Recfishing Research Addressing recreational fishing research priorities and improving extension

W Sawynok, M Barwick & J Diplock













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ACKNOWLEDGEMENTS

The establishment of a strategy to improve national investment in recreational fisheries Research, Development and Extension (RDE) requires the support of a large number of groups and individuals. It is not possible to provide recognition to all those that have contributed as invariably someone will be missed. However it is important to recognise the key contributors.

The FRDC provided support by approving the continuation of Recfishing Research for another 3 years from 2010-13. This provided a stable base from which to plan RD&E needs at the national level and to work towards projects that would deliver that RD&E. The support of the FRDC Board and Executive is acknowledged.

Recfish Australia played an overseeing role however it allowed Recfishing Research to act independently through a Memorandum of Understanding (MOU) that was agreed at the start of this project. The support of the Recfish Australia Board is acknowledged.

The success or failure of taking a national approach is largely determined by the vision and guidance of those charged with its implementation. In the case of Recfishing Research this guidance has been provided by the Steering Committee, initially led by Ross Winstanley as the chair and then John Diplock. A brief resume of each of the Steering Committee members is included. The Steering Committee has taken on a leadership role to progress the priority issues that have been identified and a number of projects to address these priorities were developed and implemented.

Having vision and funding support are not the only things that are required to develop and implement a national strategy. It requires the support of recreational fishers as without that the strategy would flounder. It is not possible to get the support direct from Australia's fishers, at least not within currently funding arrangements, however the view of those fishers are largely reflected through the state/territory peak recreational fishing bodies and national fishing associations. It is pleasing that every state peak body and all national fishing associations supported the continuation of Recfishing Research. The support of all those bodies is acknowledged.

The other major interest group in the national strategy are the State fisheries agencies. While no agency expressed a formal view on Recfishing Research there has been support provided by a range of individual managers and communicators.

STEERING COMMITTEE

Profiles of current members of the Steering Committee 2010-13. There were a number of changes to the committee over that time. Ross Winstanley retired as committee chair in 2011 and John Diplock took over as chair. Doug Joyner was replaced by Allan Hansard as the AFTA nominee on the committee in 2012. Andrew Rowland replaced Kane Moyle on the committee in 2012. Bryan van der Walt and Cameron Westaway share a position on the committee.



John Diplock is the chair of the Steering Committee. He managed recreational fishing in NSW from 1998-2008 and oversaw the introduction of the all waters recreational fishing licence in 2001. He was responsible for expenditure of revenue from the Recreational Fishing Trusts and the development of the suite of Trust funded programs. He left NSW DPI in 2008 to set up Hamata Pty Ltd which provides fisheries consultancy services to government and industry.



Bill Sawynok is the Principal Investigator and Manager of Recfishing Research. Bill set up his own business, Infofish Australia in Rockhampton Qld in 1995 providing an information service to recreational fishers. He is a director of the Australian National Sportfishing Association, a past director of the Fisheries Research and Development Corporation and a past director of the CRC Reef Research Centre.



Russell Conway is Chair of Recfish Australia, Chair of VRFish (Victorian Fishing Peak Body) and a past President and Life Member of the Greensborough Angling Club. Russell is a member of the Victorian "Recreational Fishing Grants Advisory Group" providing advice to the Victorian Government on the allocation of licence revenue. Russell was also a member of the organising Committee for the 2012 Recreational Fishing Conference.



Matt Barwick has worked with fish and fishers for fifteen years as a researcher, in fisheries management, and research project management with both State and Federal government, and more recently as independent consultant. Matt currently delivers a number of functions relevant to recreational fishing in Australia, including Extension Manager with Recfishing Research, Executive Officer for the Murray Cod Fishery Management Group, and Communications Manager for the Murray-Darling Basin Recreational Fishing Council.



Crispian Ashby joined the FRDC in Feb 2002, starting as a Project Manager before taking over as the Program Manager in Jun 2005. Formerly with Victoria's Marine and Freshwater Resources Institute as a senior field scientist, he worked with industry on various FRDC projects assessing bycatch reduction measures in the South East Trawl fishery. Prior to this, he worked with New South Wales Fisheries on bycatch issues in the South East Trawl, estuarine prawn and finfish haul fisheries.



Julian Pepperell is a director of his own fisheries consultancy business Pepperell Research and Consulting Pty Ltd. Julian has been based in Doonan in Queensland since 2001 and before that time was based in New South Wales. Julian has worked extensively in recreational fisheries research with special expertise in marine gamefish and fishing media.



Allan Hansard is Chief Executive of the Australian Fishing Trade Association (AFTA) and Managing Director of the newly formed Australian Recreational Fishing Foundation (ARFF), the national peak body representing the interests of Australia's recreational fishing community. Allan manages these organisations from Offices in Canberra where he liaises directly with Ministers, members of parliament and government departments on issues facing the recreational fishing community.



Steve Sutton is a research fellow in the School of Earth and Environmental Studies at James Cook University. Steve is a social scientist specializing in the "human dimensions" of recreational fisheries. His research interests include: factors influencing fishing participation patterns, measuring the social values recreational fishers place on fishing and fisheries resources, and participation by recreational fishers in consultation programs concerning fisheries issues. Steve is also an active fly-fisher and spends most of his free time on the water.



Professor Alistair McIlgorm is marine economist at the Australian Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong. He was formerly Director of the National Marine Science Centre, Coffs Harbour and Director of Dominion Consulting Pty Ltd. He has been involved in a number of expenditure surveys and is currently undertaking a recreational fishing education project.



Steve Williamson lives in Jindabyne in the Snowy Mountains where he has been a professional fishing guide and charter boat operator for 24 years and a fishing tackle shop owner for 9 years. Steve also operates a saltwater fishing business on the far south coast Pambula introducing families to recreational fishing. Steve is the current president of the Professional Fishing Guides and Instructors Association of Australia. Steve's passion is fly fishing and spends most of his time catching anything from trout and bass to flathead and bream.



Bryan van der Walt is the Manager Recreational Fisheries Programs at NSW Department of primary Industries in Coffs Harbour. Bryan coordinates expenditure from the Recreational Fishing Fees in NSW and oversees a wide range of programs, including fisheries enhancement and education and advisory programs, to benefit recreational fishers. He is also involved in recreational fisheries policy development and implementation.



Andrew Rowland is the Chief Executive Officer of Recfishwest, WA peak recreational fishing body representing the interests of the states estimated 600,000 fishers. Andrew holds a PhD is fisheries science. He has an excellent understanding of ecology and fisheries in freshwater, estuarine and marine environment. He has a strong interesting in research communications and community engagement projects. Andrew is a keen recreational fisher who enjoys targeting a broad range of species.



Phil Sahlqvist is a scientist at the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). In recent years Phil has investigated the potential of community-based monitoring methods for recreational fisheries data collection and is currently a coinvestigator on the RFIDS project: *A coordinated national data collection for recreational fishing in Australia*. He is a keen angler and when time permits enjoys fishing in southern NSW estuaries and highland streams.



Cameron Westaway has over 20 years experience in fisheries management including commercial aquaculture, aquaculture extension and development, fisheries advisor to WA Minister, agricultural business development, inland recreational fisheries management, marine park management and commercial abalone management in NSW. Currently responsible for overall management of NSW freshwater recreational fisheries including fish production facilities at Ebor, Jindabyne and Narrandera as well as the management of the NSW commercial abalone fishery.

1. NON-TECHNICAL SUMMARY

Recfishing Research

Addressing recreational fishing research priorities and improving extension

Principal Investigator

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Objectives

The following are the objectives of this project:

- Develop and/or commission projects to go to research investors that address the priorities in the Recfishing Research Business Plan
- 2 Develop an extension service that can actively assist projects to extend their research information to recreational fishers and industry
- Work with the Recreational Fishing Advisory Committee on addressing the priority research areas identified in the Recreational Fishing Industry Development Strategy
- 4 Review the governance arrangements for Recfishing Research to ensure they are appropriate for the business model

Non-technical Summary

OUTCOMES ACHIEVED

Development of a Business Plan that fostered a national approach to RD&E for the recreational sector, supported by stakeholder organisations, and identified the highest priority areas for investment each year. Each year there were at least 1-2 new projects that addressed the highest priorities.

A total FRDC investment of around \$12.1m in projects from 2010/11-2012/13 that attributed a flow of benefit to the recreational sector including an investment of around \$1.6m in projects identified under the Recreational Fishing Industry Development Strategy in 2011.

An improvement in the extension of the results of recreational fishing R&D projects through a mix of traditional and new approaches including the use the social media, an improved website, status report on relevant research and podcasting.

Communication of achievements of the recreational fishing sector, including the results of key R&D projects, through a successful national conference in 2012. The conference also identified strategic actions to be progressed following the conference, most of which are currently being progressed.

Addressing Research Priorities

Each year Recfishing Research developed a Business Plan that identified priority areas for research and development, including the highest priorities each year. The plan was developed in the early part of each year so that it fitted in with the FRDC planning and funding cycle for the coming round.

Recfishing Research used a range of inputs to set the national priorities each year. This included national and international forums, key workshops, the national Recreational Fishing Industry Development Strategy (RFIDS), Ministerial Roundtable and the priorities of peak recreational fishing bodies.

The Business Plan was circulated to FRABs, government agencies, research bodies and recreational fishing industry organisations. Research bodies or individuals that could address these priorities were then approached to gauge their interest in developing projects for the next FRDC round, or for other funders that might be appropriate.

Recfishing Research then worked with interested researchers in the development of projects that would address these priorities. Each year there was at least 1-2 new projects developed that addressed the highest priorities.

Through FRDC there was a total investment of around \$12.1m in projects from 2010/11-2012/13 that attributed a flow of benefit to the recreational sector including an investment of around \$1.6m in projects identified under the Recreational Fishing Industry Development Strategy in 2011. From 1996/97-2012/13 there was \$42.2m invested in projects that attributed a flow of benefit to the recreational sector which was 11.6% of the total

expenditure budget of FRDC. This does not include funds contributed to projects by applicants and other sources.

Recfishing Research provided a Status Report on projects relevant to recreational fisheries, not just those that are undertaken through FRDC. Initially this was an annual report on projects that were completed or progress on projects still underway. In 2012 the Status Report was changed from an annual report to an online database available through the website www.recfishingresearch.org. This can be searched to determine the status of projects that are underway or have been completed. The search can either be on a text basis or a map basis.

Each annual cycle the Recfishing Research Steering Committee reviewed proposals relevant to recreational fishing that were submitted to the FRDC. This included reviewing Expressions of Interest to the Annual Competitive Round, full proposals and applications to the Tactical Research Fund. The Steering Committee advised FRDC of support or otherwise for proposals, where applications could be improved and conditions that should apply. Recfishing Research also worked directly with applicants to maximise the quality of submitted proposals.

Recreational Fishing Industry Development Strategy Projects

From 2008-2011 the Recreational Fishing Advisory Committee (RFAC) developed the Recreational Fishing Industry Development Strategy (RFIDS) as part of the Australian Government's 3 year \$2m commitment to recreational fishing. "Recreational Fishing in Australia - 2011 and beyond: a national industry development strategy" was released by the Minister for Agriculture, Fisheries and Forestry in 2011. There was \$1.7m allocated to 10 projects that were identified in the strategy. FRDC was contracted by DAFF to deliver 7 of these projects with Recfishing Research playing a role in the development and management of these projects on behalf of FRDC. Three of the RFIDS projects have been completed, with the remainder still in progress.

Extension

Bill Sawynok undertook extension activities from Jul 2010 - Apr 2011 when Matt Barwick was appointed as part time Extension Manager to develop the Extension Service.

A Recfishing Research Extension Plan 2011-13 was developed following the appointment of the Extension Manager and this guided extension activities for the remainder of the project.

The Recfishing Research website at www.recfishingresearch.org was upgraded in 2012 to focus more on providing information about research to recreational fishers. This included the introduction of video clips related to research projects and podcasts with interviews with researchers and others.

The website was complemented by the introduction of a Facebook page at www.facebook.com/RecfishResearch. The Facebook page is still in the early stages with 122 followers. It is expected that the use of Facebook will grow over time. This extension approach has already yielded promising levels of engagement, with recreational fishers contacting Recfishing Research directly through social media on several occasions to ask questions about research.

A Recfishing Research email network was maintained. The main purpose of the network was the distribution of reports and scientific papers relevant to recreational fisheries. There were 44 reports and scientific papers sent out to 193 subscribers.

Articles on research projects were provided to fishing publications including Fishing World, Fishing Monthly, Escape with ET, Tackle Junkie, Freshwater Fishing etc. A total of 24 articles were published over 23 months.

Governance

An Executive Committee was established to develop a Memorandum of Understanding (MOU) between Recfish Australia and Recfishing Research to determine the governance arrangements to apply to Recfishing Research. A Memorandum of Understanding was formalised in Dec 2010.

A financial audit of the Recfishing Research account was undertaken by FRDC in Jun 2012. The audit approved the accounting procedures and financial status of the project.

Keywords

Recfishing Research Recfish Australia National strategy Research, development and extension Research priorities

2. BACKGROUND

A joint initiative of Recfish Australia and FRDC, Recfishing Research was set up in 2005, following a national workshop in Hobart, to coordinate recreational fisheries R&D and promote the uptake of resulting information at a national level. From 2007/08 to 2009/10 Recfishing Research worked to establish national research priorities to guide investment in recfishing research and development.

Extensive consultation was undertaken with peak recreational fishing bodies, government agencies and research institutions on national priorities for the recreational fishing industry.

A Business Plan was developed and adopted following a Recfishing Research workshop in 2008, which identified the key areas for R,D&E investment for 2009/10. Since then Recfishing Research has been actively working with a number of researchers to assist in the development of projects that address those priorities.

As well as developing the Business Plan Recfishing Research has worked with a number of projects to assist the extension of research information relevant to recreational fishing. This included the continuing distribution of material on the best practices in releasing fish, fish survival and the Recfish Australia National Code of Practice for Recreational and Sport Fishing. Extension material distributed was not confined to that produced from FRDC projects and material from a NSW Fishing Trust project on Catch and Release and from Queensland's Primary Industries and Fisheries on fish identification was also distributed. Recfishing Research established an email distribution network for the distribution of relevant scientific publications and technical reports sourced from Australia and overseas.

3. NEED

The recreational sector has many unmet needs, particularly its capacity to partner with research institutions, undertake its own R&D and determine/communicate the social and economic importance of recreational fishing. It needs skills, information and other resources to engage professionally and constructively in fisheries management, marine planning, resource allocation and access planning processes. Close links with the proposed Recreational Fishing Industry Development Strategy are needed for a coordinated national framework to R&D to be provided through Recfishing Research.

The first task in identifying the national priorities and more importantly the key areas for investment has been completed. The second task, establishing projects to address those priorities, is the major remaining challenge. To benefit from the investment to date will require a concerted effort over the next few years towards the development of projects, addressing gaps that have been identified. Progress requires investment of resources and coordination of how they are deployed. Working with FRDC, Recfish Australia, Recreational Fishing Advisory Committee, industry and government stakeholders Recfishing Research assisted in identifying those best able to address these priorities and worked with them to develop suitable projects. It is anticipated that new and more directed approaches will need to be used to ensure projects address national priorities.

In order to empower the recreational fishing industry and bring about real change there is also

a need for continued improvement in the extension of research information. This is still recognised as a weakness in many research projects and consequently there is value in the continued facilitation of extension efforts at a national level. There is a need to develop new and innovative ways to get research results to end users, particularly in ways that will improve acceptance and uptake of new knowledge generated by the research.

4. OBJECTIVES

The following are the objectives of this project:

- 1 Develop and/or commission projects to go to research investors that address the priorities in the Recfishing Research Business Plan
- 2 Develop an extension service that can actively assist projects to extend their research information to recreational fishers and industry
- Work with the Recreational Fishing Advisory Committee on addressing the priority research areas identified in the Recreational Fishing Industry Development Strategy
- 4 Review the governance arrangements for Recfishing Research to ensure they are appropriate for the business model

5. METHODS

5.1. Projects to address research priorities in Recfishing Research Business Plan

- 1. Business Plans were developed for 2010/11 and 2011/12 and 2012/13 and are available from www.recfishingresearch.org/about. Each Business Plan identified the national research priorities based on input from a wide range of sources, including the highest priorities for each year.
- 2. The Business Plans were widely circulated to FRABs, government agencies, research bodies and recreational fishing industry organisations.
- 3. Recfishing Research adopted a pro-active approach and worked with researchers on the development of projects, particularly projects addressing the highest priorities identified each year.
- 4. An assessment of FRDC investment in recreational fisheries R,D&E was made.
- 5. An annual status report was produced for 2009/10 at the start of this project however this was replaced by a status report section on the Recfishing Research website in 2011 at www.recfishingresearch.org/researchers/.

5.1.1. Assisting FRDC with projects relevant to recreational fishing

There was no specific objective relating to assisting FRDC with its suite of projects relevant to recreational fishing. These were projects that generally attributed a flow of benefits of over 20% to the recreational fishing sector. Recfishing Research played an important role in assisting the FRDC with management of relevant projects and this became part of its core business.

- 1. The Recfishing Research Steering Committee provided advice to the FRDC on recreational fishing project applications submitted to each annual round, including applications to the Annual Competitive Round and to the Tactical Research Fund. Applications were evaluated at Steering Committee meetings, via teleconference or via email.
- 2. Recfishing Research also assisted in the management of projects by monitoring milestones, reviewing milestone reports and reviewing final reports and making recommendations to FRDC.
- 3. Recfishing Research changed its operations in 2011 when FRDC made changes to the annual application cycle so that it could provide advice to FRDC at the appropriate stages of the application cycle.

5.2. Develop an Extension Service

- 1. Bill Sawynok undertook extension activities from Jul 2010 Apr 2011 when Matt Barwick was appointed as part time Extension Manager to develop the Extension Service.
- 2. An Extension Plan, available from www.recfishingresearch.org, was developed following the appointment of the Extension Manager. The focus of the Extension Plan was on building on previous approaches, expanding the Recfishing Research network and the development of the use of new tools including social media.

5.3. Recreational Fishing Industry Development Strategy projects

- 1. The Recreational Fishing Advisory Committee identified a number of projects as part of the implementation of the Recreational Fishing Industry Development Strategy (RFIDS). There was \$1.7m available to implement the projects under the strategy.
- 2. FRDC was commissioned by DAFF to manage the delivery of a number of the projects under the RFIDS. FRDC managed these projects through Recfishing Research.

5.4 Governance Arrangements for Recfishing Research

- 1. Recfish Australia and Recfishing Research established an Executive Committee to negotiate an agreement establishing the governance arrangements for Recfishing Research.
- 2. A Memorandum of Understanding (MOU) was established outlining the governance arrangements.

6. RESULTS

6.1. Projects to address research priorities in Recfishing Research Business Plan

Each year Recfishing Research developed a Business Plan that identified priority areas for research and development, including the highest priorities each year. The plan was developed in the early part of each year to enable it to feed into the FRDC planning and funding cycle for the coming round.

Recfishing Research drew upon a range of inputs to set the national priorities each year. This included national and international forums, key workshops, national Recreational Fishing Industry Development Strategy (RFIDS), Ministerial Roundtable and the priorities of peak recreational fishing bodies.

The Business Plan was circulated to FRABs, government agencies, research bodies and recreational fishing industry organisations. Research bodies or individuals that could address these priorities were then approached to gauge their interest in developing projects for the next FRDC round, or for other funders as appropriate.

Recfishing Research then worked with interested researchers in the development of projects that would address these priorities. Each year there was at least 1 project developed that addressed the highest priorities.

Business Plan 2010/11



In the 2010/11 Business Plan Recfishing Research identified these as the high priority issues:

- ★ The health and well-being benefits of recreational fishing
- Measuring the economic value of recreational fishing and fish stocking, especially to regional and rural communities
- → Implementing the priority projects identified by the Recreational Fishing Advisory Committee

An ongoing priority is the communication of the results of research and development projects and improving adoption of the results of research.

Figure 1: Recfishing Research Business Plan 2010/11

A project was developed to address the health and well-being benefits of recreational fishing through the RFIDS where it was also identified as a priority. Details are contained in section 6.3.

A project was developed to trial a new method for obtaining data on recreational fishing, including economic data. The project was 2011/211 "Trial and quantitative evaluation of Respondent-Driven Sampling as an innovative and cost-effective method for obtaining representative catch, effort, social and economic data from recreational fisheries" with Shane Griffiths of CSIRO as the Principal Investigator. See section 6.1.1.

Measuring the economic value of recreational fishing at a national level was again a priority in the 2011/12 Business Plan and a project was developed to address that priority.

A project on fish stocking was developed by Fisheries Queensland and submitted to the 2010 FRDC round. It was "Maximising return on investment in stocking – a case study of two southeast Queensland impoundments", however this was not approved. This proposal partly addressed the economic value of fish stocking.

Projects developed under RFIDS are contained in section 6.3.

Business Plan 2011/12



In the 2011/12 Business Plan Recfishing Research aimed to get projects funded through the 2012 FRDC round, or through other sources, addressing the following high priorities.

- Measuring the economic value of recreational fishing at a national level
- Assessing the impact of recreational fishing methods on conservation values of aquatic habitats
- Recreational catch and survival rates of released high priority species, particularly Southern Bluefin Tuna, Striped Marlin and Pelagic Sharks

Effort was primarily focussed on these high priorities however projects addressing other priorities in the plan were also encouraged and developed.

Figure 2: Recfishing Research Business Plan 2011/12

Other key activities for 2011/12 were:

- → Monitoring progress on priority projects identified as part of the Commonwealth Government's Recreational Fishing Industry Development Strategy
- → Development of the Recfishing Research Extension Service
- → Support the national Recreation Fishing Conference in 2012

A project was developed to measure the economic value of recreational fishing that was submitted to the 2012 FRDC Annual Competitive Round (ACR). The project was 2012/214 "Measuring the economic value of recreational fishing at a national level" PI Ewan Colquhoun Ridge Partners. See section 6.1.1.

A project was developed that addressed impacts of recreational fishing methods on the conservation values of aquatic habitats in part. The project was TL032 "Fishing effort distribution, habitat surrogates for biodiversity and external oceanographic drivers of MPAs and adjacent waters" PI Tim Lynch CSIRO. This application was withdrawn.

A project was developed to address the recreational catch of Southern Bluefin Tuna for the 2012 FRDC round. FRDC project 2012/022 "Developing a methodology for obtaining regular, statistically robust estimates of recreational and charter fishing catch of Southern Bluefin Tuna (SBT) in Australian waters" PI Peter Ward ABARES. See section 6.3. A further project was approved on estimating survival rates of Southern Bluefin Tuna in the 2013 FRDC ACR. See section 6.1.1.

Business Plan 2012/13



In the 2012/13 Business Plan Recfishing Research will aim to get projects funded through the 2013 FRDC round, or through other sources, which address the following high priorities.

- → Measuring the economic and employment contribution of recreation fishing at a national level
- → Understand the health and well-being benefits of recreational fishing
- → Programs aimed at developing the leadership skills of recreational fishers

Murray Cod research priorities:

- **→** Population assessment
- **♦** Fisheries assessment
- ★ Recruitment failure poor larval survival

Figure 3: Recfishing Research Business Plan 2012/13

Effort focussed primarily on high priorities however projects addressing other priorities were also encouraged and developed.

Other key activities for 2012/13 are:

- → Monitoring progress on priority projects identified as part of the Commonwealth Government's Recreational Fishing Industry Development Strategy
- ★ Continued development of the Extension Service and in particular the use of new technological tools such as social media
- → Support the national Recreational Fishing Conference in 2012

Project 2012/214 was approved to address the economic value of recreational fishing at a national level.

An initial project on the health and well-being benefits of recreational fishing was undertaken as part of the RFIDS, see section 6.3. A follow on project 2013/220 "Recreational Fishing, Health and Well-being" was proposed by Curtin University and submitted to FRDC but was unsuccessful.

The leadership project developed under the RFIDS has still to be completed (see section 6.3), so no further project has been developed. Recreational fishers are encouraged to take part in leadership programs such as the Australian Rural Leadership Program (ARLP), Trailbazers and National Seafood Industry Leadership Program (NSILP). Mark Nickolai went through the ARLP in 2011. The following have been through the NSILP in the last few years - Ellen Smith, Andrew Rowland, Matt Barwick, Daniel Grixti, Fraser Perry, Malcolm Poole, Michael Sawyer, Kane Williams and Phil Bolton.

A project to address R,D&E priorities relating to Murray Cod was developed by the Murray Cod Fishery Management Group and submitted to the FRDC 2013 round. The project was 2013/022 "Integrated fisher-derived and fishery-independent survey data to better understand and manage the Murray Cod fishery in the Murray-Darling basin" with Peter Kind of DAFFQ as the Principal Investigator. The project was approved by the FRDC and will run from May 2013-May 2016. It has been successful in securing approximately \$100k of contributions to supplement the FRDC investment from various sources, with additional contributions of \$300k likely but not yet confirmed. Matt Barwick was instrumental in getting this project off the ground.

Recfishing Research played a key role in the National Recreational Fishing Conference. Bill Sawynok took on the role of Principal Investigator when Doug Joyner left AFTA. Matt Barwick was also in the conference steering committee. For details see section 6.3.

FRDC Investment in Recreational Fishing Research

Each year FRDC has funded projects which provide a flow on benefits (FOB) to the recreational sector. Each application provides an estimated FOB based on sector and state so that the benefit of projects can be attributed from that project in a number of ways.

Through FRDC there was a total investment of around \$12.1m in projects from 2010/11-2012/13 that attributed a flow of benefit to the recreational sector, including an investment of around \$1.6m in projects identified under the Recreational Fishing Industry Development Strategy in 2011.

From 1996/97-2012/13 there was \$42.2m invested in projects that attributed a flow of benefit to the recreational sector which was 11.6% of the total expenditure budget of FRDC over the past 17 years. This does not include funds contributed to projects by applicants and other sources so that the total investment was considerably higher.

Figure 4 shows the amount attributed each year from 1996/97-2012/13 and figure 5 shows the percentage of FRDC expenditure budget each year attributed to projects with a FOB to the recreational sector. In 2012/13 this reached a high of \$5.1m or 17.9% of the FRDC expenditure budget.

Recreational project expenditure

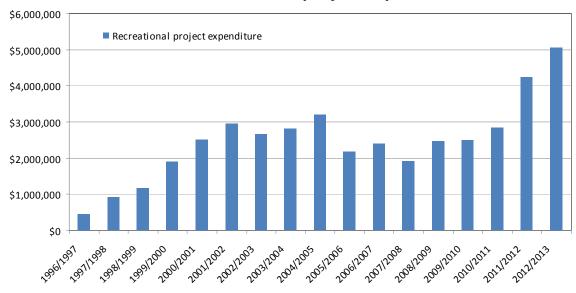


Figure 4: Investment in FRDC projects with a flow of benefits to the recreational sector from 1996/97-2012/13

Percentage of expenditure budget attributed to recreational sector

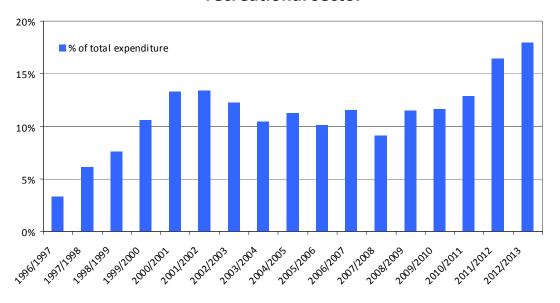


Figure 5: Percentage of FRDC expenditure budget attributed to recreational sector from 1996/97-2012/13

Status Report

Recfishing Research provided a Status Report on projects relevant to recreational fisheries. Initially this was an annual report on projects that were completed or progress on projects still underway. In 2012 the Status Report was changed from an annual report to an online database available through the website at www.recfishingresearch.org. This can be searched to determine the status of projects that are underway or have been completed. The search (*figure 4*) can either be on a text basis or a map basis (*figure 5*).

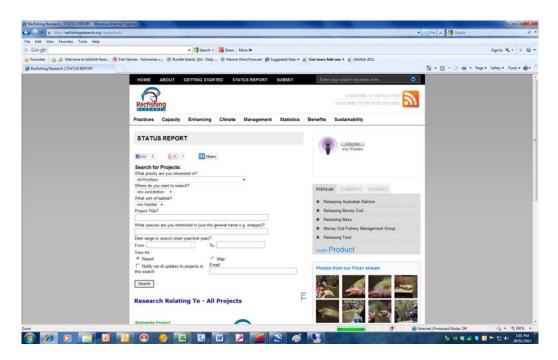


Figure 6: Status Report search on Recfishing Research website

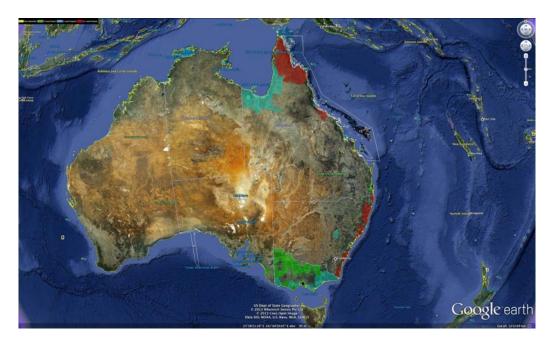


Figure 7: Google Earth map showing locations of regional projects that are in progress in 2013

6.1.1 Assisting FRDC with projects relevant to recreational fishing

For each annual FRDC funding cycle, the Recfishing Research Steering Committee reviewed proposals relevant to recreational fishing that were submitted to the FRDC. This included reviewing Expressions of Interest (EOIs) to the Annual Competitive Round (ACR), EOIs converted to full proposals and applications to the Tactical Research Fund. The Steering Committee advised FRDC of support or otherwise for proposals, where applications could be improved and conditions that should apply.

The Steering Committee reviewed proposals at face to face meetings on 4 occasions as well as by teleconference and by email. Meetings were held around Australia to allow the Steering Committee to gain first hand knowledge of research issues around the country, hear from researchers that were undertaking projects that Recfishing Research was monitoring and progress of projects towards milestones.

Steering Committee meetings were held on the following dates and locations:

- → Meeting 12 at Cronulla in NSW in Jan 2011
- → Meeting 13 at the Gold Coast in Aug 2011
- → Meeting 14 in Melbourne in Mar 2012
- → Meeting 15 was a teleconference in Jul 2012
- → Meeting 16 in Darwin in Oct 2012

2011 FRDC Round

In the 2011 ACR there were 10 applications reviewed with 3 supported, 2 conditionally supported and 5 not supported by Recfishing Research. None were approved by FRDC.

In Dec 2010 FRDC invited a number of groups with expertise in the various areas to submit proposals that addressed the issues identified in the RFIDS to the 2011 ACR. There were 9 applications received and reviewed by Recfishing Research with 6 recommended for approval. These 6 projects were all approved by the FRDC which were:

FRDC project 2011/036 "A coordinated national data collection for recreational fishing in Australia" PI Shane Griffiths CSIRO.

FRDC project 2011/037 "Implications of climate change for recreational fisheries and the recreational fishing industry" PIs Colin Creighton FRDC and Bill Sawynok Recfishing Research.

FRDC project 2011/403 "Young Leaders in recreational fishing" PI Kane Moyle Recfishwest.

FRDC project 2011/404 "National Angel Rings Program" PI Stan Konstantaras ANSA.

FRDC project 2011/217 "Identifying the health and well-being benefits of recreational fishing" PI Alexandra Mc Manus Curtin University.

FRDC project 2011/502 "Australian national recreational fishing conference" PI Doug Joyner AFTA.

Details of the status of these projects are in section 6.3.

2012 FRDC Round

In the 2012 ACR there were 17 Expressions of Interest (EOI) that were reviewed with 2 supported, 3 conditionally supported, 11 not supported and 1 withdrawn. There were 4 projects approved by FRDC including 1 that was not supported by Recfishing Research. These were:

FRDC project 2012/214 "Measuring the economic value of recreational fishing at a national level" PI Ewan Colquhoun Ridge Partners. This project commenced in May 2012 and will be completed in Jun 2013. This project is being monitored with project milestone submitted through Recfishing Research.

FRDC project 2012/021 "Trial and validation of Respondent-Driven Sampling as a cost-effective method for obtaining representative catch, effort, social and economic data from recreational fisheries" PI Shane Griffiths CSIRO. This project commenced in Jul 2012 and will be completed in Jun 2015. The project is being monitored with milestone reports submitted through Recfishing Research.

FRDC project 2012/213 "Developing Jungle Perch fingerling production to improve fishing opportunities" PI Michael Hutchinson DAFFQ. This project commenced in Jul 2012 and is due to be completed by Jun 2015. This project is being monitored with Bill Sawynok on the Steering Committee and milestone reports submitted through Recfishing Research. The project has managed to get some fingerlings past the critical larval stages and produced a small number of fingerlings.

FRDC project 2012/020 "The influence of fish movement on regional production and stock structure for South Australia's Snapper (*Pagrus auratus*) fishery" PI Anthony Fowler SARDI. This project is being monitored but is not required to report through Recfishing Research. The project commenced in Jul 2012 and is due to be completed by Sep 2014.

In the Feb 2012 TRF Round there were 5 applications reviewed with 1 supported. FRDC approved 1 application.

FRDC project 2012/039 "Urgent need to generate and deploy sterile 'Judas Fish' to assist Carp eradication in Lake Sorrell - surgical and chemical sterilisation" PI Jawahar Patil Inland Fisheries Service, Tasmania. This project commenced in Jul 2012 and is due to be completed by Jan 2014.

2013 FRDC Round

In the 2013 ACR there were 11 EOIs that were provided for review. Of there 2 EOIs were withdrawn and 2 were not assessed as they had no FOB to the recreational sector. Of the remaining 7 projects 3 were supported, 1 was conditionally supported, 2 were not supported and no advice was provided on the remaining proposal, due to a conflict of interest. There were 4 projects approved by FRDC for the development of full applications. These were:

FRDC 2013/018 "Using commercial and recreational fisher knowledge to reconstruct historical catch rates for Queensland Snapper (*Pagrus auratus*) and Spanish Mackerel (*Scomberomorus commerson*) long-term data for incorporation into future stock assessments" PI Ruth Thurston University of Queensland. The project will run from Jul 2013 - Oct 2013.

Project 2013/022 "Integrated fisher-derived and fishery-independent survey data to better understand and manage the Murray Cod fishery in the Murray-Darling basin" PI Peter Kind DAFFQ. The project will run from Mar 2013 - Nov 2016.

FRDC project 2013/025 "Assessing post-release survival of Southern Bluefin Tuna from recreational fishing" PI Sean Tracey University of Tasmania. This project will run from Apr 2013 - Dec 2014.

2013/401 "Recfishing Research 2.0: A revitalized approach to addressing national RD&E priorities and increasing investment and co-investment in RD&E relevant to the recreational sector" PI Matt Barwick Greenfish Consulting. This project was approved in Feb 2013 and will run from Mar 2013 - Jul 2014.

Other projects monitored by Recfishing Research

There were a number of other projects monitored by Recfishing Research. These were:

FRDC project 2008/005 "New and innovative approaches to monitoring small-scale recreational fisheries" Daniel Grixti Fisheries Victoria. This project was completed in 2012 and a final report is expected to be available shortly.

FRDC project 2008/015 "Addressing knowledge gaps for the sustainable management of rocky reef fisheries in Queensland" PI Wayne Sumpton DAFFQ. The final report for this project will be submitted shortly.

FRDC project 2009/040 "Fish stocking programs - assessing the benefits against long term genetic impacts and ecological impacts" PI John Russell DAFFQ. The final report for this project Fish stocking programs - assessing the benefits against long term genetic impacts and ecological impacts. This project was completed in 2012 and the final report is available at www.frdc.com.au/research/final-reports.

FRDC project 2009/333 "A review of conservation and sustainability initiatives, supported or underway by Australia's recreational fishing sector" PI Matt Barwick Greenfish Consulting. This project commenced in Jul 2010 and was completed in Aug 2012. This project found that recreational fishers have contributed \$62m towards conservation and sustainability projects. The project established a website at http://anglingforconservation.org/ and the final report for the project is available from the website, FRDC website www.frdc.com.au/research/final-reports and at the Recfishing Research website www.recfishingresearch.org.

FRDC project 2009/094 "Topping up the Crystal Bowl for Barramundi" PI Bill Sawynok Infofish Australia. This project was completed in Dec 2011 and the final report is available from www.info-fish.net/crystal-bowl.

FRDC project 2010/230 "Tactical Research Fund: Identifying indigenous business opportunities in the recreational fishing tourism industry on Cape York Peninsula" PI Dave Donald BarraDave Sportfishing Service. This project was completed and the final report is available at www.frdc.com.au/research/final-reports.

FRDC project 2010/070 "Tactical Research Fund: Incidence and possible causes of saddleback syndrome in the fish species of south east Queensland" PI Matthew Campbell DAFFQ. This project has been completed and a final report is due.

FRDC project 2010/050 "Socio-economic evaluation of Gamefishing" PI Peter Ward ABARES. This project report is available at www.frdc.com.au/research/final-reports.

FRDC project 2010/400 "Artificial Reefs - Design and Monitoring Standards Workshop" PI John Diplock Hamata Pty Ltd. This project was completed in 2011 and the final report is available at www.frdc.com.au/research/final-reports.

FRDC project 2012/508 "Practical extension, implementation and evaluation of the Aquatic Animal Working Group Fish Welfare overarching principles within the recreational fishing sector" PI Christopher Collins VRFish. This project commenced in Jul 2012 and milestone reports are to be submitted through Recfishing Research.

6.2. Develop an Extension Service

A Recfishing Research Extension Plan 2011-13¹ was developed following the appointment of the Extension Manager in Apr 2011 and this guided extension activities for the project.

The Recfishing Research website at www.recfishingresearch.org was upgraded in 2012 to focus more on providing information about research to recreational fishers. This included the introduction of video clips related to research projects and podcasts with interviews with researchers and others. Figure 6 shows the home page of the website.

The website was complemented by the introduction of a Facebook page (*figure 7*) at www.facebook.com/RecfishResearch. The Facebook page is still in the early stages with 122 followers. It is expected that the use of Facebook will grow over time.

A Recfishing Research email network was maintained. The main purpose of the network was the distribution of reports and scientific papers relevant to recreational fisheries. There were 44 reports and scientific papers sent out to 193 subscribers.

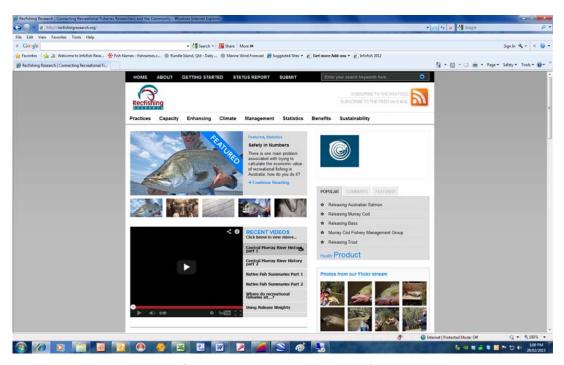


Figure 8: Recfishing Research website www.recfishingresearch.org

¹ Available from Recfishing Research website <u>www.recfishingresearch.org</u>



Figure 9: Recfishing Research Facebook page



Figure 10: Sample of magazine articles provided by Recfishing Research

Articles on research projects were provided to fishing publications including Escape with ET, Fishing World, Freshwater Fishing, Fishing Monthly, Tackle Junkie and peak bodies newsletters/magazines. Articles were also published whose audiences extend beyond the recreational fishing community, including FISH and Rip Rap magazines. Short pieces were also provided for prominent newspapers including the Sydney Morning Herald, The Times, The Examiner and others. Interviews were also provided on radio stations including Snowy

Mountains 2XL and Hot Tomato. *Figure 10* provides a sample of the magazine articles. A total of 24 articles were published over a 23 month period.

Other extension activities included a stand shared with Recfish Australia at the National Recreational Fishing Conference.

6.3. Recreational Fishing Industry Development Strategy projects

From 2008-2011 the Recreational Fishing Advisory Committee (RFAC) developed the Recreational Fishing Industry Development Strategy (RFIDS) as part of the Australian Government's 3 year \$2m commitment to recreational fishing. "Recreational Fishing in Australia - 2011 and beyond: a national industry development strategy" was released by the Minister for Agriculture, Fisheries and Forestry in 2011. There was \$1.7m allocated to 10 projects that were identified in the strategy. FRDC was contracted by DAFF to deliver 7 of these projects with Recfishing Research playing a role in the development and management of these projects on behalf of FRDC. Of the RFIDS projects, 3 have been completed with the remainder in progress.

The projects were:

- 1. A co-ordinated national data collection for recreational fishing in Australia
- 2. National education program
- 3. Identifying the health and well-being benefits of recreational fishing
- 4. Expanding the future leaders Program
- 5. National conference on recreational fishing
- 6. Development of a Discussion Paper on the implications of climate change for recreational fishers
- 7. A national program for the roll-out of Angel Rings

A further 3 projects under the strategy were managed by DAFF:

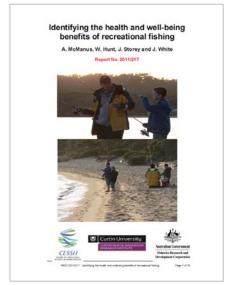
- 8. Improved consultation between government and the recreational fishing sector
- 9. Developing methodologies for obtaining statistically robust estimates of recreational and charter fishing catch of Southern Bluefin Tuna in Australian waters
- 10. Monitoring the recreational take of Shark species in Australian waters

Projects were developed for 1, 3-7 and submitted to the FRDC 2011 round.

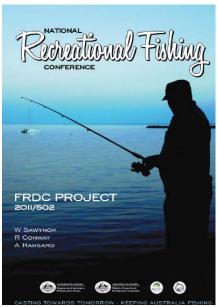
Project 2011/036 "RFIDS: A co-ordinated national data collection for recreational fishing" PI Shane Griffiths CSIRO was submitted to the FRDC 2011 round and was approved. The project commenced in Jul 2011 and the final report is due in Aug 2013.

The national education program took some time to develop. A Scoping Paper was prepared by Andrew Rowland in early 2011. Applications were then invited to develop a project to address the requirements identified in the Scoping Paper. An initial round of applications submitted in late 2011 were evaluated and all applications were unsuccessful. It was considered that a more collaborative approach was required. A workshop was held with the applicants to further develop applications. A further call for applications was made in early 2012.

Project 2011/527 "RFIDS: Recreational fishing in Australia - 2011 and beyond: A national industry development strategy. National recreational fishing program. "Establish activities and tools to promote recreational fishing on a national level." PI Alistair McIlgorm University of Wollongong. The project commenced in Jul 2012 and an initial workshop was held Aug 2012. The project is due for completion in Aug 2014.



Project 2011/217 "Identifying the health and well-being benefits of recreational fishing" PI Alexandra McManus Curtin University was submitted to the 2011 FRDC round and approved. This project was a desk top study to ascertain the state of knowledge about the health and well-being benefits of recreational fishing in Australia. The project commenced in Jun 2011 and was completed in Dec 2011. The final report is available at http://espace.library.curtin.edu.au.



Project 2011/502 "Australian National Recreational Fishing Conference 2012" PI Doug Joyner Australian Fishing Trades Association (AFTA) was submitted to the FRDC 2011 round and was approved. Bill Sawynok of Recfishing Research took over as Principal Investigator when Doug Joyner left AFTA. The conference was held on the Gold Coast in Aug 2012 and attended by 160 delegates. The final report was completed in Jan 2013 and is www.recfishingresearch.org. available at "National Recreational Fishing Conference 2012 Strategic Actions Post the Conference" was produced to take forward key issues identified at the conference.



Project 2011/037 "Implications of climate change for recreational fishers and the recreational fishing industry" with Lead Investigators Colin Creighton of FRDC and Bill Sawynok of Recfishing Research was submitted to the 2011 FRDC round and was approved. The project looked at the implications of climate change in 3 regions being south west, south east and tropical. The project commenced in May 2011 and was completed in Feb 2012. The final report is available at www.recfishingresearch.org.

Project 2011/403 "Future leaders in recreational fishing" PI Kane Moyle Recfishwest was submitted to the 2011 FRDC round and was approved. Andrew Rowland took over as Principal Investigator when Kane Moyle left Recfishwest. The project was to deliver 3 leadership workshops covering WA/NT, QLD/NSW and VIC/TAS/SA. The WA/NT workshop was held in Mar 2011 and the QLD/NSW workshop in Nov 2011. The VIC/TAS/SA workshop is planned for Apr 2013.

Project 2011/404 "National Angel Rings Program" with Principal Investigator Stan Konstantaras of the Australian National Sportfishing Association (ANSA) was submitted to the 2011 FRDC round and approved. The project was to extend the successful Angel Rings program established in NSW nationally. The top 50 sites around Australia have been identified and relevant approvals are currently being sought. The project commenced in Mar 2012 and is due to be completed in Nov 2013.

In 2011 Dr Mike Kelly, Parliamentary Secretary for Agriculture, Fisheries and Forestry set up the Recreational Fishing Round Table to improve consultation between the government and the recreational fishing sector. DAFF has been responsible for the management of the Roundtable. The Roundtable has met in Jun 2011, Oct 2011, Mar 2012 and Aug 2012. Recfishing Research has been a member of the Roundtable and provided information on the progress of RFIDS projects.

A workshop was held in 2011 on the recreational catch of Southern Bluefin Tuna. As a result of that workshop an application was submitted to the 2012 FRDC Annual Competitive Round. FRDC project 2012/022 "Developing a methodology for obtaining regular, statistically robust estimates of recreational and charter fishing catch of Southern Bluefin Tuna (SBT) in Australian waters" PI Peter Ward ABARES. The project commenced in Jul 2012 and is due to be completed in Jun 2015.

"Monitoring the recreational take of Shark species of relevance to Commonwealth managed fisheries" with PI Catherine Cheshire ABARES was completed in 2012 and the report should be available shortly.

6.4. Governance Arrangements for Recfishing Research

An Executive Committee was established to develop a Memorandum of Understanding (MOU) between Recfish Australia and Recfishing Research to establish governance arrangements. The Executive Committee was:

- ★ Russell Conway (Recfish Australia)
- ★ Ross Winstanley (Recfishing Research)
- → Bill Sawynok (Recfishing Research)

The Executive Committee met in Aug 2010 and developed a draft MOU. The draft was provided to the Recfish Australia board and the Recfishing Research Steering Committee for further input. Based on feedback a second draft was prepared and circulated. This was agreed to and the MOU was completed and signed in Dec 2010.

The Executive Committee reviewed the composition and terms of reference of the Steering Committee in Jan 2011 and the amended TOR were included within the MOU.

A financial audit of the Recfishing Research account was undertaken in Jun 2012 by FRDC. The audit approved the accounting procedures and financial status of the project.

7. DISCUSSION

There were, and continue to be, a number of significant challenges for Recfishing Research. Some steps have been taken to meet those challenges but much work remains to be done. The tasks will be easier if recreational fishing bodies continue their strong support for Recfishing Research.

A significant challenge for Recfishing Research was to establish national R&D priorities for the sector. Initially this was done by identifying key issues through national and international forums, and workshops to address specific issues such as marine parks and fish stocking. Further priorities were identified from the RFIDS and Ministerial Roundtable. In 2011 and 2012 peak recreational fishing bodies were requested to provide their priorities so that those with a broader focus could be incorporated into the national priorities. Initially this was not very successful with few peak bodies responding and some had not established research priorities. Over the past 2 years this has improved but this is still an area requiring further improvement. This will be aided by an improved connection between state and national planning cycles. The proposed workshop under Recfishing Research 2.0 should assist in this process.

Another challenge, the biggest one, was and is to improve funding for research into recreational fishing issues. While there is a growing acceptance in the recreational sector of the need for research there is still not a cohesive view on how that should be funded at the national level.

At present there are few ongoing funding options. The FRDC has limited capacity to fund recreational fishing research as at present only WA provides a recreational contribution that forms part of the industry contribution. Qld did provide a contribution up to 2012 but in 2013 all funding to FRDC from Queensland was discontinued by the new government. With the new funding model for FRDC where state FRABs receive an indicative budget each year it will be increasingly difficult to get recreational fisheries project approved through the ACR. The FRDC is unlikely to continue to fund Recfishing Research for any length of time based on the current model. The best option is for a greater recreational fishing contribution to FRDC.

Making this more difficult is the lack of recognition by government of the contribution of the recreational sector to the national economy. The Commonwealth Government contributes funds to FRDC based on the Gross Value of Production (GVP) of the commercial sector. It matches the industry contribution of 0.25% of GVP and provides a further 0.5% of GVP for public good research. The commercial sector is recognised through its GVP however at this time there is no equivalent GVPE for the recreational sector. The project currently being delivered by Ewan Colquhoun 2012/214 "Measuring the economic value of recreational fishing at a national level" is a first step towards establishing a GVPE for the recreational sector. A further task then is gaining government recognition for a GVPE and then securing a contribution to FRDC in the same way as currently occurs for the commercial sector.

A number of states with a recreational fishing licence (NSW, Vic and WA) have some of those funds directed towards research. Recfishing Research has been working towards developing links with the state trusts to develop a more coordinated approach and facilitate development of joint projects where possible. More work is required in this area.

In the last year or so a new national body, the Australian Recreational Fishing Foundation (ARFF), has emerged and is seeking to get a greater level of investment into recreational fishing priorities and research. By ARFF and Recfishing Research working closely together, the potential for matching investment can be progressed.

There are alternative funding bodies and corporations that provide funding for R&D other than FRDC, however, researchers and recreational fishing bodies have paid little attention to these options and there has been limited success in getting R&D funded through such program. Some projects that have been funded by mining and resource companies are a Sailfish tagging program off WA, monitoring of the McArthur River in the NT and trends in recreational fishing in Gladstone Harbour in Qld.

At the tail end to the R&D process there is the never ending challenge of extension. Recfishing Research recognised the need to improve extension right from the outset and has played an important role in extension of the results of research over the past few years. However extension to the incredibly diverse groups that make up the recreational sector is a herculean challenge, particular when funding is very limited.

As well technology keeps changing the communications environment at an ever increasing pace. The traditional model of fishing clubs and organisations is rapidly becoming overrun by social media with the establishment of "virtual groups" and "virtual organisations". These can be activity based eg flyfishing or issue based eg super trawler and can come and go very rapidly depending on the issue or the members of the group. Social media, which hardly existed when Recfishing Research was established, has become the most used communication tool today.

Recfishing Research has grappled with these challenges and started down the pathway of using social media to a greater extent however it is still in its early stages. Understanding how social media can best be used to extend the results of R&D will only come with time and experimentation. The big plus with this approach is that it is infinitely cheaper than the more traditional extension methods.

8. FURTHER DEVELOPMENTS

The FRDC has approved project 2013/401 "Recfishing Research 2.0: a revitalized approach to addressing national RD&E priorities and increasing investment and co-investment in RD&E relevant to the recreational sector". This is an 18 month project that will run from Mar 2013 - Jul 2014.

As part of that project a national workshop will be held in Mar 2013 to review and update the national priorities.

9. CONCLUSIONS

Over the course of this project Recfishing Research has:

- **★** Established national RD&E priorities at a national level
- ★ Assisted in the development of projects to address the national priorities
- ★ Assisted FRDC in the management of its suite of recreational fisheries RD&E projects
- ★ Assisted in the development and management of RFIDS projects
- → Improved the extension of research results
- ♦ Established appropriate governance arrangements with Recfish Australia
- → Had FRDC audit the account to ensure financial probity

Based on that, it is considered that Recfishing Research has played an important role in recreational fisheries research at the national level.

10. APPENDIX 1 - INTELLECTUAL PROPERTY

There was no intellectual property created as a result of this project.

11. APPENDIX 2 - PROJECT STAFF

The following staff worked on this project:

- → Bill Sawynok , Principal Investigator, Infofish Australia
- ★ Matt Barwick, Extension Manager, Greenfish Consulting
- → Ross Winstanley, Co-investigator and Chair of Steering Committee Jul 2010-Aug 2011
- → John Diplock, Co-investigator and Chair of Steering Committee Sep 2011-Mar-2013
- ♦ Shirley Sawynok, Finance Manager, Infofish Australia

