

<b><i>NATIONAL MARINE FISHERIES SERVICE PROCEDURE 04-114-02</i></b>	
Effective on: September 4, 2019	
To be reviewed on: September 2024	
Science and Technology	
Implementing Recreational Fishery Catch and Effort Survey Design Changes 04-114	
Guidance and Procedures for the MRIP Certification Process	
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## I. Introduction

To ensure that statistics derived from existing and new MRIP recreational surveys meet statutory requirements and promote nationwide consistency of recreational catch and effort data, MRIP has established a rigorous certification process for ensuring survey and estimation methods are scientifically sound. Once certified, the survey method or component is eligible for potential MRIP funding and use by MRIP partners. In general, MRIP only supports surveys (via funding, staff, etc.) that apply methods that have been MRIP certified. MRIP may support continuing use of legacy survey methods that are not certified, provided: (1) the data produced by such surveys has been utilized in peer reviewed applications, such as fisheries stock assessments; (2) a MRIP Regional Implementation Plan identifies the need to continue such survey, and (3) a plan to certify those survey methods is in place and is being followed. The detailed procedures for the MRIP certification process follow.

## II. Objective

This document specifies guidance and procedures to implement Policy Directive 04-114, which addresses the requirements and process for certifying recreational catch and effort survey designs. It describes the role and responsibilities of the Office of Science and Technology (ST) in reviewing and certifying candidate survey designs, the processes for certification review and decision-making, and the processes for documenting and archiving

survey design details. It also provides general Terms of Reference for certification reviews.

### III. Guidance

#### i. Certification Requirements

To be considered for MRIP certification, recreational catch and effort survey design and estimation method components must fall into one of three categories:

- 1) New or replacement designs and methods;
- 2) Modifications or recommended improvements to existing designs and methods; or
- 3) Existing survey designs and estimation methods.

Moreover, to be eligible for funding consideration, certified survey components must be relevant to marine recreational fisheries data collection within the scope of MRIP, provide data currently being provided by MRIP, and meet the applicable requirements of the MRIP Data Standard.

To be considered MRIP certified, surveys or survey components must:

- 1) Adhere to applicable MRIP standards and procedures including: the MRIP Program Management, Policy and Procedural Manual: MRIP Data Standard; [Recreational Fishing Survey Standards and Best Practices](#); other MRIP standards as applicable.
- 2) Be peer reviewed and supported by the results of the review;
- 3) Be recommended for approval by the MRIP Program Management Team (PMT) and other MRIP teams assigned by the PMT to review the survey;
- 4) Be approved by the MRIP Executive Steering Committee; and
- 5) Be approved by NMFS Leadership.

The current, detailed MRIP requirements for certifying a survey are as follows:

- 1) The recreational fisheries survey methods, including detailed methods for representative sampling and statistical estimation, must be fully documented;
- 2) The survey must be conducted to test its feasibility in a pilot study, or its feasibility and performance must be assessed by another acceptable method, and an evaluation of pilot study results must be provided along with the certification request;
- 3) The survey methods and pilot study results must be reviewed and evaluated by independent peer reviewers who are qualified as subject matter experts to conduct reviews of statistical survey designs; and
- 4) The survey methods must be endorsed by the peer review and must meet the following criteria:
  - a. Survey design components that employ sampling must follow a formal probability sampling protocol with known inclusion probabilities at all

- stages and/or phases of sampling;
- b. The estimation methods appropriately weight the sample data to account for the sampling design and produce design-unbiased point estimates and variance estimates;
  - c. Appropriate methods are in place to measure and/or correct for potential biases due to under-coverage, nonresponse, or response errors;
  - d. The sensitivity of the accuracy of the survey to assumptions made about segments of the target population that are not covered by the survey frame is fully understood, and measures to reduce or limit that sensitivity are described;
  - e. The sensitivity of the accuracy of the survey to other potential sources of non-sampling error is fully understood, and measures to reduce or limit that sensitivity are described;
  - f. The sensitivity of the survey design to potential errors in implementation is documented and measures to evaluate, reduce or limit that sensitivity are described;
  - g. There is complete documentation of how the survey design compares to the legacy survey design it would replace, and a characterization of whether it is more statistically sound and efficient, or at least comparable in its statistical validity and efficiency, is described. The design features that are most important in supporting this assessment are documented;
  - h. There is an assessment of how the survey design compares with other survey designs previously certified by MRIP for estimating fishing effort and/or catch for the same fishing mode(s). The assessment should address whether: the survey is more statistically sound and efficient, or is at least comparable in its statistical validity and efficiency; and what design features are most important in supporting this assessment.
  - i. The survey is collecting data and producing information products that meet the needs of the primary customers (stock assessment scientists and fishery managers).

After survey designs have been certified, they are eligible for MRIP funding and technical support, as available and consistent with priorities in the applicable MRIP Regional Implementation Plan.

Two additional requirements must be met before the statistics from a certified survey can be utilized by NMFS, as per Policy Directive 04-114:

- 1) A plan for integrating data and/or estimates produced by specialized or supplemental surveys with data and/or estimates produced by the general surveys they were designed to supplement has been prepared and executed; and
- 2) A plan for calibrating statistical estimates produced by the new survey approach against estimates produced by the legacy survey it is intended to replace, or against estimates produced by other surveys conducted for the same purpose in other states in the sub-region, has been prepared and executed.

ii. Certification Timeline

The timeline for a decision on a survey from the time it is submitted for certification is approximately six months. However, this timeline is highly dependent upon the receipt of complete documentation for the survey. Receipt of complete documentation may not be known until detailed evaluation of submitted materials, including the peer review workshop, has begun, which may extend the time period considerably or compromise the evaluation. The result of the latter scenario may force a determination of ‘not certified,’ which would trigger a resubmission and new six month period.

Also, if documentation is complete, but reviewers have significant concerns about the soundness of the survey design and make the decision to not certify, the survey may be resubmitted again once reviewer concerns have been addressed. This scenario similarly would trigger another six month review period after all new, revised survey materials are received. In this scenario, the time from the first initial submission to the revised submission and second peer review will be significantly longer than six months.

iii. Peer Review Terms of Reference for Certification

A set of ten terms of reference (that includes 14 basic questions) guide the peer review process for the survey or survey component seeking certification. The ten terms of reference were designed to be broadly applicable with the understanding that modification of those terms may be required to adequately address specific survey component characteristics under review. In the current set, terms 1-8 and 10 are the responsibility of the peer review team. The Program Management Team (PMT) for MRIP is responsible for answering the question posed in term No. 9, in consultation with the applicable NMFS Regional Office and Fisheries Science Center. These peer-review terms of reference are as follows:

- 1) Does the survey’s sampling design follow a formal probability sampling protocol with known inclusion probabilities at all stages and/or phases of sampling?
- 2) Do the estimation methods appropriately weight the sample data to account for the sampling design and produce design-unbiased point estimates and variance estimates?
- 3) Are appropriate methods in place to measure and/or correct for potential biases due to under-coverage, nonresponse, or response errors?
- 4) How sensitive is the accuracy of the survey to assumptions made about segments of the target population that are not covered by the survey frame? What can be done to reduce or limit that sensitivity?
- 5) How sensitive is the accuracy of the survey to other potential sources of non-sampling error? What can be done to reduce or limit that sensitivity?
- 6) How sensitive is the survey design to potential errors in implementation? What can be done to evaluate, reduce, or limit that sensitivity?
- 7) How does the survey design compare to the legacy survey design it would replace? Is it more statistically sound and efficient, or is it at least comparable in its statistical validity and efficiency? What design features are most important in supporting this assessment?
- 8) How does the survey design compare with other survey designs previously certified by MRIP for estimating fishing effort and/or catch for the same fishing

mode(s)? Is it more statistically sound and efficient, or is it at least comparable in its statistical validity and efficiency? What design features are most important in supporting this assessment?

- 9) Is the survey collecting data and producing information products that will meet the needs of the primary customers (stock assessment scientists and fishery managers)?
- 10) Does the survey meet the requirements of 50 CFR600.315 for Best Scientific Information Available?

iv. Certification Process

Certification involves a number of steps, as described below.

*For MRIP-Supported Survey Components:*

- 1) An MRIP project team submits a request for approval of a final MRIP Project Report and peer review request by the Project Team or entity (NMFS, Interstate Commission, State, or other partner that sponsored the study) wishing to conduct the survey (or survey component).
- 2) The final report for a completed MRIP funded research study or pilot test of survey methodology is submitted to the MRIP PMT. This report describes the survey methods used in the project, the results of pilot testing, and conclusions regarding the utility of the method.
- 3) The PMT then reviews the report with input from other relevant MRIP teams to determine if the survey design is adequately documented, and if the results of the testing warrant consideration of certification. If additional documentation is required, the PMT advises the sponsor of what additional documentation and pilot testing results are required to proceed.
- 4) If the PMT determines that the survey is adequately documented and has potentially certifiable results, the PMT works with the Office of Science and Technology staff to conduct a peer-review of the methods. ST will arrange for reviewers, establish Terms of Reference, and organize the review in consultation with the project team and/or sponsoring partner. After the peer review is completed, the peer review results are shared with the project team/survey sponsor, who in turn will prepare and submit responses to the peer reviewers' conclusions and recommendations as appropriate.

The PMT will review the peer reviewers' conclusions and recommendations, and the sponsor's responses, consult with other MRIP Teams and expert consultants as necessary, and determine whether the Terms of Reference have been satisfactorily met. If the Terms of Reference were not completely met during the initial review, the peer reviewers will be asked to review the project team/sponsor responses for sufficiency. This process may be repeated until a final resolution is achieved.

5) The PMT submits the following items to the ESC: 1) the project report, 2) the peer-review report, 3) the project team's response to the peer review, 4) any subsequent peer review comments and responses, and 5) the PMT's final recommendation.

6) Based on the PMT review and recommendations, the ESC either recommends the survey for certification or reports their findings to the PMT and the project team. If the ESC recommends certification, ST1 prepares a decision memorandum for clearance by the NMFS Director of Science Programs and the Chief Science Officer. Once cleared, the design is officially certified.

*For Independent Survey Components already in use or being proposed as MRIP alternatives:*

1) For survey components already in use or being developed independently (without MRIP funding), the request for certification leads to an initial consultation between the survey sponsor and the MRIP PMT where requirements are described and survey components to be submitted are presented. Materials required for certification are similar to those required for survey components developed through MRIP pilot studies and include all survey documentation (in-depth description of methods, survey manuals, survey instruments, data formats and structures, notated descriptions of sample draws and estimation processes, sample draw and estimation program code) and results of pilot testing of the survey necessary to address the peer review terms of reference.

2) Although the certification process contains a number of defined steps, there is flexibility in terms of the PMT involvement (i.e. MRIP staff and consultant support). To expedite the process and subject to availability, access to statistical and survey expertise may be offered by NMFS prior to a formal request for certification. Depending on availability, partners may work directly with the PMT during the development and testing phases or they may defer consultation until after the peer review has been completed and reviewer recommendations provided. The advantage of the former approach is that most of the statistical considerations should have been addressed by the time certification has been requested.

3) The remaining steps are the same as outlined above for MRIP-supported survey components.

*Certification Tracking*

Certification is a stepwise and interactive process that requires continued coordination from the requesting entities (MRIP partner or sponsor), PMT, MRIP consultants and peer reviewers for the successful completion of the process. ST created a tracking tool in the Program Information Management System (PIMS) that allows an instant determination of the status in the certification process from the initial request for certification and submission of survey materials for review, through peer review and responses, to final approvals by the ESC for certification (Figure1). PIMS is used for MRIP pilot study proposal and report submission and to track the progress of those pilot studies. The system provides a convenient means to track certification progress and

document process bottlenecks, so that targeted improvements to the process can be identified and made. PIMS accounts will be provided to partners who have requested certification of their survey designs so that they can track the status of their submissions.

To assist with tracking the certification status of a given survey component a separate certification tracking tool has been developed in the PIMS that is similar to the tool used to track the progress of MRIP funded pilot studies (Figure 2 and Figure 3). Relatively brief descriptions are needed for projects that have complete documentation available for upload to the system: The PIMS MRIP Certification project page has six tabs for teams to input information: “Main”, “Leadership”, “Schedule”, “Cost”, “Supporting Documents”, and “Risk” (Figure 3). The Main tab is where the project details are entered, and the following are minimum fields that must be populated in order to complete a submission:

- An overview of the project, including the project name and sponsor(s), background information, a project description, and a list of objectives;
- Information about methodology, including at a minimum the region where the project would be implemented;
- A description of the team's plan for both internal and external communications. This should include, at a minimum the frequency of and mechanism for internal communication (e.g. monthly conference calls), mechanism(s) for sharing/distributing information among project team members (e.g. email), and the frequency of periodic reporting;
- Funding needs, including the current funding vehicle and if additional funding will be required; and
- Whether the project is new or has been ongoing prior to requesting certification.

In addition to all of the above required information, at least one record must be entered for each of the following:

- Project Leader, including contact information (under the Leadership Tab);
- A project task description and its anticipated start and completion date (under the Schedule tab); and
- An anticipated risk relating to the project, including level and probability of that risk as well as a planned mitigation approach (under the Risk tab).

Figure 1. Certification process in relation to transition and implementation: Note: that the certification process is necessary for transition to and implementation of the new survey or survey component. Transition and subsequent implementation, however, are not part of the certification process.

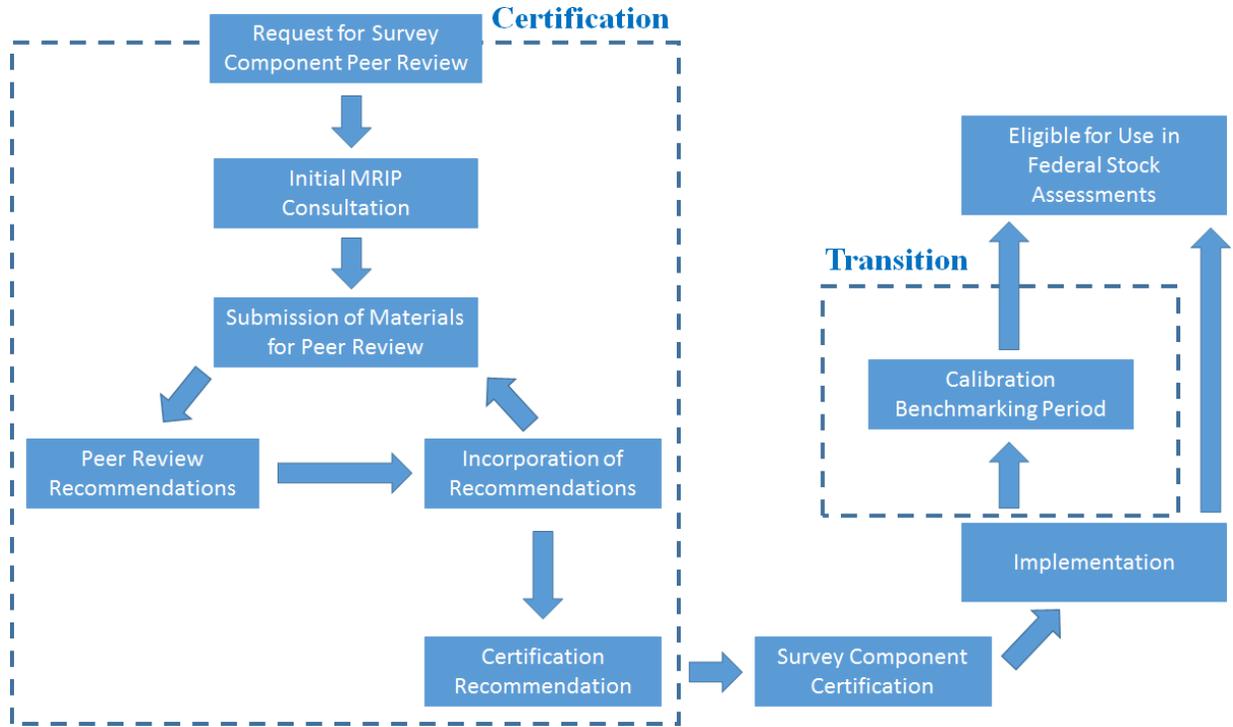


Figure 2: PIMS MRIP Certification Page

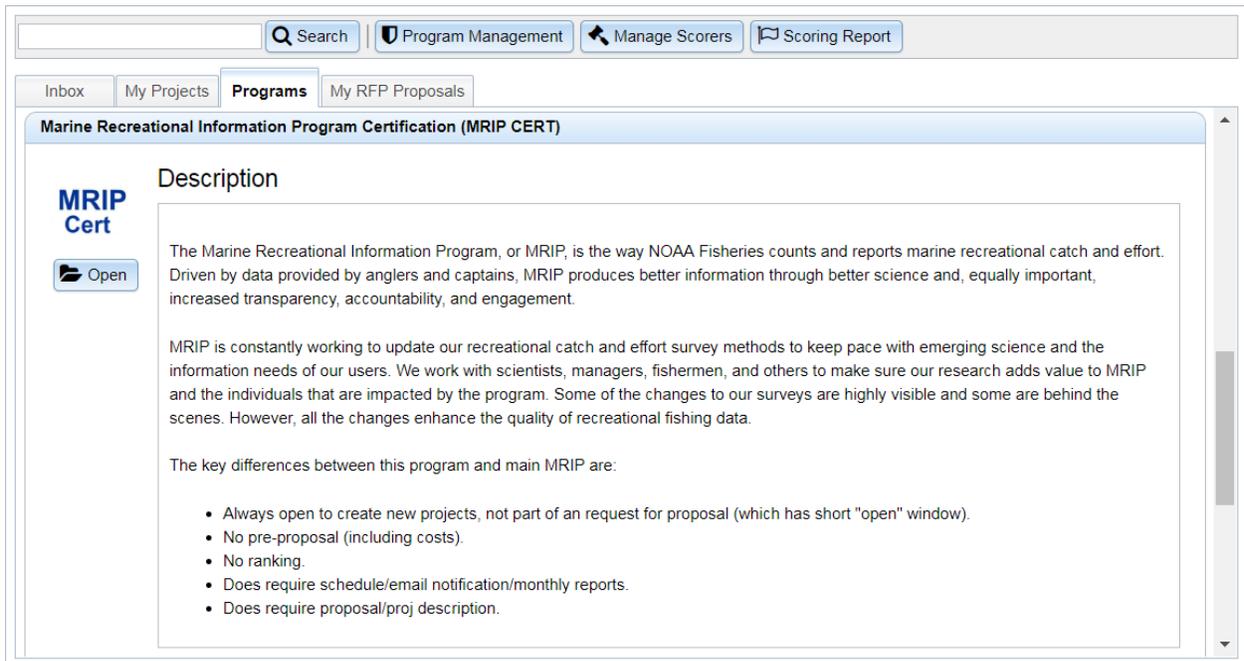


Figure 3: PIMS MRIP Certification Project Page

### *Conditional Certification*

Under limited circumstances, a survey design may be certified conditionally. As a rule, survey design parameters should be considered final at the time of certification. However, there may be instances in which the design itself satisfies the certification Terms of Reference, but questions remain regarding specific assumptions that will be used to produce estimates from the data the survey collects. In such cases, the design may be certified conditionally for a limited, specified period of time in which a specified plan will be executed by the survey sponsor to resolve the outstanding questions regarding the assumptions and to address any other requirements specified in the conditions of certification.

#### v. Implementation and Transition

A decision by NMFS to certify a survey design is different from a decision by this agency or a partner to implement a certified survey design, and to use the data derived from a new design in stock assessments and management applications. The certification process results in a formal decision, supported by independent peer review, that a fully documented survey design is capable of providing accurate, relatively unbiased statistical estimates of the population parameters it is intended to measure. This fulfills NMFS responsibility under the Information Quality Act, and makes the data eligible to be considered as best scientific information available per National Standard 2 Guidelines of the MSA (50 C.F.R. §600.315). Once survey designs have been certified, they are eligible, subject to availability, for funding support via MRIP. The statistics resulting from such surveys are also eligible for use in fisheries assessment and management, taking into consideration other relevant factors, and following completion and execution of a Transition Plan per Policy Directive 04-114. The decision to implement a certified survey design is based on a consideration of the cost and practicality of changing methods, as

well as a determination by the implementing partners as to which method produces statistics that are the best fit to their needs.

When a new survey design is to replace an existing design, a transition plan must be prepared and executed (see Policy Directive 04-114, Procedural Directive 04-114-01, and Supplement 04-114-01-01). Transition plans may require conducting the old and new survey methods concurrently to inter-calibrate estimates produced by the two methods. This will ensure that there is a consistent long-term time series of catch statistics for stock assessment and regional management purposes.

vi. Accountability and Maintenance of Certification

Certification of a given survey design does not, by itself, guarantee that the survey and associated estimation will be implemented consistent with its performance requirements and applicable MRIP standards. In order to monitor the implementation of certified surveys to ensure they are conducted consistently with the certified design requirements, the following procedure is established. Pursuant to the MRIP Data Standard, once a certified survey is implemented, the survey administrator will be required to submit an annual report within three months of the conclusion of each survey year. Annual reports must provide an overview of data collection procedures, including questionnaires, data collection schedules, and sample sizes, as well as response rates and key survey estimates within the survey year. These annual reports will be primarily used to ensure that certified surveys are adhering to MRIP standards, but will also be reviewed to ensure that the survey design is being implemented as it was certified. If an annual report contains evidence that a certified survey is being implemented with edits to the design that were not part of its certification, or that survey design assumptions are being violated, a review will be triggered to determine if the survey should maintain its certified status and continue to receive funding, as well as if the statistics derived from the survey data should continue to be eligible for use in stock assessments and management actions. Further, if it is apparent that the survey may no longer fully meet the Terms of Reference from its pre-certification review for any reason, such a review will likewise be triggered. In addition, each certified MRIP survey will be subject to periodic independent peer review of the design and implementation as specified in Tactic 2.1.4 of the MRIP Strategic Plan, which states, “Seek periodic independent reviews of program . . . .”. Periodic independent reviews, such as that completed by the National Academies of Sciences, Engineering, and Medicine in 2017, will include reviews of all survey designs in use by MRIP at the time of the reviews.