"Ultimately, the value of marine recreational fishing data, whether collected by the Marine Recreational Fisheries Statistics Survey (MRFSS) or any other survey, will be judged by the extent to which it meets the needs of the individuals who use the data and will be trusted by those whose lives are affected by the ways the data are used. … Communication and outreach efforts are essential to foster confidence in the quality of the data among managers, other decision makers, and those who rely on the fishery resources for recreation or for a living."

In 2014, we built on our efforts to meet this NRC charge by working to expand the breadth and depth of both our outreach materials and the perspectives contributing to our outreach strategies. Milestones for 2014 include:

Expansion of the Communications and Education Team
The Communications and Education Team (CET) provides expertise that fosters productive, collaborative relationships, both internally among MRIP teams and NOAA leadership and externally with key constituencies who have valuable contributions to offer in the development of MRIP. In 2014, the CET formally expanded to include representatives of other divisions within NOAA Fisheries – along with state and regional partners – whose work intersects with recreational data, as well as new regional teams.

As the national team focuses on developing overarching national communications products and strategies, the series of regional teams will be developed to address regional outreach priorities. The goals of the expanded CET are to: (1) continue to develop and achieve better flow of national messages to regional audiences; (2) improve coordination among the various parties concerned with recreational fishing outreach; (3) better understand regional MRIP outreach messaging needs; and (4) develop communications tools that meet regional needs. Following the MRIP model for identifying, testing and implementing improved survey methods, the ultimate goal of this dual approach is to ensure that consistent, accessible information is developed and disseminated in ways that most effectively meet the needs – and answer the key concerns – of different audiences. Members of the regional teams will include representatives from state, council, and commission data partners, fishing organizations, and other stakeholder groups represented in or impacted by the MRIP process. The national team will support the work of the regional teams and will also maintain the MRIP website and address communications needs of the other MRIP teams.

Communications support for the new Fishing Effort Survey design
MRIP has conducted a series of studies to identify the best way to effectively reach as many anglers as possible with our surveys of fishing effort, to ensure high response rates, and to improve the quality of information respondents provide. The CET has worked extensively with the Operations Team and the Executive Steering Committee to explain the new methodology. Materials the CET has developed to help explain the need for updating the effort survey methodology includes a series of Newscast articles that covered findings form the effort survey pilot projects, the use of the National Saltwater Angler Registry, and the advantages of mail surveys over random digit dialing. The team has also developed presentations NOAA leadership and stakeholder presentations.

Regionally tailored field materials
2014 marked the second season the CET has worked with the states to develop both national and localized handouts for field samplers to give to anglers during the angler intercept survey. The

idea for the materials came from our 2012 Gulf and Atlantic outreach trips that discussed improvements to our angler intercept surveys. The visits included angler focus groups to test the most effective way to present information. The suite of materials includes detailed flyers, "at-a-glance" wallet cards, and stickers that people who have been sampled can put on their tackle box, cooler or boat trailer. The goal of the materials is to enable samplers – the people who most frequently interact directly with fisherman and largely serve as the de facto public face of MRIP – to hand out materials that answer anglers' questions without interrupting samplers' primary role as data collectors. The stickers also create a visual record of sampling that occurs in different areas to reinforce the idea that although a particular fisherman may never get interviewed about his catch, others fishing in the same mode and location have been.

Enhanced online presence
The CET, in cooperation with the IMT, is redeveloping the MRIP website – www.CountMyFish.noaa.gov – with updated information, more intuitive navigation and interactive features. In 2015, the CET will continue to work collaboratively with other MRIP teams to develop the updated strategy and design of the site.

The CET also developed two new videos for the site: one describing the process of counting angler catch, and one to answer Frequently Asked Questions about the data query tool. The angler catch video is featured on the homepage of MRIP's website. These videos were developed in response to feedback and questions about the MRIP process and its tools available to the public.

MRIP stakeholder updates
The CET emails a regular newsletter called the "Newscast" to keep stakeholders engaged and up-to-date. The Newscast chronicles MRIP progress and developments and provides contact information for stakeholders who have questions or comments. In addition, we've enhanced two-way communication by answering questions submitted by Newscast readers.

Priorities for 2014/2015 include:

- **Deepen engagement and understanding of the MRIP process** among internal and external audiences and partners with the goals of:
    - Facilitating discussion of needs and priorities with respect to MRIP within and among national, regional and state partners and stakeholders;
    - Providing the communications tools and tactics necessary to meet those needs; and
    - Equipping more individuals, including leadership, to effectively communicate MRIP priorities, milestones and accomplishments on the national and regional levels.
- **Continue conducting field visits to gather feedback.** Complementing similar outreach trips in the Atlantic and Gulf Coasts in previous years, the CET plans to meet with stakeholders and partners on the West Coast in 2014/2015 to continue our efforts to tell the story of MRIP's progress, gather feedback from recreational anglers and test materials. This effort will require developing new messaging in order to reflect the differences in MRIP methodologies and stakeholder concerns on the West Coast, while maintaining our existing outreach efforts in other regions.
- **Support communications related to the new angler effort survey.** Working closely with the Operations Team and the Transition Team, the CET will communicate the

rationale behind the design changes, the extensive testing that has led to the new method, and the MRIP strategy for ensuring a smooth process.

- **Continue expansion of the CET to incorporate regions.** As the CET continues to expand to represent all of the state and regional voices, the national CET staff will support communication and coordination between all members and ensure regional needs are sufficiently incorporated into new and ongoing communications strategies and products.
- **Develop regionally targeted communication materials.** Building on the success of our regionally tailored field sampler handouts, the CET will develop customized materials in additional formats (i.e. videos, presentations) and on additional topics (i.e. best fishing practices, species information).

MRIP Regional Implementation Update

Atlantic (Regional Partnership: Atlantic Coastal Cooperative Statistics Program--ACCSP):

- The For-Hire Programs Inventory, Certification, and Integration Planning project will update the Atlantic coast inventory of for-hire data collection programs. The updated inventory will be used as a basis for a workshop to identify opportunities to promote data availability, improve data timeliness, and reduce the reporting burden by integrating the various data collection programs across states.
- Key decisions for shore and private boat mode intercept survey design have been made and are reflected in recently updated ACCSP standards.
- The ongoing project, Proportional Standard Error (PSE) and Management Uncertainty in Recreational Data Collection on the Atlantic Coast, proposes to establish standards for PSE in recreational data collection that are applicable to various management needs, and to evaluate the effects of uncertainty in recreational harvest estimates on the assessment process.
- MRIP held a workshop to evaluate whether the 2013 change in APAIS sampling design had a significant effect on catch estimates. As a result, three calibration approaches will be developed and tested and the most statistically sound method will be applied to historical recreational fishery catch data.
- The new MRIP Access Point Angler Intercept Survey design has been implemented for shore, private boat and for-hire modes for the entire Atlantic coast, effective March, 2013. Improvements to the sample design were implemented in 2014 that have increased sampler productivity.
- Decisions on using sampling and estimation methodology equivalent to that being used for shore and private boat modes, or switching to census-based design for the for-hire mode, will be necessary, working with all the ACCSP partners. In 2015, MRIP expects to continue to work with partners in North Carolina, the South Atlantic Council and the Gulf Council to pursue effective charter boat electronic trip reporting and dockside validation designs.
- ACCSP standards have been updated to set goals for coverage and timeliness. MRIP supported a workshop in 2014 to develop goals for precision of catch estimates.
- MRIP is developing a simulation model tool that can be used to evaluate the tradeoffs among cost, precision, and timeliness of delivery for preliminary estimates.
- MRIP is currently planning the transition for conducting a new effort survey design, and will conduct both the current Telephone Survey and the new mail survey design side by side in 2015.

- Consistent with the Regional Implementation Policy outlined above, MRIP will work with ACCSP to convene workshops to make choices and secure partner resource commitments based on the precision workshop and tradeoff model outputs, including:
    - Setting goals for survey coverage, precision and timeliness.
    - Evaluating the results of the tradeoff models and making choices and partner resource commitments based on the model outputs.
    - Determining unmet data needs and priorities for additional data collection.

Gulf (Regional Partnership: Gulf Recreational Fisheries Information System—Gulf FIN):

- MRIP held workshops in the fall of 2013 and the spring of 2014 to discuss ways to improve reporting methods for red snapper catch. The workshops led to implementation of several pilot efforts of red snapper-focused survey methods, three of which were supported by MRIP. There are current plans to hold another in the fall of 2014 to look at the progress of various pilot projects in place, observe initial data, and determine next steps.
- New weighted estimation methods have been completed and adopted for estimation of catch rates from intercept data.
- Key decisions for shore and private boat mode intercept survey, and headboat survey catch and effort designs have been made.
- The new MRIP Access Point Angler Intercept Survey design has been implemented for shore, private boat and charter boat modes for the Gulf coast, effective March, 2013. . Improvements to the sample design were implemented in 2014 that have increased sampler productivity.
- Decisions on using sampling and estimation methodology equivalent to that being used for shore and private boat modes, or switching to census-based design for the charter boat mode, will be necessary, working with all the GulfFIN partners. In 2015, MRIP expects to continue to work with partners in North Carolina, the South Atlantic Council and the Gulf Council to pursue effective charter boat electronic trip reporting and dockside validation designs.
- MRIP is developing a simulation model that can be used to evaluate the tradeoffs among cost, precision, and timeliness of delivery for preliminary estimates. These tools should be available for use in 2014.
- MRIP is currently planning the transition for conducting a new effort survey design, and will conduct both the current Telephone Survey and the new mail survey design side by side in 2015.
- Consistent with the Regional Implementation Policy outlined above, MRIP will work with GulfFIN to convene workshops to make choices and secure partner resource commitments based on the precision workshop and tradeoff model outputs, including:
    - Setting goals for survey coverage, precision, and timeliness.
    - Evaluating the results of the tradeoff models and making choices and partner resource commitments based on the model outputs.
    - Determining unmet data needs and priorities for additional data collection.
    - Red snapper management presents unique data requirements that may not be adequately fulfilled by basic MRIP survey methods. MRIP will work with GulfFIN in 2014/2015 to identify and test and evaluate survey designs specific to red snapper needs.

Caribbean:

- Data needs and initial choices of survey design, coverage, etc., for improvement to the survey in Puerto Rico, and for new data collection programs in the U.S. Virgin Islands, were identified in MRIP-sponsored workshops held in 2012. Since then, several pilot projects and modified designs are being tested and will continue into 2015.
- Additional pilot projects may be proposed in future years to develop and test additional data collection methods. Following completion of the pilot projects, additional workshops will be needed with the regional partners (Caribbean Fishery Management Council, U.S. Virgin Islands and Puerto Rico governments, NOAA Fisheries Southeast Regional Office and Science Center), possibly facilitated by GulfFIN, to come to decisions on future survey implementation.
- The MRIP weighted estimation methodology and the improved Access Point Angler Intercept survey design that have been implemented in the Atlantic and Gulf regions are also applicable to Puerto Rico. In 2014, decisions will be made how to most effectively incorporate these improvements in the Puerto Rico surveys.
- The pilot study of the queen conch and spiny lobster recreational fishery in Puerto Rico is seeking to provide answers to several questions regarding the recreational harvest and fishing effort by determining total catch and effort for the two species.

Pacific Islands Region:

- At present, shore and private boat mode catch data are collected via the Hawai'i Marine Recreational Survey (HMRFS), and effort data is derived from a Hawai'i-specific version of the Coastal Household Telephone Survey. The survey design is currently similar to that in use in the Atlantic and Gulf of Mexico Regions.
- A workshop was held in 2013 to discuss the design of a pilot study to test the shoreline fishing survey options, including a roving survey for catch and effort, an aerial effort survey, and a mail survey for fishing effort. These new designs will be tested in 2015.
- The preferred regional approach for collection of data from charter boats is for submission of logbook trip reports by charter boat operators, all of whom are required to hold a Commercial Marine License and report catch to the state. A MRIP-funded project recommended methods to improve the performance of the logbook program, which the regional partners are considering.
- A pilot mail survey of state-registered private boat owners is ongoing. The objective of this project is to obtain estimates of effort and participation of private boat owners to compare to the current telephone survey, as well as provide basic information about boat-based fishing activities in Hawai'i.
- Following completion of the pilot projects, additional workshops will be needed with the regional partners (Western Pacific Fishery Management Council, State of Hawai'i, NOAA Fisheries Pacific Islands Regional Office and Science Center) to come to decisions on future survey implementation.
- The MRIP weighted estimation methodology and the improved Access Point Angler Intercept survey design that have been implemented in the Atlantic and Gulf regions are also applicable to Hawai'i. If the region chooses to maintain the current intercept design approach in the future, decisions will need to be made how to most effectively incorporate these improvements in the HMRFS surveys.
- In American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands a pilot study is ongoing to document the effect of pulse fisheries and also quantify catch generated from fishing methods not generally accounted for with the current creel survey.

West Coast (Regional Partner: Pacific Recreational Fisheries Information Network—Pacific RecFIN):

- All state sampling program methodologies were reviewed in 2010-2011. Issues that were identified have been or are being addressed and all improved methodologies will be submitted for MRIP certification.
- MRIP-funded mobile data collection applications are being pilot tested in California and Washington to collect angler intercept information via tablet devices in the hope of processing data in a more timely fashion. A similar application is being developed for the Oregon Groundfish Observer program to collect at-sea observations of catch and effort
- An implementation plan is under development to guide the migration of the Pacific RecFIN database to a MS-SQL Server environment, following the guidance provided by an online survey of RecFIN users, and feedback given by stock assessors in a "focus group" type of meeting. The RecFIN data and query system will be revised and new reporting tools developed to give users the information they need in a clear and concise context, along with the documentation necessary to understand and interpret it effectively. Gaps in data completeness are being assessed and action will be taken to ensure commonality between the data in RecFIN and the data in each state's internal system.
- Pilot projects funded by MRIP to assess undercoverage issues in Oregon and Washington have resulted in an acknowledgement that sampling needs to be expanded in certain ports in unsampled and off-season months. Future RecFIN Technical committee discussions will focus on management needs and funding priorities to implement pilot project findings.

Alaska:

- All Alaska surveys are funded and conducted by the State of Alaska, Department of Fish and Game (DFG). DFG and other regional partners will be provided with information on improved survey methods developed via MRIP.
- MRIP will remain open to entering into a state-federal partnership in Alaska if desired by the regional partners.

Atlantic HMS:

- Atlantic Highly Migratory Species (HMS) are included in a separate "MRIP Region" due to the unique distribution and management structure for these fisheries. The HMS stocks are widely distributed in U.S., foreign, and international waters in the North Atlantic, including all five Council Regions covering the Gulf of Mexico, Caribbean, and Atlantic. For the most part, Atlantic HMS are managed separately from other MSA-managed fisheries, with a distinct suite of management partners, including a substantial international management component under the International Convention for the Conservation of Atlantic Tunas.
- MRIP has funded projects that :
    - Characterized HMS recreational fisheries in the South Atlantic, Gulf of Mexico and Caribbean, and examined the benefits of expanding coverage of the Large Pelagics Survey (LPS) which currently is conducted from Maine through Virginia.
    - Pilot tested new census-based approaches to estimate recreational landings of key management species such as bluefin tuna and blue marlin.
    - Evaluated current approaches for collecting data from HMS tournaments and recommended ways to improve the accuracy and reliability of this information.

- An ongoing MRIP project is reviewing the current LPS design and estimation methods. Primary objectives include identification of potential sources of bias, proposed survey design and estimation method improvements aimed at better meeting HMS management and stock assessment needs, and development of pilot studies to test the new design.
- MRIP will continue dialogue with key partners (NOAA Fisheries HMS Division, NOAA Fisheries SEFSC, HMS Advisory Panel, NOAA Fisheries Office of International Affairs, ACCSP, GulfFIN), leading to decision-making on improving HMS data collection, possibly via one or more regional workshops.
- A report describing the new and improved LPS estimation methodology will be finalized in 2015 and submitted for MRIP certification. Re-estimation of LPS time series catch estimates will begin following approval of the methodology.