

Project: Using cellular technology to capture amateur catch estimate data

Project Code: MAF2009/01

Start Date: 23 November 2009

Completion Date: 31 May 2010

Vessel Use: None proposed

Overall Objectives:

1. To determine the best options for information collection from marine amateur fisheries.
2. To develop a large-scale multi-species harvest estimation system for marine amateur fisheries.

Specific Objectives:

1. To provide an evidence-based assessment of cellular technology which evaluates its merits as an option for information collection from amateur fisheries and its fit to a large-scale multi-species harvest estimation system.
2. To test the feasibility and efficacy of cellular technology in the capture of marine amateur catch data.

Note:

If feasible an earlier end date would be useful to the ongoing marine amateur fisheries research programme. The conduct of this research will require liaison with the Ministry of Fisheries throughout the duration of the project.

A copy of the SEC2008/14 *Electronic data gathering options in surveys for estimating recreational marine fishing catch* report is available on request.

MFish recognise that the nature of this research may require consortia of providers to address all elements of the proposal.

Reporting Requirements:

Research Reporting

Objective 1

1. To submit to the Chief Economist and Science Manager Stock Assessment MFish a Research Progress Report as specified in Research Reporting form 5 by 28 May 2010. Electronic and hard copy formats of reports are required.

2. To present the report(s) in 1 above to a meeting of the Marine Amateur Fisheries Working Group in April/May 2010 in Wellington. Presentations to more than one meeting may be required.

Objective 2

3. To submit to the Chief Economist and Science Manager Stock Assessment MFish a draft Final Research Report as specified in Research Reporting form 5 by 23 April 2010. Electronic and hard copy formats of reports are required.
4. To present the report(s) in 1 above to meetings of the Marine Amateur Fisheries Working Group in April/May 2010 in Wellington. Presentations to more than one meeting may be required.
5. To submit to the Chief Economist and Science Manager Stock Assessment MFish a Final Research Report as specified in Research Reporting form 5 by 28 May 2010. Electronic and hard copy formats of reports are required.

Project Update Reports

No Project Update Reporting is required for this project.

Work In Progress Reports

Monthly Work In Progress Reporting is required for this project in accordance with the Conducting Research with the Ministry document.

Data Reporting

To submit any data generated, collected or modified during the course of this project to the Research Data Manager, MFish by 31 May 2010.

Rationale:

General

This project is one of a series of projects designed to develop a large-scale multi-species harvest estimation system for marine amateur fisheries. The project builds on SEC2008/14 *Electronic data gathering options in surveys for estimating recreational marine fishing catch*. It is about testing the methodology rather than multiple components of the envisaged large-scale multi-species harvest estimation system for marine amateur fisheries. Related projects will explore the design and capture of a relevant sampling frame for future potential use of the method.

This project will provide advice on:

- The information which can be collected using cellular technology;
- Approaches to collating and storing the information;
- The types of questioning approaches which can be used with cellular technology;

- Specific wording of questions and follow-up prompts to ensure high response rates and valid data;
- Approaches to testing the validity of submitted data; and
- Potential response biases, and approaches to assessing their extent.

Strategic Relevance

This project is part of a wider project on research to improve amateur catch estimation. It draws on the Fisheries 2030 strategy, and specifically:

Strategic Action 10.4 – determine best options for information collection from amateur fisheries – including the implementation of charter boat reporting.

Objective 1

This objective would analyse the feasibility and efficacy of cellular technology in the capture of marine amateur catch data and provide a detailed design to test its merits as an option for information collection from amateur fisheries and its fit as an element of a large-scale multi-species harvest estimation system.

Objective 2

This objective would include use of a pre-determined sample to trial cellular reporting of marine amateur fisheries catch. It is expected that the experimental design will allow assessment of alternative approaches to survey designs. A key assumption of this piece of work is that a sampling frame has already been determined; MFish intends this research to assess whether this approach can work in the hands of amateur fishers. This assumption may pose some challenges to assessment of scalability, however, if the method proves feasible at this scale additional research will be conducted to address links to the sampling frame and scaling issues.

As it is envisaged the technology will be used for multiple species reporting in future, it is expected that this pilot study would include multiple species reporting.

To ensure sufficient data are available for robust experiments, the sampling is expected to occur within the period from Christmas through the end of February.

Project: Using snowball survey techniques to capture amateur catch estimate data in niche fisheries

Project Code: MAF2009/02

Start Date: 23 November 2009

Completion Date: 31 May 2010

Vessel Use: None proposed

Overall Objectives:

3. To determine the best options for information collection from marine amateur fisheries.
4. To develop a large-scale multi-species harvest estimation system for marine amateur fisheries.

Specific Objectives:

3. To provide an evidence-based assessment of snowball survey techniques which evaluates its merits as an option for information collection from amateur fisheries and its fit to a large-scale multi-species harvest estimation system.
4. To test the feasibility and efficacy of the above approach for estimating catch in one or more marine recreational fisheries for which national and FMA-scale surveys are judged to be unsuitable.

Note:

If feasible an earlier end date would be useful to the ongoing marine amateur fisheries research programme. The conduct of this research will require liaison with the Ministry of Fisheries throughout the duration of the project.

MFish recognise that the nature of this research may require consortia of providers to address all elements of the proposal.

Reporting Requirements:

Research Reporting

Objective 1

6. To submit to the Chief Economist and Science Manager Stock Assessment MFish a Research Progress Report as specified in Research Reporting form 5 by 28 May 2010. Electronic and hard copy formats of reports are required.

7. To present the report(s) in 1 above to a meeting of the Marine Amateur Fisheries Working Group in April/May 2010 in Wellington. Presentations to more than one meeting may be required.

Objective 2

8. To submit to the Chief Economist and Science Manager Stock Assessment MFish a draft Final Research Report as specified in Research Reporting form 5 by 23 April 2010. Electronic and hard copy formats of reports are required.
9. To present the report(s) in 1 above to meetings of the Marine Amateur Fisheries Working Group in April/May 2010 in Wellington. Presentations to more than one meeting may be required.
10. To submit to the Chief Economist and Science Manager Stock Assessment MFish a Final Research Report as specified in Research Reporting form 5 by 28 May 2010. Electronic and hard copy formats of reports are required.

Project Update Reports

No Project Update Reporting is required for this project.

Work In Progress Reports

Monthly Work In Progress Reporting is required for this project in accordance with the Conducting Research with the Ministry document.

Data Reporting

To submit any data generated, collected or modified during the course of this project to the Research Data Manager, MFish by 31 May 2010.

Rationale:

General

A key challenge in amateur catch estimation centres on how to address niche fisheries and the fishers who target them. Niche fisheries include those where the participation is limited by spatial access, the need for specialist fishing gears or the need for specialised fishing skills. Examples include scuba diving for rock lobster and game fishing for striped marlin. Generating a large enough sample population through random approaches is often cost-prohibitive. One solution would be the use of a snowball survey technique. As the term implies, through this method, recruiting gains momentum or snowballs as the researcher builds up layers of contacts. The researcher would use one respondent to introduce them to others. In some fisheries it may be possible to effectively undertake a census of fishers.

This project is one of a series of projects designed to develop a large-scale multi-species harvest estimation system for marine amateur fisheries. The project builds on

two amateur catch estimate workshops held in April and August 2009¹. It is about testing the methodology rather than wider elements of the envisaged large-scale multi-species harvest estimation system for marine amateur fisheries. Related projects will explore the design and capture of a relevant sampling frame for future potential use of the method.

This project will provide advice on:

- Scaling statistics associated with the snowball survey technique;
- Approaches to designing the sample method;
- The limitations of the method;
- Specific wording of questions and follow-up prompts to ensure high response rates and valid data;
- Approaches to testing the validity of submitted data; and
- Potential response biases (ie avidity), and approaches to assessing their extent;

Strategic Relevance

This project is part of a wider project on research to improve amateur catch estimation. It draws on the Fisheries 2030 strategy, and specifically:

Strategic Action 10.4 – determine best options for information collection from amateur fisheries – including the implementation of charter boat reporting.

Objective 1

This objective would analyse the feasibility and efficacy of snowball surveys in the capture of marine amateur catch data and provide detailed synthesis to MFish of its merits as an option for information collection from amateur fisheries and its fit as one element of a wider large-scale multi-species harvest estimation system.

This review should underpin the rationale for choosing a method and a method of analysis / scaling / variance estimation.

Objective 2

This objective would include identification of a sample fishery (and a rationale for choosing it). It is expected that this will involve input from relevant MFish managers. There are a number of challenges to assessment of scalability, however, if the method proves feasible at this smaller scale additional research will be conducted to address links to the sampling frame and scaling issues.

As it is envisaged the technology will be used for multiple species reporting in future, it is expected that this pilot study would include multiple species reporting.

To ensure sufficient data are available for robust experiments, the sampling is expected to occur within the period from Christmas through the end of February.

¹ A summary of these workshops is available from MFish on request.