

# Marine Recreational Information Program Implementation Plan: 2009/2010 Update

January 2010

This report provides an update on progress to date, as well as the blueprint for putting MRIP into action. A dynamic document, the *Implementation Plan* will evolve in response to the latest science and the emerging needs of fisheries managers, regulators, policy makers and stakeholders.

# MRIP Implementation Plan

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## Executive Summary

To enhance the quality of estimates of marine recreational catch in United States waters, NOAA Fisheries is developing the Marine Recreational Information Program (MRIP), an improved system of regional surveys that will replace existing marine recreational fishing data collection programs. It will provide better regional monitoring of recreational fishing participation, catches, landings, and releases of finfish species in marine waters and estuaries for all 50 states and the U.S. territories and Commonwealths.

The Marine Recreational Fisheries Statistics Survey (MRFSS), currently the primary source of recreational fishing statistics, was started in 1979 to collect information about recreational fisheries on a regional scale to meet the management needs of the time. Since then, fisheries management programs have become more complex and demand data at a much finer scale than current programs can 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 Research Council (NRC) of the National Academy of Sciences in 2004. The NRC 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, requires NOAA Fisheries to fulfill the recommendations in the NRC report to the maximum extent practicable and to develop a program to improve the quality and accuracy of recreational survey data by January 2009.

The MRIP brings 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. Efforts have focused on: 1) conducting research projects that assess current survey methods and address priority needs for survey improvements (Evaluation Phase); 2) implementing the research findings in the field through a series of pilot projects (Innovation Phase); 3) beginning to implement improved survey and analysis methods and to adopt survey standards and best practices (Activation Phase); 4) developing a program for the national angler registry; and 5) communicating to and involving the public in MRIP activities.

A special effort has been made to maintain open, two-way communications with managers, stock assessment scientists, and constituents to ensure that the needs of those who collect, use, and are impacted by the data are understood, documented, and considered as the program advances.

The MRIP will ultimately become a national system of coordinated regional data collection programs designed to address specific needs for recreational fishing information. The design of regional programs will be guided by ongoing and future research projects that will provide recommendations for modifying current survey methods and implementing new methods. These improvements are being incrementally implemented, beginning in 2009, as alternative approaches are designed and tested, and will continue until the new program is fully implemented. The pace of implementation will accelerate through 2010 and beyond, as research projects and pilot efforts are completed. Initial improvements are addressing fundamental issues identified by the NRC review, including establishment of a Federal angler registry, assessing the

potential for bias in current surveys, and developing data collection standards. As these fundamental survey design and management issues are being resolved, focus will shift towards meeting data users' needs for precision and resolution.

The MRIP goal is a nationwide system of surveys operating with consistent standards and sufficient flexibility to meet national, regional, and state needs, and to provide reliable information about recreational fishing in a timely manner to support effective and fair management.

More information and updates can be found at the MRIP website: [www.CountMyFish.noaa.gov](http://www.CountMyFish.noaa.gov).

## Introduction

NOAA Fisheries is entrusted with ensuring the long-term health and use of America's living marine resources. To meet this very direct, yet exceedingly complex charge, NOAA Fisheries must continually promote and evaluate emerging marine science, build consensus and ensure compliance with management decisions, and balance competing needs of stakeholders with respect to such issues as access, conservation, recreation, and commerce.

Major leaps in our understanding of the complexity and interactions of marine ecosystems have occurred in recent years thanks to independent research, as well as scientific study initiated and funded by NOAA Fisheries. Where it was once believed that fisheries could be effectively managed on a stock-by-stock basis, it is now clear that all management decisions must be viewed in the context of the entirety of their impacts.

In addressing and balancing stakeholder needs, NOAA Fisheries must begin with the question, "To whom do America's oceans belong?" The answer, of course, is all of us. So whether it is the New England fisherman whose family's livelihood depends on this season's catch, the recreational angler from the Midwest who enjoys an annual summer deep-water outing, the Pacific Island SCUBA shop owner who outfits tourists, the Alaskan subsistence fisherman who must provide for his family, or the coastal resident who simply appreciates the mystery and the majesty of the sea, everyone's interest must be considered and uses must be balanced against one another. In addition, NOAA Fisheries must respect the rights and decisions of individual states and tribes, and ensure that its actions complement, not conflict with, regional, state, tribal, and local efforts.

Actions taken by NOAA Fisheries must occur against the backdrop of new fishing technologies; demographic trends that have more people moving to the coast; growing interest in the food and energy potential of our oceans; increasing pressure on the resources from non-fishing factors such as climate change; the ever-changing status of the economy; and the recognition of the immense value of our recreational fisheries in terms of both economic impact and cultural heritage.

It is into this context that NOAA Fisheries is implementing the Marine Recreational Information Program (MRIP). Although NOAA Fisheries is responsible for making MRIP work, the program's design relies extensively on input and commitment from partner agencies, organizations, and individuals. NOAA Fisheries believes that this inclusive approach will result in an efficient and effective data collection program that will meet the dynamic demands for recreational fishing statistics.

NOAA Fisheries envisions MRIP as a program that is the most trusted marine data collection system available. One in which people are confident in the integrity of the information they receive, in which stakeholders are engaged, and one that empowers 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 quality of the management decisions, not the quality of the data.

## 2009/2010 Highlights

### The Framework for Change

MRIP is built on a dual foundation of sound science and public engagement. On the science front, MRIP is informed by the input of dozens of NOAA and independent scientists and other professionals working to address the 200 observations and recommendations made by the NRC in the areas of:

- Effort and Catch Estimation.
- Removal Estimation.
- Data Requirements for Population Assessment.
- Human Dimensions.
- Program Management and Support.
- Communication and Outreach.

In terms of public engagement, NOAA continually meets with data partners, managers, state and local officials, fishermen, members of coastal communities and other interested stakeholders to identify and refine their expectations and data, analysis and outreach needs.

As indicated in the following updates, the MRIP team has made considerable progress on all fronts. For instance, work on implementing the National Saltwater Angler Registry – a vital component in providing more accurate effort estimates – is almost complete, with a launch scheduled for January 1, 2010. In addition, the For-Hire Workgroup is well underway in evaluating the use of logbook reporting and testing the most efficient ways to implement the procedure.

In other areas, progress is equally steady but not as self-evident to those outside the workgroups. The painstaking work of evaluating past surveys, challenging assumptions, testing new methods and ensuring that updated designs deliver on their promise of improvement has consumed thousands of staff and volunteer labor hours and yielded an abundance of valuable insights that are now being tested in the field.

Making this upfront investment in time and intellectual capital is the only way to ensure that MRIP can meet managers' and other stakeholders' needs for data to inform decision and policymaking on issues such as Annual Catch Limits and Accountability Measures. In the interim, NOAA will continue to work with managers, our state partners and other stakeholders to provide the best data currently available to meet statutory requirements.

### National Saltwater Angler Registry

#### In 2009, NOAA Fisheries:

- Adopted the Final Rule to implement the National Saltwater Angler Registry Program. The rule sets forth the requirements and procedure for anglers, spearfishers and for-hire fishing vessels to register with NOAA, and identifies what fishing activities require registration and what parties are not required to register. The rule also includes the provisions whereby states that provide complete angler and for-hire vessel information, or which participate in qualifying regional

surveys of recreational fishing catch and effort, may be designated as exempted states. See Appendix III for details.

- Initiated the process for designating states as exempted states by entering into Memoranda of Agreement under which exempted states will provide data to NOAA Fisheries.
- Assisted states in developing legislation and administrative actions to qualify for exempted state designation under the final rule. Five states (NH, CT, NY, SC, FL) enacted legislation that is expected to qualify the states for exemption. Legislative and administrative actions are under way in five additional states (ME, MA, RI, NJ, PR).
- Completed design of the database that will house the national angler and for-hire vessel registration data.
- Created the registration web site and contracted for toll-free call center services for anglers to register beginning in January, 2010.

#### **In 2010, NOAA Fisheries Will:**

- Register non-exempt anglers and for-hire fishing vessels.
- Build the registry database with information from anglers that register with NOAA Fisheries and with state license/registry data submitted to NOAA.
- Implement dual frame surveys, using both a coastal household and a registry sample frame, in additional states, as state registry data sets are provided to NOAA Fisheries. Continue to develop and refine telephone and mail survey methods thorough dual frame and registry-based pilot projects.

#### **What this will mean to managers, anglers and other stakeholders is:**

- More reliable effort information as a basis for management decision-making.
- A more accurate count of the nation's recreational saltwater fishermen that can be used in determining the impacts of the sector not only on fish stocks, but also on coastal economies, marine stewardship and other important factors.

## For-Hire Survey Review

### In 2009, NOAA Fisheries:

- Documented methodologies for existing for-hire data collections being conducted in the U.S.
- Completed a comprehensive, independent review of ongoing for-hire fishery data collections. The results of the review include recommended best practices applicable to all regions, as well as detailed recommendations for improvement to individual, regional survey programs.

**FOR HIRE REVIEW: Recommended Best Practices for For-Hire Surveys Include:**

- Develop and maintain a complete list of for-hire vessels
- The universal use of logbooks for for-hire vessels.
- For census-based data collections:
  - implementation of methods to validate the self-reported data;
  - complete coverage of all for-hire vessels;
  - at a minimum, weekly reporting of trip-level data;
  - development of an online reporting option.
- Maintenance of complete list of for-hire vessel landing sites
- Ensure that sampling programs utilize probability-based selection of sampling units

- Initiated pilot projects to explore methods recommended by the for-hire survey review, including electronic reporting methods, methods to account for non-response, and a project to design a pilot study that will test the feasibility of logbook reporting in the Gulf of Mexico.

### In 2010, NOAA Fisheries Will:

- Continue to develop and pilot methods for electronic reporting and validation of self-reported data.
- Carry out a pilot project to test the feasibility of electronic trip reporting in the Gulf of Mexico.
- Support the efforts of the regional data collection partnerships to implement survey improvements that address the findings and recommendations of the for-hire review.



**What this will mean to managers, anglers and other stakeholders is:**

- A thorough, field-tested understanding of the cost, timeliness, and practicality of moving to a census-based electronic logbook system.
- Whether a sample- or survey-based data collection method is ultimately chosen, the improved methods will provide a better accounting of the for-hire sector and more complete counts of their customers.

**Evaluation of Whether Estimation Procedures Appropriately Match Sample Designs****In 2009, NOAA Fisheries:**

- Completed a comprehensive inventory of sampling and estimation designs for recreational fishing surveys administered by NOAA Fisheries.
- Conducted a review of sampling and estimation method for the Access Point Intercept Survey component of the Marine Recreational Fishing Statistics Survey (“MRFSS”). Based on that review, developed a revised estimation method, as well as recommendations for changes to intercept sampling design.

**In 2010, NOAA Fisheries Will:**

- Begin to calculate estimates of catch for the Atlantic Coast and Gulf of Mexico utilizing the revised estimation method. Also, recalculate and revise historic estimates of catch for the Atlantic and Gulf coasts based on the revised method.
- Conduct a pilot project to test the recommended changes to intercept survey methods side-by-side with current methods and to evaluate the results.
- Begin to extend the expert review of sample design and estimation to other regional data collection programs.

**What this will mean to managers, anglers and other stakeholders is:**

- Confidence that historical estimates reflect new statistical advancements and are on equal footing with MRIP estimates moving forward.
- A solid statistical foundation on which to make additional survey improvements.

## MRIP Program Strategy

### The “Face of MRIP”: A National Umbrella With Regional Implementation

MRIP will eventually consist of seven regional systems of surveys (see Table 1 below and Appendix II for a description of current regional surveys) adhering to national standards and best practices. In addition to providing each region with the flexibility to address local and/or regional needs, this approach will maximize efficiency by utilizing, to the greatest extent practical, existing infrastructure already developed by existing regional Fishery Information Networks (FINs) and/or state data collection programs. Ultimately, the regional recreational data collection and data use partners will evaluate specific data needs and apply MRIP solutions. They will determine how best to administer and govern regional surveys, resolve currently unresolved issues, determine available funding support levels, and apply funding to regional priorities consistent with MRIP national standards and best practices.

Data collection programs directly managed by NOAA Fisheries will implement improvements as they are identified, documented, and approved by the Executive Steering Committee. For those programs not directly administered and/or funded by NOAA Fisheries, MRIP will provide technical assistance and support for improvements, for example, by enhancing data collection efforts through statistical review and analysis of survey methods, developing information management tools, or providing financial assistance.

#### *National Strategy*

MRIP will develop an overall national “umbrella” of recreational survey design and operational guidance that will apply in all regions. The umbrella will include the following principal characteristics:

- Although there may be some exceptions (e.g. in for-hire fisheries and for infrequently-encountered species), most accounting of recreational catch will be by a sample-based survey and will generate estimates of catch from survey results, rather than by an actual count or census of each recreational fishing trip and each fish caught. The primary focus areas of MRIP are to develop improved sample survey design, estimation methods, and best practices.
- There are different survey methodologies that can provide reliable and useable catch estimates. Regions may decide on the best methods to use, but NOAA Fisheries’ support and participation will require adherence to survey design, estimation, and management standards and best practices as developed via MRIP.
- As recommended by the National Research Council review, surveys of the for-hire fishing mode will be separate from surveys of other fishing modes (shore and boat). For-hire data collection may be either via a census-based or a sample-based survey. If a census-based survey (i.e. trip reporting or logbooks) is chosen, such a survey must be: (1) mandatory and cover all for-hire fishing in the region; (2) enforceable and enforced; (3) verified; (4) affordable; (5) capable of providing verified estimates within the time requirements of regional managers. If a sample-based survey is chosen, survey design and improvements will be undertaken so as to implement recommended survey improvements and standards/best practices as identified by MRIP.

- MRIP will seek to achieve basic standards for survey coverage and basic data elements in all regions to ensure that a basic and complete national picture of marine recreational fishing activity and catch is compiled annually [See Figure XX for a description of national standards adopted in 2009.]
- MRIP is developing enhanced survey design, implementation, and management methodologies, and will adopt standards and best practices as appropriate and feasible, for deployment in the regional surveys. Among the subjects being addressed in this effort are the following:
  - Angler registries for telephone and mail surveys;
  - Optimal ways to design site sampling and estimation of catch for angler intercept surveys;
  - Survey and estimation methods for addressing the effects of undercoverage, particularly for private access and night fishing;
  - Angler panel surveys and other survey methods to improve biological sampling, and to supplement or validate data acquired by primary survey methods;
  - Survey methods to improve estimates of released fish;
  - Survey methods to improve estimates of catch of highly migratory and other infrequently-caught species;
  - Quality assurance and quality control procedures;
  - Survey management methods and communication measures to optimize angler participation and accuracy of reported data.
- MRIP will establish national goals, strategies, and an implementation program for outreach to build stakeholder awareness and support for the program.

**FIGURE 1: NATIONAL STANDARDS FOR SURVEY COVERAGE AND BASIC DATA ELEMENTS**

Coverage Standards: Surveys produce annual estimates by regions and for each state within a region. Regions are as identified in Table 1. States are as defined in 16 U.S.C. 1802. Surveys cover all recreational fishing for marine, estuarine and anadromous finfish (see note below) in all marine waters and estuaries bordering the states.

Required Data Elements: The following estimates are produced not less frequently than annually for each state in a region:

1. Number of recreational fishing days;
2. Number of participating recreational fishers and number of participating for-hire fishing vessels derived from survey estimates or from directories based on license or registration data;
3. Recreational catch and landings in numbers of fish for each species (or, where multi-species groups are managed or assessed as a unit, by such species group), and further specified as:
  - a) By mode of fishing, including at a minimum, shore, private boat and for-hire modes; and
  - b) By area fished, including, at a minimum, EEZ, territorial sea, and internal waters of the state, or other primary jurisdictions applicable to regional management.
5. Unless not utilized in management or stock assessment for the species, mean weights of fish landed for each species (or, where multi-species groups are managed or assessed as a unit, by such species group), and further specified as:
  - a) By mode of fishing, including, at a minimum, shore, private boat and for-hire modes; and
  - b) By area fished, including, at a minimum, EEZ, territorial sea and internal waters of the state, or other primary jurisdictions applicable to regional management.
6. Mean lengths and weights of fish caught and released for each species, wherever direct observations and measurements can be obtained.

Note: While also important, developing methods for monitoring recreational fishing for invertebrates, finfish in freshwater areas, or protected resources interactions are beyond the initial scope of MRIP and these standards.

*Regional Surveys*

Within the national MRIP “umbrella”, regional survey partners will make their own decisions, in consultation with the key fishery management partners (Councils, States, NMFS Regions/Science Centers, NMFS HMS) in the region, as to survey parameters within the region. The principal decisions that regional survey partners will make include:

- Basic survey design choice(s);
- Coverage beyond the standard minimum to accommodate region-specific data needs, including geographic scope and species included;
- Sample design to increase the spatial resolution of estimates below the state level;
- Sample design, frequency and data reporting and analysis processes to deliver estimates more (or less) frequently than the standard;
- Requirement for a census vs. a sample-based survey for the for-hire mode;
- Supplemental surveys required to produce or improve estimates of: infrequently caught species; protected resources; social and economic data;
- Supplemental surveys required to verify and improve confidence in basic survey estimates;
- Biological sampling requirements;
- Regional outreach programs, including measures to build and maintain stakeholder awareness, involvement and support for the data collection program, and confidence in the resulting estimates.

Table 1. Current Regional Surveys and Key Survey Characteristics

| Region                      | Key Characteristics   |
|-----------------------------|---|
| Atlantic Coast (ME-FL east) | Base Funding: NMFS<br>Supplemental Funding: States & ACCSP<br>Unresolved: Decision-making and role of ACCSP<br>Administration: NMFS + GSMFC (east FL only)                          |
| Gulf Coast (FL west-TX)     | Base Funding: NMFS + TX<br>Supplemental Funding: States<br>Decision-making: RecFIN SE + TX<br>Administration: GSMFC + TX + NMFS<br>Unresolved: Relationship of TX surveys to RecFIN |
| Caribbean                   | Base Funding: NMFS + PR<br>Unresolved: Decision-making + surveys in USVI<br>Administration: GSMFC + NMFS + PR   |
| Pacific Coast (CA, OR, WA)  | Base Funding: NMFS + CA, OR, WA<br>Decision-making: Pacific RecFIN<br>Administration: PSMFC + NMFS  |
| Alaska                      | Base Funding: AK DFG<br>Supplemental Funding: (formerly, not at present) NMFS (via earmark)<br>Decision-making: AK DFG<br>Administration: AK DFG<br>Unresolved: role of NMFS        |
| Hawaii                      | Base Funding: NMFS + HI<br>Decision-making: HMRFS<br>Administration: NMFS + HI  |
| American Samoa, Guam, CNMI  | Base Funding: NMFS + territories/commonwealth<br>Decision-making: WPacFIN<br>Administration: NMFS + AS/GU/CNMI  |

## MRIP Priorities and Sequence of Implementation

Successfully redesigning the Nation's marine recreational fishery catch and effort monitoring programs requires a well-coordinated, phased approach. In the initial, or Evaluation phase, current survey methods are being fully documented and evaluated. Second is the Innovation phase, in which new survey methods are being developed and tested via pilot projects and the results compared to use of current methods. In the final Activation phase, survey improvements will be implemented. MRIP will establish survey standards and best practices based on the results of the projects in the first two phases. NOAA Fisheries and its partners will implement

improvements in survey design and management and will expand sampling as necessary and possible to achieve improved spatial and temporal resolution of catch estimates in consultation with our regional data collection partners.

The following are the specific priorities that MRIP seeks to address:

| MRIP OBJECTIVE   | PHASE             |
|--|-------------------|
| Evaluation of current sampling and estimation methods.   | <b>EVALUATION</b> |
| Improved sampling and estimation designs for future surveys. <ul style="list-style-type: none"> <li>▪ Pilot testing of new sampling and estimation methods.</li> <li>▪ Phased implementation of new survey methods.</li> <li>▪ Benchmarking of new survey methods against old survey methods.</li> </ul> | <b>INNOVATION</b> |
| Meeting customer needs for precision and resolution.   | <b>ACTIVATION</b> |

NOAA Fisheries and the Regional Survey programs will sequentially implement survey improvements in the Activation Phase as results of Innovation step projects are available, and as NOAA and its partners are able to confidently determine what survey changes should be implemented.

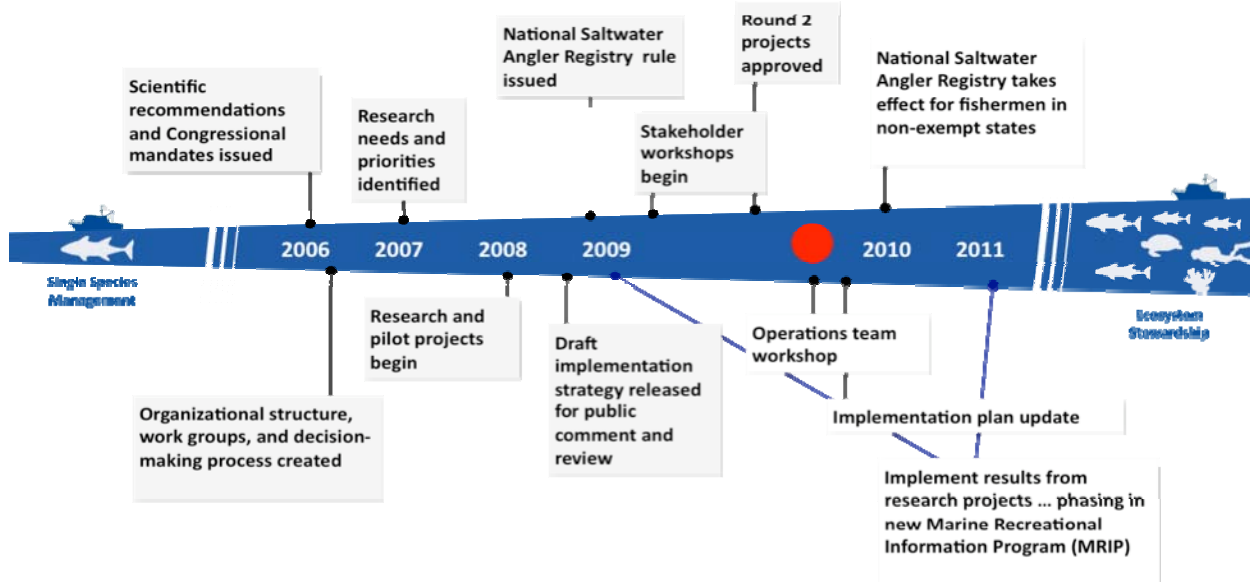
### 2010 MRIP Research Priorities

The MRIP Operations Team conducted a two-day workshop in September, 2009 to review program progress and identify preferred research areas for 2010. The OT identified 16 research areas, which are described in order of preference in Table 2. MRIP Work Groups will be asked to develop projects that address these research areas. Projects initiated in 2010 will continue to concentrate on fundamental program improvements identified by the NRC. Projects addressing the highest priority research areas will be given first consideration for funding.

Table 2. List of preferred MRIP research areas for 2010.

| Priority | Project Area   | Description/Comment  |
|----------|--|--|
| 1        | Continue to develop/enhance procedures for sampling anglers from registries or state license databases.  | Includes additional testing of alternate modes, assessment of measurement, coverage and non-response error.  |
| 2        | Develop and implement studies to compare catch rates, catch and fishing characteristics and angler characteristics between accessible and inaccessible fishing sites (private access and night fishing). | Continue to develop and support projects that test for potential biases associated with under-coverage of intercept survey sample frames.  |
| 3        | Assess sampling and estimation methods for CHTS, FHS, Pacific RecFIN, AK, TX, LPS, participation, etc.   | Current efforts have focused on MRFSS access-point intercept survey. Other programs should be assessed. Could include comparisons with methodologies used for National Survey of Fishing, Hunting and Wildlife-Associated Recreational Activities. |
| 4        | Develop projects to assess data collection costs to support fisheries management   | For example, what level of funding is needed to support in-season quota management, ACL's and AM's.  |
| 5        | Further develop and implement pilot studies to test alternative methods for collecting discard data.   | Discard Project Team identified 3-4 potential pilot studies to test alternative methods for collecting discard data.   |
| 6        | Implement studies to develop and test "best practice" recommendations from for-hire review.  | For example, Gulf of Mexico census logbook, implement improvements to the Southeast Headboat Survey, etc., VTR/FHS integration, non-response follow-up studies.  |
| 7        | Develop survey methodologies for "rare event" or pulse fisheries.  | Generalized recreational fishing surveys may not provide adequate coverage of rare event fisheries such as red snapper in the South Atlantic, HMS, etc.  |
| 8        | Expand Angler License Directory Surveys (ALDS) / Dual-Frame estimation methodology to additional states/regions.   | Begin to utilize Federal Angler Registry once it becomes effective (January 1, 2010). License survey project team is still developing improvements.  |
| 9        | Expand geographic coverage of recreational fishing surveys.  | For example, develop recreational fishing data collection program for the USVI.  |
| 10       | Develop MRIP information management architecture   |  |
| 11       | Develop data collection methodologies to cover upstream/freshwater portions of anadromous species ranges.  | Was requested by ASMFC last year for Atlantic Coast.   |
| 12       | Develop comparisons between fishing statistics and alternative indicators of fishing effort (e.g. fuel, bait, tackle sales).   | A recurring issue in criticism of MRFSS estimates not matching angler opinions about effort and effects of variables such as weather and fuel prices.  |
| 13       | Increase the geographic resolution of current survey methods.  | For example, stratification of FL into 5 areas.  |
| 14       | Expand temporal coverage of existing recreational fishing surveys.   | For example, wave 1 sampling on Atlantic coast.  |
| 15       | Develop model-based and/or model-assisted estimators for domains that have insufficient sample sizes for direct estimation.  | The NRC Review provides several examples and applications. Applications could include sub-state estimates (e.g. Chesapeake Bay), low activity waves, and sub-wave estimates.   |
| 16       | Increase the temporal resolution of current survey methods.  | For example, 1-month waves.  |

## MRIP Implementation Timeline



## Project Updates

### Design and Analysis Work Group (DAWG)

The NRC noted that both the telephone and in-person interview components of the angler surveys include data collection and analysis procedures that are based on unverified assumptions. These assumptions may lead to biases in catch and effort estimations. The DAWG is charged with addressing assumptions and potential biases in existing data collection programs and, when necessary, developing new data collection methodologies that will produce more accurate estimates of recreational fishing catch and effort. Projects developed by the group are addressing the recommendations from the NRC and will ensure that data collection and analyses meet the demands of fisheries managers, to the greatest extent practicable. The work group is developing a system of surveys that will provide more robust information on angler catch and effort with a workable transition from the existing surveys.

Projects that have been developed and implemented by the DAWG include:

- Development of Survey Methods that Utilize Angler Registries as Sample Frames:** The NRC recommended that future surveys of fishing effort should be based on a universal sampling frame of anglers. The MSA reinforced that recommendation by mandating the, “use of surveys that target anglers registered or licensed at the State or Federal level...” This project, which will evolve as a series of sub-projects, is developing new survey methods that capitalize on the establishment of Federal angler registration requirements while minimizing the potential for error resulting from under-coverage of angler populations, non-response, and misreporting.



Current efforts have focused on integrating registry frames that are incomplete due to licensing exemptions and traditional random-digit-dialing (RDD) frames in a dual-frame telephone survey approach. Ongoing MRIP pilot studies in North Carolina and Louisiana have demonstrated that a dual-frame telephone survey provides considerably greater coverage of anglers than telephone surveys that rely solely on registry or RDD sample frames. Based upon the success of these pilot studies, the methodology will be expanded to Washington in September, 2009 in a study that will also compare resulting effort estimates to estimates derived from a field-based survey of fishing effort.

Future studies will continue to improve upon the dual-frame methodology. A dual-frame mail survey has been approved and will be implemented during the fall of 2009 to test the feasibility of using mail as a data collection mode and assess potential biases in the ongoing telephone surveys. Specifically, the survey, which will sample from an angler registry frame and a comprehensive residential address frame, will assess the coverage, response rates and timeliness of a mail survey approach, as well as begin to quantify reporting errors in existing telephone surveys of fishing effort. The mail survey will be implemented in North Carolina during wave 6 (November/December), 2009.

Pending the results of the dual-frame mail survey, additional projects will be developed to improve angler recall of past fishing activities and measure the impact of non-response on fishing effort estimates. These studies will result in recommendations for designing and implementing surveys that use angler registries as sampling frames.

- **Improving Recreational Fisheries Discard Data:** The NRC suggested that better methods are needed to estimate the number, size distribution and disposition of released fish. Furthermore, the review stated that existing intercept surveys might not provide enough detail to estimate mortality of released or discarded catch. Not knowing the number of released fish or their mortality could impact stock assessments.

The project team has completed an analysis comparing angler-reported and observed discard data from headboat trips on the Atlantic coast. The analysis revealed no systematic difference between observed and angler-reported data, suggesting that headboat anglers are able to accurately recall the number of fish discarded. Future studies will attempt to make similar comparisons for other fishing modes and/or geographic regions. To this end, the project team has generated ideas for several pilot studies and will be submitting project plans for further project development and pilot study implementation during 2010.

- **Evaluation of Sampling and Estimation Designs:** The NRC concluded that estimation procedures for recreational fishing surveys might not be consistent with corresponding sampling designs. Such inconsistencies could result in biased estimates of catch and effort, as well as their corresponding variances.

Due to the large number of recreational fishing surveys, the project team is sequentially assessing the sampling and estimation designs for the regional programs. Initial efforts have focused on the MRFSS Access-Point Angler Intercept Survey (APAIS). The project team has fully documented the sampling and estimation designs for all MRFSS

surveys and has developed a new estimation approach for the APAIS that provides an unbiased estimator of catch rates. The methodology will be validated by an independent panel of experts and implemented during the fall of 2009. Implementation will include estimation of catch rates for future survey waves, as well as a retrospective re-estimation for the period from 2002-present.

The project team has also developed an alternative sampling design for the APAIS that more closely adheres to the principles of probably sampling theory. The multi-stage design, which will be pilot tested in NC beginning in wave 6, 2010, institutes firm guidelines for sample selection (fishing sites, vessels, anglers), establishes new protocols for determining and recording fishing pressures at intercept sites, eliminates sampler flexibility in choosing alternate interview sites or fishing modes, and accounts for fishing that occurs during off-peak hours. Lessons learned from the pilot study will be directly applicable to other states and regions.

Future projects will examine sampling and estimation designs for additional recreational fishing surveys (e.g. Pacific RecFIN surveys, CHTS, FHS, LPS) beginning in 2010.

- **Survey Coverage of Angling Populations:** The NRC review identified gaps in the coverage of CPUE survey sampling frames. Specifically, the review noted the inability of current surveys to sample anglers who fish from private shorelines or those who take boat trips departing from private docks. The review also highlighted the lack of sampling from trips that occur or return to the dock at night. Current sampling and estimation procedures assume that catch and effort characteristics of non-sampled segments of angling populations are similar to those of sampled segments. Catch and effort estimates could be biased if these assumptions are invalid.

The project team provided support to the development and implementation of a panel survey in CA to test the assumption that fishing trips that are not covered by current intercept surveys have similar catch and effort characteristics as trips that are covered by the surveys. Two independent panels of southern California anglers who fish from boats, one representing public-access fishing activities and one representing private-access fishing activities, were recruited from eight sources including known boat anglers from current and past angler telephone surveys and anglers intercepted at fuel docks. Panelists, who are provided with logbooks to facilitate monthly reporting, can report by mail, fax, or by telephone interview. The CA panel survey was implemented November 1, 2008 and will continue through October 31, 2009.

The project team intended to develop additional pilot studies to assess potential errors resulting from under-coverage of intercept survey sample frames during 2009. However, a shortage of human resources has limited the ability of the team to advance other pilot studies. In addition, the team considered utilizing the dual-frame mail survey (described above) as a screener survey to identify a group or panel of anglers from whom to collect catch information. Ultimately, it was determined that the scope of the mail survey should be limited until the methodology proves to be a viable means for collecting fishing information. Based upon the success of the mail survey, the project team will reassess potential offsite methodologies for collecting catch information during the fall and winter

of 2009 with the goal of implementing additional pilot studies during the summer of 2010.

### Data Management and Standards Work Group (DMSWG)

The NRC recommended greater standardization among regional surveys and between state surveys and national surveys. Specifically, the review called for a “greater degree of coordination between federal, state, and other survey programs...to achieve the national perspective on marine recreational fisheries that is needed.” This group is charged with developing and maintaining data collection standards, protocols, and data access portals for the MRIP. The DMSWG is responsible for ensuring the comparability and compatibility of recreational fishing statistics among regional data collection programs while recognizing that each region has unique information needs and data collection issues.

Projects that have been developed and implemented by the DMSWG include:

- **Identify and Consolidate Information on Existing Recreational Datasets:** The initial step toward developing data standards is to identify and summarize existing recreational fishing data collection programs (including for-hire and highly migratory species). This project resulted in a comprehensive inventory of existing state and federal data collection programs, including surveys, logbooks, catch card, tournament, tagging programs and others. Information for sixty data fields were collected, including program definitions; sampling, data collection, and data processing procedures; metadata standards; data management documentation; data elements and definitions; and data access protocols.

To facilitate the documentation of data collection programs, the project team developed the MRIP Data Management and Standards (MDMS) system, a web-based database driven tool in which to store the data. Ultimately, the information compiled within MDMS will be uploaded to InPort, the metadata system developed by the Fisheries Information System (FIS) Program for managing metadata for both commercial and recreational fisheries monitoring programs. The Work Group delivered a report describing the functionality of MDMS, as well as a summary of documented data collection programs, in November 2008.

- **Management and Dissemination of Recreational Fishing Information:** In an effort to enhance data management and data reporting capabilities of recreational fisheries statistics, the project team is supporting the redesign of the Pacific RecFIN website. A contractor has been hired to develop the website, and a Beta version website has been created. The project is scheduled to be completed June 2010.
- **Evaluation of Quality Assurance and Quality Controls in Recreational Fishing Data Collections:** The NRC suggested that, “the sampling process [for recreational fishing data collections] requires greater quality control.” To that end, the DMSWG has developed a project that will include a complete inventory and assessment of current quality control (QC) and quality assurance (QA) processes, from development and maintenance of sample frames, through collection of survey data and calculation of estimates. Initially, the project will focus on documenting all QA/QC processes,

including development of data flow diagrams that clearly illustrate the timing and sequence of existing data quality measures. Concurrent to this documentation, data users and constituent groups will be queried to assess perceived shortcomings in the data collection process. Finally, the documentation and stakeholder feedback will be assessed at a workshop where the project team will develop recommendations for improving QA/QC processes.

The project team has requested feedback from a variety of data users groups, and regional data collection partners have been requested to document QA/QC procedures and develop data flow diagrams. A workshop will be conducted during Winter 2010, and the project team will submit a report documenting recommended enhancements to data quality processes in Summer 2010.

### For-Hire Work Group (FHWG)

The NRC suggested that the for-hire industry be considered a commercial sector and that reporting requirements for this sector should be different from recreational fishing activities. Specifically, it recommended that for-hire operations be required to maintain and submit logbooks documenting fishing effort and catch. There is no existing broad authority to implement the NRC's recommendation for mandatory logbook reporting, but, MRIP is evaluating ways to improve reporting by using all current programs of NOAA Fisheries, the councils, and the states. For example, several regions have implemented for-hire-specific sampling programs that have greatly enhanced data collection in the for-hire sector.

In addition, several states conduct logbook-reporting programs, and NOAA Fisheries administers mandatory logbook reporting for portions of the for-hire fleet in the Northeast and Southeast Regions. In some cases, sampling and logbook programs have been used in dual-frame methodologies to reduce bias and improve precision. The FHWG is charged with addressing data collection issues that are unique to charter, guide, and head boat fishing activities, and ultimately recommending regional approaches for collecting catch and effort data from the for-hire sector.

Projects that have been developed and implemented by the FHWG include:

- **Expert Review of Methods Used to Assess For-Hire Marine Recreational Fisheries of the U.S. (For-Hire Review):** As a follow-up to the general recommendations provided by the NRC, the For-Hire Work Group initiated a detailed, independent review of existing data collection methodologies for the for-hire sector. The three-member review panel, consisting of experts in fisheries management and survey statistics, was asked to provide "best practice" recommendations for collecting catch and effort data from the for-hire sector, and identify improvements that could be made to ongoing sampling and/or census logbook data collections. The full report is available at [www.CountMyFish.noaa.gov](http://www.CountMyFish.noaa.gov)

To facilitate the review, the Work Group compiled detailed documentation of ongoing data collection programs. The comprehensive for-hire data collection inventory was completed and submitted to the OT in August, 2008. The review panel completed its































































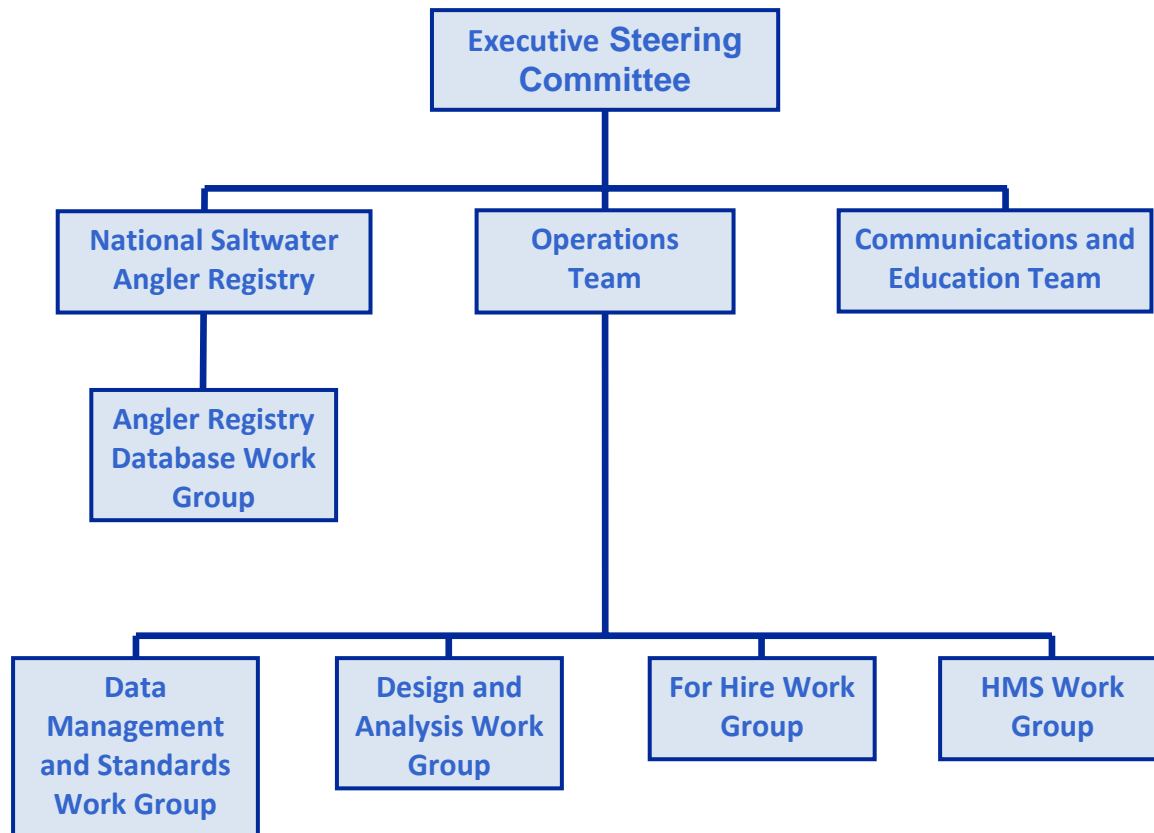






- Communications and Education Team: carries out strategic communications to ensure partners and constituents are engaged in the redesign process and kept well informed and apprised of the initiative's progress.

### *MRIP Organizational Chart*



### Identifying and Implementing Survey Improvements

The top priorities for any improved data collection system should be to identify and implement data collection and data management improvements. For MRIP, that task is the responsibility of the Operations Team, which includes representation from state natural resource agencies, fishery management councils, interstate marine fisheries commissions, the recreational fishing industry, and NOAA Fisheries. The Operations Team conducted a thorough review of the NRC's report, the proceedings from the Denver Requirements Workshop, and the MSA, and identified over 120 recommendations for improving recreational fishing surveys. These were consolidated into 29 recommendations prioritized for each region. Priorities were based upon factors such as anticipated impact, ease of implementation, and dependencies upon other recommendations. Several recommendations were not prioritized because they were already being addressed, beyond the scope of the Operations Team's responsibility, or identified as general themes that would be addressed through the cooperative nature of the MRIP process.

Upon approval of the prioritized recommendations by the Executive Steering Committee, the Operations Team developed a Work Plan for Improving Marine Recreational Fishing Data Collection Programs. It established five work groups to develop and implement research projects related to survey design, data analysis, data management and standards, data collection for for-hire fishing, and data collection for HMS fishing. The work plan can be found at the following website:

([http://www.st.nmfs.noaa.gov/mrii/documents/Work\\_Plan\\_for\\_Improving\\_Data\\_Collection\\_Programs.pdf](http://www.st.nmfs.noaa.gov/mrii/documents/Work_Plan_for_Improving_Data_Collection_Programs.pdf)),

The Operations Team later combined survey design and data analysis into a single category, resulting in the current four MRIP work groups:

- Design and Analysis Work Group (DAWG),
- Data Management and Standards Work Group (DMSWG),
- For-Hire Work Group (FHWG),
- Highly Migratory Species Work Group (HMSWG).

The members of these groups are the ones organizing and doing the hard, technical analysis needed to improve the surveys. Each work group consists of 10-20 members and includes representatives from State natural resource agencies, marine fisheries commissions, regional fishery management councils, NOAA Fisheries, and recreational fishing interest groups. Members were selected according to individual expertise in the work group's area of study and to provide balanced regional representation. Each work group was charged with selecting a chairperson who is responsible for ensuring effective communication within and among the work groups. The Operations Team conducts monthly conference calls with the work group chairs to facilitate this communication. These conference calls provide an opportunity for the work group chairs to update the Operations Team on project progress, as well as identify opportunities for collaboration among the work groups.

To initiate project development, the Operations Team hosted a workshop in St. Petersburg, FL in August 2007, where work groups received formal charges and were provided with an opportunity to begin project planning. Specific work group charges are included within the Work Plan for Improving Marine Recreational Fisheries Data Collection Programs. Generally, work groups were charged with developing and implementing projects that address the recommendations identified by the Operations Team.

Following the workshop, the work groups were asked to continue project development and submit final project plans to the Operations Team by the end of October 2007. Final project plans were to include an overview of each project, including the purpose and scope, a schedule and milestones, and an estimated budget.

After receiving final project plans, the Operations Team convened to review and prioritize the projects, and ultimately provide project funding recommendations to the Executive Steering Committee. Priorities were based upon the following criteria:

- Is the project consistent with the priorities identified by the Operations Team?
- Is the project consistent with the mandates of the MSA reauthorization to improve

recreational statistics?

- Significance of the expected project results. Do they have potential benefits that are worth the investment?
- Can the results of the project be expanded to improve national and regional programs?
- Practicality: are the scope, design, timeline, and budget reasonably matched?
- Will the project address an important management or science need?

Of the seventeen project plans submitted by the work groups to the Operations Team, sixteen were recommended for funding.

Recognizing the complexity of MRIP projects and the value of an outside perspective, the Operations Team solicited a team of statistical consultants to support the work groups. The Operations Team concluded that consultants would provide the expertise needed to effectively develop and execute projects, as well as provide additional credibility to project conclusions and work group recommendations. The consultant team includes three members from the NRC Review Panel. In addition to being experts in survey design and analysis, these individuals are familiar with existing recreational fishing data collection programs through their involvement with the NRC review. These individuals were asked to support the MRIP work groups, as well as recommend additional consultants to support the MRIP process. Currently, twelve consultants from academia and private survey design firms are supporting MRIP projects.

### APPENDIX III- Summary of Registry Rule

The Final Rule to implement the requirements of § 401(g)(1) of the Magnuson-Stevens Fishery Conservation and Management Act is encoded at 50 CFR § 600.1400-1417, and is summarized below. The complete text of the final rule can be found at:

[http://www.st.nmfs.noaa.gov/mrip/aboutus/organization/downloads/Saltwater\\_Angler\\_Registry\\_Final\\_Rule.pdf](http://www.st.nmfs.noaa.gov/mrip/aboutus/organization/downloads/Saltwater_Angler_Registry_Final_Rule.pdf)

The Final rule:

- Establishes the procedures and details of the registry program that implement the requirements of the statute;
- Was published in the Federal Register on December 30, 2008;
- Is effective January 29, 2009. The federal registration requirement is effective January 1, 2010.

Under the final rule, the following parties will need to register with NOAA Fisheries as of January 1, 2010:

- Persons and for-hire fishing vessels (party, charter and guide boats) which engage in angling or spearfishing for any fish in the U.S. Exclusive Economic Zone (“EEZ”) or for anadromous species (striped bass, shad, smelt, river herring, sturgeon, salmon) in any tidal waters;
- Angling or spearfishing includes fishing for, attempting to fish for, catching, or attempting to catch, fish using angling or spearfishing equipment;
- Operators of a for-hire fishing vessel in the EEZ;
- Persons and for-hire fishing vessels which possess angling or spear fishing equipment and which also possess fish in the EEZ or anadromous fish ion any tidal waters

The following are not required to register with NOAA Fisheries:

- Persons under age 16;
- Persons who are angling on a state or federally-licensed for-hire fishing vessel;
- Persons who are licensed or registered by an Exempted State, or who are not required to be licensed or registered under the laws of an Exempted State;
- For-vessels which hold a NMFS-issued for-hire fishing permit;
- Persons who hold a NMFS HMS Angling Category permit;
- Persons who are lawfully angling or spearfishing pursuant to a state-issued or NMFS-issued commercial or subsistence fishing license or permit.

Summary of the NOAA Fisheries registration process:

- Persons may register on-line at a web portal provide by NOAA at: [WWW.NMFS.NOAA.GOV](http://WWW.NMFS.NOAA.GOV), or by calling a toll-free telephone number.
- Individuals will submit name, address, telephone number, date of birth and region(s) of the country in which they expect to fish;

- For-hire fishing vessels will also submit vessel identification and location information;
- A temporary registration number, valid for 30 days, will be issued at the time of registration;
- A permanent registration card and number will be mailed to the registrant. The registration will be valid for one year from the date of issuance.
- There will no fee for registration in 2010. A fee will be charged beginning in 2011.

States may be designated as Exempted States in two ways. They may submit specified information about holders of state saltwater fishing license or registrations or by participating in a qualifying regional survey of marine recreational fishing. Exempted States must enter into a Memorandum of Agreement with NOAA Fisheries to formalize their agreement to submit the specified data.

Requirements for states to be designated as Exempted States based on submission of state license-holder or registration data:

- States must enter into an MOA and agree to submit license-holder or registrant data to NOAA Fisheries, at least annually;
- Data must include names, addresses and, to the extent available in the state's data base, telephone numbers and dates of birth of anglers and for-hire vessels/vessel operators who are licensed to fish, or who are registered as fishing, in the tidal waters of the states, or for anadromous species.

States may be designated as Exempted States, if their licensing/registration requirements exclude the following:

- Anglers on licensed for-hire fishing vessels;
- Anglers on state-licensed fishing piers, provided the state can account for such anglers in its data base;
- Anglers under age 16;
- Anglers over age 60 (for two years only);
- Active duty military personnel who are on furlough;
- Disabled persons.

States may not be designated as Exempted States, if their licensing/registration requirements exclude the following:

- Passengers on a private fishing vessel;
- Passengers in a beach buggy;
- Anglers fishing from private property;
- Anglers fishing from shore;
- Anglers fishing from a public pier;
- Anglers and for-hire fishing vessels fishing in some saltwater areas of the state.

States must also develop the following improvements to their license-holder/registry data within two years of being designated an Exempted State:

- Provide identification and telephone numbers for seniors who are not required to hold state licenses/registrations;
- Identify saltwater anglers within combination license-holder data bases;

- Refresh address and telephone numbers for holders of lifetime licenses.

Requirements for states to be designated as Exempted States based on submission of recreational survey data:

- State must participate in a qualifying regional survey of marine recreational fishing catch and effort;
- State must enter into a MOA with NOAA Fisheries and agree to provide data from the survey.

Qualifying Regional surveys must:

- Include all of the states within one of the following regions: Atlantic coast--Maine through Florida (east); Caribbean--Puerto Rico and USVI; Gulf Coast--Florida (west) through Texas; Pacific coast--California, Oregon, Washington; Alaska; Hawaii; western Pacific islands--Guam, American Samoa, CNMI.
- Utilize angler registry data to identify anglers to be surveyed by telephone, if the survey includes a telephone survey;
- Meet NOAA Fisheries survey design standards and best practices.