



# National Strategy for the Survival of Released Line Caught Fish

PLANNING, PROJECT MANAGEMENT  
AND COMMUNICATIONS  
PHASE 2

W Sawynok, J Pepperell and R Winstanley

infofish



Project No: 2004/070



# **National Strategy for the Survival of Released Line Caught Fish**

## **Planning, Project Management and Communications Phase 2**

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## ACKNOWLEDGEMENTS

A National Strategy for the Survival of Released Line Caught Fish covering the recreational fishing sector and running for six years involves a large number of people. Many people from national and state recreational fishing organisations, industry businesses, fishing clubs, fisheries researchers, state fisheries agencies and individuals have contributed to making this initiative work or provided assistance in getting the messages on releasing fish to survive out into the recreational fishing community. It is not possible to acknowledge everyone individually however there are a number of people whose contributions were critical to the success of the project.

The steering committee members, particularly chair Ross Winstanley, were instrumental in shaping the strategy and providing guidance along the way. During the course of the National Strategy there have been a number of changes to people on the committee. As well in 2005 the committee "morphed" into a larger committee that took on a broader range of recreational fishing research issues under the banner of Recfishing Research. The current committee and all committee members involved in this Phase 2 project are listed under the Steering Committee. Special thanks go to international advisors Jon Lucy of Virginia Institute of Marine Science and Gene Wilde of Texas Tech University for providing first hand information on US research and projects and for their input to various aspects of the strategy.

Rae Burrows, Andrew Cribb and Howel Williams have all been on the Steering Committee as nominees of the Australasian Fisheries Communicators Committee and provided a two way link between the strategy and members of the communicators' network.

The support of Andrew Ettingshausen (ET), the Escape with ET team and John Dunphy from Shimano Australia is also acknowledged. ET provided a significant contribution to the advertising campaign at the commencement of the strategy and to the initial and subsequent video/DVDs that were produced to promote best practices in releasing fish. He also featured segments from a number of the research projects on his Escape with ET show that helped promote the research and get the best practices messages out to fishers.

Special mention needs to be made of recreational fishing bodies that contributed to various aspects of the initiative. The Australian National Sportfishing Association (ANSA), in particular Executive Officer John Burgess, and the state branches of ANSA have supported the national strategy from the outset. ANSA provided their code of practice on releasing fish which was used as the basis for initial best practices. Many ANSA members have been involved in a number of the research projects and contributed to the development, promotion and distribution of strategy products.

The Australian Fishing Tackle Association (AFTA), in particular Executive Director Doug Joyner, provided valuable input to the national strategy and products that have been developed. AFTA provided the mailing list of Australian recreational fishing businesses, subject to confidentiality arrangements, which allowed strategy products to be distributed through tackle stores and other industry outlets.

Recfish Australia, the peak national recreational fishing body, is a strong supporter of the national strategy. While ANSA was the industry body that initially supported the strategy this was followed by Recfish Australia, particularly in relation to phase 2. The support of state peak bodies Recfishwest, Amateur Fisherman's Association of the Northern Territory, Sunfish Queensland, Recreational Fishing Alliance of NSW, VRFish, TARFish and the South Australian Recreational Fishing Advisory Committee is also acknowledged.

Finally, thanks to Sandra Anastasi of All-Biz-Art for the design of the logo and most of the information products produced as part of the national strategy.



## STEERING COMMITTEE

The Released Fish Survival Steering Committee was responsible for the overall guidance of the National Strategy for the Survival of Released Fish. The Steering Committee comprises members that have been drawn from all areas of expertise required to deliver the strategy outcomes. The steering committee was formalised in May 2002. In August 2005 the Steering Committee was expanded and became the "interim" Steering Committee for Recfishing Research however retained responsibility for the Released Fish Survival National Strategy.



Ross Winstanley of Winstanley Fisheries Management Services Pty Ltd is the chair of the steering committee. Ross is currently a fisheries consultant and comes from Geelong in Victoria. He has had extensive experience in fisheries management with 33 years service with Vic Fisheries before setting up his own consultancy in 2001. Ross is a keen recreational fisher and spends a lot of his spare time fishing for Snapper in Corio Bay.



Bill Sawynok is the Principal Investigator responsible for the Released Fish Survival and now Recfishing Research. Bill runs his own business, Infofish Services, and is based in Rockhampton in Queensland. He is a director of the Australian National Sportfishing Association, a past director of the Fisheries Research and Development Corporation, a past director of the CRC Reef Research Centre and a past board member of Recfish Australia.



Julian Pepperell is 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.



Matt Barwick was a Project Manager with the Fisheries Research and Development Corporation based in Canberra. Matt gained experience in fisheries management while with the Australian Fisheries Management Authority, and an understanding of freshwater and estuarine fish communities through involvement in a number of research projects with NSW Fisheries (now NSW DPI). He is also a keen recreational fisher.



Doug Joyner is the Executive Officer of the Australian Fishing Tackle Association and is based in Sydney in NSW. He represents the Recreational Fishing Industry on various government and non-government committees and provides comment to various media agencies throughout Australia. Focused lobbying also is provided on emerging issues affecting public access to fisheries resources held in trust by various agencies.



Frank Prokop is a past president of Recfish Australia and the Executive Director for Recfishwest and is based in Perth in Western Australia. Frank is currently a Director with the Fisheries Research and Development Corporation. He has written 13 books on recreational fishing. Frank was appointed as the first dedicated recreational fisheries manager in Australia and has worked in aquaculture, commercial fisheries and recreational fisheries management since 1984.



Ian Brown is a Principal Fisheries Scientist with the Queensland Department of Primary Industries and Fisheries. After working with the Marine Studies Group in Victoria, Ian spent three years as Fisheries Adviser to the Fiji Government, then moved to Queensland. Based at the Southern Fisheries Centre at Deception Bay in Brisbane, Ian has had extensive involvement in both recreational and commercial management-related fisheries research.



Steve Sutton is a research fellow in the School of Earth and Environmental Studies at James Cook University in Townsville. Steve is a social scientist specialising 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.



John Harrison was the CEO of Recfish Australia and based in Brisbane. He was Executive Officer of the Amateur Fishermen's Association of the NT from 1998 – 2005, President of Recfish Australia from 2000-2001 and is a former Director of the FRDC. He is also a Director of WetlandCare Australia. In between all that he still finds time to get out fishing.



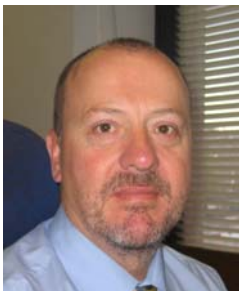
Jim Harnwell is the publisher and editor of Australia's No.1 fishing magazine, Fishing World. Jim is based in Shoalhaven in NSW. A keen bluewater angler with a particular interest in tuna and billfish, he is a member of the NSW Advisory Council on Recreational Fishing and has been heavily involved in the marine parks debate and other conservation issues.



John Diplock is currently with the NSW DPI and based in Sydney. John set up the first Policy Unit for NSW Fisheries and took over management of recreational fishing in 1998. John was instrumental in the introduction of the general recreational fishing fee in 2001 and is currently responsible for the expenditure of revenue from the fishing fee, maintenance of the agents' network, and the running of two trout and one native fish hatchery for stocking public waters throughout NSW.



Professor Alistair McIlgorm is Director of the National Marine Science Centre, Coffs Harbour, NSW, a corporate entity of the University of New England and Southern Cross University. He was formerly with the Australian Maritime College and is Director of Dominion Consulting Pty Ltd. He has undertaken several surveys of recreational fishing expenditure in regional NSW and of the fishing tackle industry nationally for the Australian Fishing Tackle Association. He is currently overseeing development of a "sustainable recreational fishing" schools visit experience in the NMSC foyer, under Commonwealth community grant funding.



Howel Williams is the Chair of the Australasian Fisheries Communicators Committee and has over 20 years experience in fisheries management and fisheries research in Australia and overseas with the UN. Howel was the head of fisheries R&D in Tasmania and established the Tasmanian Aquaculture and Fisheries Institute before heading the South Australian fisheries R&D for several years. Howel moved back to Tasmania in 2002 and has been the manager of Tasmania's recreational sea fisheries since.

The steering committee also had 2 international advisors that have provided advice and assistance with various elements of the national strategy. Both advisors have been to Australia and taken part in aspects of the national strategy.



Jon Lucy, with the Virginia Institute of Marine Science, College of William and Mary (Gloucester Point, Virginia USA), attended the workshop in May 2001 and provided a comprehensive summary of research and educational efforts in North America. Jon has conducted research on hook release mortality in saltwater recreational fisheries, i.e., flounder, sea trout, grouper-like fish (Labridae), and bluefin tuna. He is a co-director of the Virginia Game Fish Tagging Program and co-editor of "Catch and Release in Marine Recreational Fisheries (Symposium No. 30, 275 pp., American Fisheries Society, Bethesda, MD USA, 2002).



Gene Wilde from Texas Tech University in Lubbock Texas USA spent 3 months in Australia from September to November 2003 with Infofish Services and attended a steering committee meeting in November 2003. Gene has researched many aspects of fish survival including the effects of hook location and temperature on largemouth bass. Gene is also a strong advocate for a modeling approach to provide a consistent framework for collecting data on fish survival.



## 1. NON-TECHNICAL SUMMARY

National Strategy for the Survival of Released Line Caught Fish:  
Planning, project management and communications Phase 2

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### Objectives

1. To provide leadership for Australia's investment in R&D in released line caught fish survival.
2. To provide recreational fishers, charter operators and fisheries managers with new knowledge on releasing fish and changes in best practices as obtained from the technical projects and other research.
3. To facilitate and promote the development of new tools, models and data to assist in decision making by fisheries managers.

### Non-technical Summary

#### OUTCOMES ACHIEVED

**The national strategy focussed research on the priorities identified for survival of released fish.** From April 2002 to March 2008, under the umbrella of the national strategy, there have been 20 projects dealing with released fish survival involving a total investment of around \$7.3 million of which FRDC provided \$2.4 million. This has been one of the largest investments in research, development and extension into an issue of importance to recreational fishing.

**Projects under the national strategy have significantly improved knowledge of all issues involving the survival of released fish.** Projects under the national strategy have extended the species where there are now estimates of survival rate from 4 to 21. They have also significantly improved knowledge of the effects of deep hooking and barotrauma. There was also a significant improvement in knowledge of best practices in releasing fish to improve fish survival.

**The national strategy was instrumental in getting information on the survival of released fish and the results of research into fishers' communication networks and ultimately to recreational fishers.** This project extended information obtained from the research projects to recreational fishers by getting new information into the communication networks used by recreational fishers, charter operators and fisheries managers. Extension was achieved through a website, government fisheries agencies, national and state fishing organisations, schools, marine education programs, Fishcare volunteers, tackle stores, fishing media and fishing clubs which ultimately extended information to individual fishers.

**The national strategy is widely recognised by those within the industry as having improved practices in releasing fish.** Parallel surveys at the completion of the strategy of recreational fisheries managers/key peak body representatives and the fishing tackle industry clearly indicated that the products, research initiatives and messages derived from the National Strategy have been widely understood and adopted by these groups and by the general fishing public. Uptake and use of messages and results by managers and peak body representatives has been extremely high, while penetration of the recreational fishing industry has also been excellent. Perceptions by industry that the strategy has greatly enhanced attitudes of the fishing public towards releasing fish, with consequent increased sales of fish-friendly gear, are very strong, all of which indicate that the strategy must be considered to have been very successful in meeting its objectives.

The National Strategy for the Survival of Released Line Caught Fish was an initiative of the Fisheries Research and Development Corporation. The strategy evolved during 2001 and 2002 following the funding of a project on reef fish survival in Western Australia in 2000. It was formally approved in April 2002 with the funding of project 2001/099 National Strategy for the Survival of Released Line Caught Fish: Planning, project management and communications. Phase 2 of the National Strategy was from July 2004 to June 2008. From April 2006 it became part of a broader Recfishing Research strategy.

The national strategy involves projects aimed at achieving the following outcomes:

Improving the survival of released fish through:

- ❑ A better understanding of the effects of fishing; and
- ❑ Increased adoption of best practices in handling fish.

Improved fisheries management through:

- ❑ A reduction in the total mortality of released line caught fish; and
- ❑ Inclusion of recreational catch and fish survival data in fisheries stock assessment.

At December 2007 the strategy includes a total of 20 projects. Of these 12 were FRDC funded projects and 8 were non-FRDC funded projects that have been completed or are in progress. The total commitment to invest in strategy projects at December 2007 was \$7.3 million of which FRDC has contributed \$2.4 million and state agencies, industry groups and others have contributed \$4.9 million.

The strategy was overseen by an expertise-based steering committee whose members come from around Australia and was supported by two international advisors from the USA. Bill Sawynok of Infofish Services was the manager of the project and the national strategy.

The steering committee was proactive in the promotion of the key issues and provided input and actively assisted in the development of a number of projects, particularly those which were funded by FRDC. The steering committee was also active in promoting projects not funded by FRDC to come under the national strategy. As a result all projects in Australia dealing with released fish survival came under the umbrella of the national strategy which provided support in getting results of projects out to recreational fishers under the banner of "Gently Does It".

At the completion of the strategy a survey was undertaken of recreational fisheries managers, recreational fishing peak bodies and the fishing tackle industry (Pepperell 2008). The survey showed a high level of awareness of the strategy among managers and peak body representatives (100% very aware or somewhat aware). The level of awareness within the tackle industry was less but still high

(nearly 70% very aware or somewhat aware). There was a high level of usage of strategy products by managers and peak bodies and a high level of awareness of the research projects while those within tackle industry were less aware and made less use of both products and the research. Over 75% of tackle industry respondents considered that sales of 'fish friendly tackle' had increased as a result of the strategy and that 65% considered that there had been an improvement in the handling of fish before release.

In January 2007 a meeting was held in Brisbane with Andrew Loftus and Gil Radonski of the American Sportfishing Association. The "Gently Does It" program is something that had received recognition in the USA and they were very keen to incorporate elements of that into a "FishSmart" program they planned to develop during 2007.

During phase 2 of the strategy there were a number of technical projects that provided new knowledge on released fish survival and an important role of the strategy was to assist in getting that information to recreational fishers, charter operators and fisheries managers. The focus was to get new information into the communication networks used by recreational fishers, charter operators and fisheries managers. Extension was achieved through a website, government fisheries agencies, national and state fishing organisations, schools, marine education programs, Fishcare volunteers, tackle stores, fishing media and fishing clubs.

Weekly or fortnightly email briefings outlining what was happening in the strategy was provided to key personnel including the steering committee, peak recreational fishing bodies, national fishing organisations, government recreational fisheries managers, researchers involved in strategy projects and anyone else that wanted to be kept informed at that level.

Periodic news bulletins (19 in all) providing information on new products or the results of research was sent out to a wider audience. Subscribers included fisheries managers, researchers involved in fish survival research (including many from overseas), key industry persons and individual recreational fishers.

The Released Fish Survival website was primarily focussed on providing simple fact sheets on all aspects of issues affecting fish survival and best practices in releasing key recreational fish species. The website currently features 53 fact sheets and to December 2007 there were over 20,000 downloads of these fact sheets and other documents. Fact sheets were regularly updated during the strategy as new information became available.

Phase 1 of the strategy was focussed on raising awareness of the issues relating to releasing fish. A national television awareness campaign was conducted during 2003 with advertisements featuring Andrew Ettingshausen of the "Escape with ET" television show. ET also featured in a best practices video (subsequently converted to a DVD).

Phase 2 of the strategy focussed on printing and distribution of hard copy material and 14 printed products were produced as part of the strategy or by projects under the strategy. These were made available to all communication networks aimed at getting the information to individual recreational fishers. A total of 103,000 printed products were distributed during phase 2 of the strategy.

In November 2006 funding was obtained from the Recreational Fishing Community Grants program to produce "Gently Does It #2" DVD based on the research that had been undertaken. This DVD was completed in March 2008. Initially 28,000 copies of the DVD were distributed in the May edition of the Fishing World magazine.

At the completion of the strategy in May-June 2008 a final composite Information Kit, including all printed products and the Gently Does It DVD #2 was sent out in a nation wide mail out. A total of around 1,000 kits were sent to government agencies, tackle stores, charter operators, fishing clubs, fishing competitions, fishing media and others. Copies of information products remaining at the end of the project will continue to be distributed through Recfishing Research as demand for these products continues.

Project 2004/070 built on the success of the initial project 2001/099 and extended the range of species for which survival information is available. Prior to the implementation of the strategy estimates of survival rates were available for 4 species. At the completion of the strategy survival rates were available for an additional 16 species with more than one estimate for Snapper and Dusky Flathead. There was also a significant improvement in knowledge of the effects of deep hooking, barotrauma and best practices in releasing fish to improve fish survival.

A number of university student projects added useful information on aspects of fish survival including hook retention by Black Bream, properties of swim bladders and implications of barotrauma, effects of salinity and hooking on Sand Whiting and catch care, tag and release, barotrauma and related issues in the Samsonfish sports fishery.

### **Keywords**

National strategy, releasing fish, fish survival, best practices, Gently Does It.

## 2. BACKGROUND

The National Strategy for the Survival of Released Line Caught Fish was an initiative of FRDC to address issues arising from the growing numbers of fish released by recreational fishers. The National Recreational Fishing Survey, undertaken in 2000, estimated the recreational finfish catch in Australia at 107.7 million fish caught of which 47.3 million (43.9%) were released (Henry and Lyle 2003). At the commencement of the National Strategy minimal information was available on the survival of these released fish.

The National Strategy involves a series of projects aimed at achieving the following outcomes:

Improving the survival rate of released line caught fish through:

- ❑ A better understanding of the effects of fishing; and
- ❑ Increased adoption of best practices in handling fish.

Improved fisheries management through:

- ❑ A reduction in the total mortality of released line caught fish; and
- ❑ Inclusion of recreational catch and fish survival data in fisheries stock assessment.

Since 2000 FRDC has funded 12 projects that addressed these issues and from 2002 this group of projects came under the national strategy. A further 8 projects where no funding was provided by FRDC have also been incorporated into the strategy, specifically in relation to extension of the results of those projects.

The initial Planning, Project Management and Communications FRDC project 2001/099 focused on promoting best practices in releasing fish based on the knowledge at that time and using the Australian National Sportfishing Association Code of Practice in Releasing Fish as the basis of best practices. That project undertook a number of surveys to understand the attitudes and practices of recreational fishers, changes in attitudes and practices following a national advertising campaign and to assess sales of fish friendly tackle. The national television advertising campaign promoting best practices in releasing fish was undertaken in 2003 and featured Andrew Ettingshausen from Escape with ET.

In 2001 a project was conducted to review the national status of research and fishery information on Post Released Survival of fish caught in line fisheries. This project identified the then current status of knowledge and the priorities of fisheries agencies around Australia. This was then used as the basis for promoting investment into the key fish survival issues and species.

This has resulted in an investment of around \$7.3 million in 20 projects over the life of the national strategy with some projects still continuing.

## 3. NEED

The need for the national strategy was established prior to the initial Planning, Management and Communications project 2001/099 which focussed on promoting best practices and initiating projects that examined some of the specific survival issues.

Early in the development of the strategy it was determined that in relation to key species where large numbers of fish were being released that the following information was required:



- ❑ The number of fish caught and released;
- ❑ The extent of deep hooking (a major cause of mortality)
- ❑ The effects of barotrauma in deep water species (also a major cause of mortality);
- ❑ The current post-release survival rate for the species; and
- ❑ Best practices for releasing species.

Technical projects were then encouraged to address these issues for key species. The key species, and the numbers caught and released were obtained from the National Survey (Henry and Lyle 2003). A comprehensive review of research and fishery information (McLeay et al 2002) was undertaken at the commencement of the strategy which was also used to identify priorities.

At the commencement of phase 1 of the national strategy a number of projects were commenced or were already underway to determine survival rates and changes required in best practices. Projects including reef species in WA, Snapper and Bream in Victoria and Barramundi in the NT.

Most of these projects were still in progress at the end of phase 1 and a range of additional projects were being proposed to address the priority issues that had not been addressed at that stage. This included survival of tropical reef species and Flathead. Also a number of the priorities identified for the national strategy had not been addressed.

It was therefore considered necessary to extend the national strategy to phase 2 to manage the strategy and to facilitate the extension of the new knowledge that was being, and would be, generated through the technical projects.

## 4. OBJECTIVES

The objectives of the project were:

1. To provide leadership for Australia's investment in R&D in released line caught fish survival.
2. To provide recreational fishers, charter operators and fisheries managers with new knowledge on releasing fish and changes in best practices as obtained from the technical projects and other research.
3. To facilitate and promote the development of new tools, models and data to assist in decision making by fisheries managers.

## 5. METHODS

### **5.1. Leadership for Australia's investment in Released Fish Survival R&D**

Leadership was provided through:

1. Maintenance of an easy to read national strategy document that summarises the strategy, reports on progress and identifies the key areas for investment.
2. A steering committee that ensures the maximum return on R&D investment in released fish survival research through input to projects on released fish survival.
3. Encouraging and assisting the development of new research approaches and projects that address key knowledge gaps identified in the national strategy.

4. Negotiating to include under the national strategy non-FRDC projects addressing released fish survival issues.
5. Developing and enhancing a culture within industry to further extend new knowledge by expanding the network of key industry groups and individuals that support the strategy and assist with communication and extension.

## **5.2. Providing recreational fishers, charter operators and fisheries managers with new knowledge**

Dissemination of new knowledge and changes in best practices was achieved through:

1. Tapping into new relevant knowledge produced anywhere in the world and making it available in suitable formats to Australian fishers.
2. Media articles or releases to target recreational fishing journalists nationwide and provide information to existing "champions" used by state fisheries agencies.
3. Presentations to charter boat peak bodies and information packs to charter boat operators.
4. Link Released Fish website to websites of charter operators that demonstrate responsible practices in releasing fish.
5. Poster promoting fish friendly fishing gear for tackle stores.
6. Presentations and information packs to fisheries managers.
7. Maintaining and enhancing the Released Fish Survival website with new knowledge as it becomes available and providing links to websites with more details on specific projects or research.
8. Extension of fact sheets to releasing key non-fish species such as abalone and rock lobster and guidelines for humane killing of fish using existing knowledge.
9. Offer support to manufacturers and charter operators to use fish friendly gear and provide recognition to charter operators that demonstrate responsible fishing practices.
10. Use of the email news bulletins to get new knowledge to key industry people rapidly and expand the list to include tourism interests.
11. Use of state agency fisheries communicators network, industry networks, fishing and general media, to get information on research results and changes in best practices to the fishing community.
12. Information and training assistance for fisheries agencies and Fishcare volunteers.
13. Production of an updated best practices/fish survival statistics pamphlet in year 3.
14. Assistance in the design of strategy communication products that will ensure the maximum adoption of new knowledge.
15. A complete section on research papers on released survival issues will be maintained on the website.

### **5.3. New tools, models and data to assist in fisheries management**

New tools, models and data were developed by:

1. Working with fisheries managers to identify their specific needs in relation to fish survival data.
2. Encouraging researchers to develop a modelling approach to fish survival.
3. Providing incentives for recreational fishers to collect field data, especially hooking locations that will assist in assessing fish survival.
4. Providing incentives to university students to address minor but controversial issues associated with fish survival eg use of fish grips and use of keeper nets.

## 6. RESULTS

### 6.1 Leadership for Australia's investment in Released Fish Survival R&D

Early in the life of the national strategy in 2001 a document was prepared that identified the key issues that required RDE investment. These were simply promoted as:

*The R&D investment by FRDC will be limited to the following areas:*

- ❑ *Management of the national strategy*
- ❑ *Development and promotion of best practices*
- ❑ *Determining survival rates for the 4 national priority species (groups) being whiting, bream, flathead, snapper*
- ❑ *Determining survival rates for icon species barramundi and Murray cod*
- ❑ *Reduction of mortality from barotrauma and deep hooking*

*The national priority species are considered to be a higher priority than the icon species.*

*Where groups of species are to be investigated it is recommended that an initial series of experiments be conducted into survival across the group before additional work is proposed.*

*For each of the key species identified the following information is required:*

- ❑ *The number of fish caught and released*
- ❑ *The extent of deep hooking*
- ❑ *The survival rate for the species*
- ❑ *Best practices for releasing the species*

*Research into other areas should be the responsibility of state fisheries agencies, industry groups and other R&D investors, however it will be encouraged that this work come under the national strategy and steering committee.<sup>1</sup>*

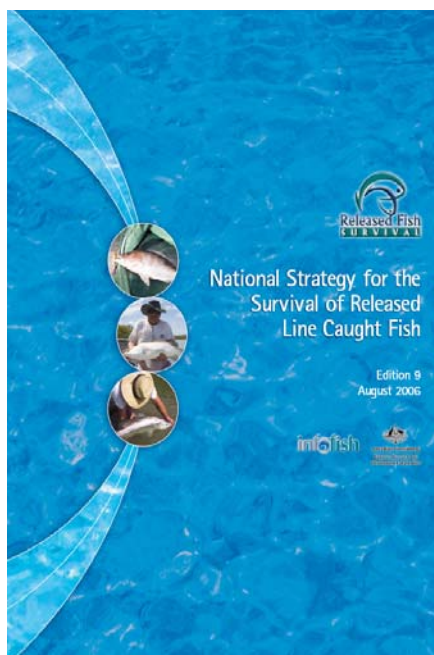


Figure 1: National Strategy document available from website

<sup>1</sup> National Strategy for the Survival of Released Line Caught Fish Edition 7 June 2005

The national strategy document has been used as the primary document to promote the issues that require R,D&E investment. Part of the reason for its success was that it has been regularly maintained and updated every 6 months (approximately) and primarily available for download from the website. The latest version of the document is Edition 10 which was updated in December 2007 (*figure 7*). This is the most downloaded document from the website with 1,609 copies downloaded to June 2008 indicating that many people have used it to keep up to date with the national strategy and where the investment has been and is being made.

These key areas for investment were then promoted to researchers, industry and government agencies to initially raise awareness of the key issues and then to promote the development of projects to address those issues.

As a result, over the life of the national strategy, there have been 20 projects initiated with a total investment of around \$7.3 million. This is one of the largest investments into any issue related to recreational fishing. Of these, FRDC provided \$2.4 million to 12 projects while a further \$4.9 million was provided from other sources including 8 projects where FRDC did not provide any funding. Some projects are still in progress and are not scheduled to be completed until at least 2008/09.

Importantly, all these projects were incorporated under the national strategy. Within these 20 projects all the key areas identified for R&D investment had at least one project that addressed these priorities. However among the key species groups Whiting was the only species group where no project was initiated, although an unsuccessful application was developed. One honours project examined hook location on Sand Whiting (McGrath 2007).

The steering committee was proactive in the promotion of the key issues and provided input and actively assisted in the development of a number of projects, particularly those which were funded by FRDC. The steering committee was also active in promoting projects not funded by FRDC to come under the national strategy. As a result the steering committee is not aware of any project related to released fish survival that did not come under the umbrella of the national strategy.

A number of particularly relevant projects (Broadhurst et al, in press) were funded through the NSW Recreational Fishing Trust Fund. While the steering committee did not have input to the development of these projects they were included under the national strategy and the steering committee has worked with the research teams on the extension of information from these projects or the incorporation of new information from these projects into strategy products.

Parallel surveys at the completion of the strategy of recreational fisheries managers/key peak body representatives and the fishing tackle industry clearly indicated that the products, research initiatives and messages derived from the National Strategy have been widely understood and adopted by these groups and by the general fishing public. Uptake and use of messages and results by managers and peak body representatives has been extremely high, while penetration of the recreational fishing industry has also been excellent. Perceptions by industry that the strategy has greatly enhanced attitudes of the fishing public towards releasing fish, with consequent increased sales of fish-friendly gear, are very strong, all of which indicate that the strategy must be considered to have been very successful in meeting its objectives.

The survey showed a high level of awareness of the strategy among managers and peak body representatives (100% very aware or somewhat aware). The level of awareness within the tackle industry was less but still high (nearly 70% very aware or somewhat aware). There was a high level of usage of strategy products by



managers and peak bodies and a high level of awareness of the research projects while those within tackle industry were less aware and made less use of both products and the research. Over 75% of tackle industry respondents considered that sales of 'fish friendly tackle' had increased as a result of the strategy and that 65% considered that there had been an improvement in the handling of fish before release.

In January 2007 a meeting was held in Brisbane with Andrew Loftus and Gil Radonski of the American Sportfishing Association. The "Gently Does It" program is something that has received recognition in the USA and they were very keen to incorporate elements of that into a "FishSmart" program they are developing. In a sense the leadership aspects of the program have extended beyond Australia.

## **6.2 Providing recreational fishers, charter operators and fisheries managers with new knowledge**

The national strategy adopted an approach of collecting information from anywhere in the world and getting relevant information into the communication networks of recreational fishers. The steering committee included two international advisors from the USA who provided links to research there and access to new knowledge generated.

Getting information out to recreational fishers was achieved via state fisheries agencies, industry networks and the fishing and general media. Much of the focus of the national strategy was to get information to fishers' communication networks and allow the information to be further spread through those networks.

### **6.2.1 Released Fish Survival briefings**

Released fish survival briefings were provided to anyone that wanted to be kept up to date with the strategy on a weekly or fortnightly basis with the core people being the steering committee, peak recreational fishing bodies, national fishing organisations, government recreational fisheries managers and researchers involved in strategy projects.

- ☐ From 1 July 2004 to 15 August 2005 a total of 54 briefings were sent out.
- ☐ From the commencement of the strategy in April 2002 to 15 August 2005 there were 154 briefings sent out.
- ☐ From 26 August 2005 the briefings were incorporated into the Recfishing Research briefings with a further 49 briefings to 3 August 2007.
- ☐ From 3 August 2007 briefings were considered to be primarily Recfishing Research briefing and only referred to Released Fish Survival issues when new information was available.
- ☐ Over the life of the strategy there were 203 briefings provided.
- ☐ The number of people provided with the weekly briefings rose from 25 in July 2004 to 49 in August 2007.

### **6.2.2 Released Fish Survival News**

This was a one page news bulletin that could be subscribed to direct or through the website and was sent out advising subscribers of new products or reports as they became available (*figure 2*). Subscribers included fisheries managers, researchers involved in fish survival research (including many from overseas), key industry persons and individual recreational fishers.

- ☐ A total of 10 bulletins were sent out from July 2004 to June 2008.
- ☐ Over the life of the strategy there were 20 bulletins sent out.
- ☐ Subscribers to the news bulletin rose from 585 in July 2004 to 825 in June 2008.

- ❑ News bulletins were also available from the website and there were 1,001 downloads of bulletins from July 2004 to June 2008.

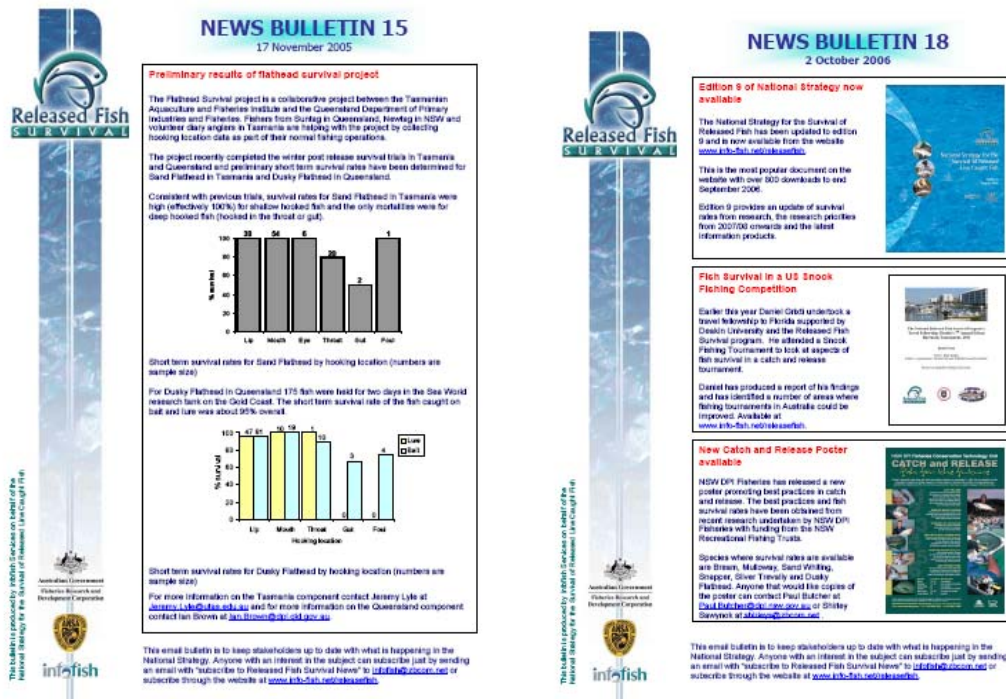


Figure 2: Samples of Released Fish Survival News Bulletin

### 6.2.3 Released Fish Survival Website

The website was primarily focussed on providing fact sheets on all aspects of issues affecting fish survival and best practices in releasing key recreational fish species (figure 3).

- ❑ A total of 53 fact sheets were produced with 11 fact sheets on best practices, 3 on fish friendly fishing gear, 5 on releasing fish facts and 34 on releasing species, or groups of species (figure 5).
- ❑ Fact sheets on releasing abalone and rock lobster were added.
- ❑ Fact sheets were regularly updated as new information became available.
- ❑ Downloads from the website have averaged 495 per month for the period July 2005 to June 2008 (figure 4).
- ❑ There have been over 23,000 downloads of documents from the website with 14,429 downloads of the 30 most popular documents to June 2008 (table 1).
- ❑ Maintenance of the section on research papers was discontinued due to copyright issues and lack of use by those coming to the website.



Figure 3: Front page of Released Fish Survival Website

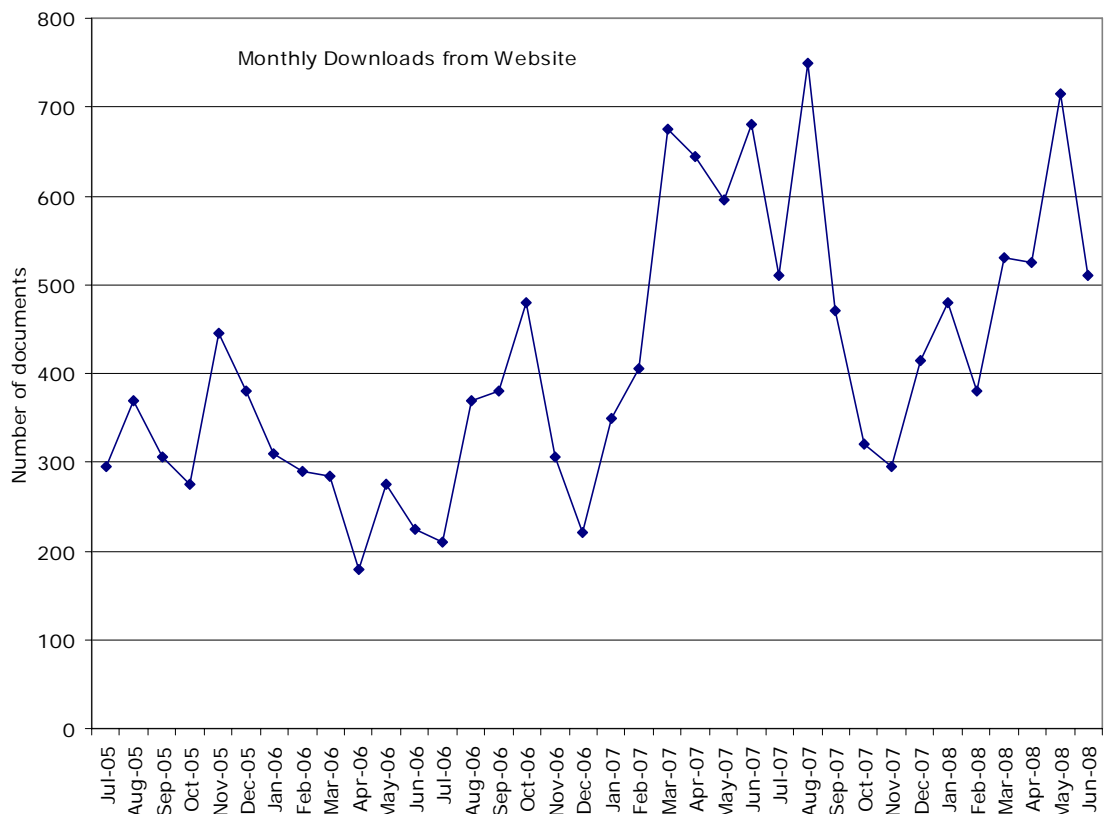


Figure 4: Monthly downloads from the Released Fish Survival website from July 2005 to June 2008

Fact Sheet or Document	Total Downloads
National Strategy 2004-2007	1609
Hooking	774
Survival of Released Line Caught Fish - A Review of Research	756
Dealing with Barotrauma	740
Causes of Fish Mortality	721
Fsh Friendly Equipment	687
Hooks to Use	645
Handling and Releasing Fish	538
ANSA COP	486
Gently Does It 1 pamphlet	465
Practices That Need to Change	444
Holding Fish Alive	407
Releasing Bream	392
Released Fish Survival National Survey Report	382
Hard to Handle Fish	372
Assessment of the Post-Release Survival and Stress Physiology of Barramundi	365
Summary of Fish Released	362
Releasing Billfish	361
Why Fish are Released	342
Releasing Barramundi	325
Releasing Bass	325
Releasing Flathead	323
Numbers of Species Released	317
Species not to be Released	315
Recording a Memorable Catch	314
Weighing and Measuring Fish	311
Releasing Snapper	308
Releasing Australian Salmon	291
Releasing Murray Cod	263
Fish Tagging	248
Releasing Whiting	241
<b>Total</b>	<b>14429</b>

Table 1: Most popular fact sheets downloaded from the Released Fish Survival website



**RELEASED FISH SURVIVAL FACT SHEET**

**SPECIES**

Snapper or Pink Snapper  
(*Pagrus auratus*)

**KNOWLEDGE RATING**

☒ ☒ ☒

5 stars if there is sufficient knowledge of fish released, survival rates and best practices for the species

**BEST PRACTICES IN RELEASING SNAPPER**

Recommended practices for Snapper being released:

- For bait fishing use hooks that reduce deep hooking (1)
- Use single barbless hooks or barless lures on lures (1)
- When boat fishing use a knotless landing net to land larger fish
- Use wet hands or a wet cloth when handling fish
- Use a hookout or long nosed pliers to remove hooks
- Cut the line 10cm outside the mouth for deep hooked fish
- Hold the fish horizontally when taking photographs
- Fish from depths over 20m may need to be treated for barotrauma by venting or use of release weight (2)

Go to reference material in brackets for access to more information on any particular aspect of best practice

**Other tips**

- Avoid releasing Snapper if there are sharks or other predatory species in the vicinity.

**KEY SURVIVAL ISSUES**

The following are the most likely survival issues for snapper:

- Deep hooking
- Barotrauma in fish from deep water
- Handling of fish

**SURVIVAL RATES**

Research has shown the following survival rates for Snapper:

VIC – Preliminary estimates of post-released survival are available for under-size snapper from capture and holding trials (3).

WA – research currently underway (4)



**SHAPPER SURVIVAL**



Preliminary estimates of survival of undersized Snapper from Victoria

**RECREATIONAL CATCH**

LOCATION	YEAR	HARVEST	RELEASED	CATCH	% REL.	REF.
NATIONAL	2000	1.7 million	0.8 million	2.6 million	55.7%	(5)
QUEENSLAND	1999	0.5 million	0.75 million	1.3 million	56%	(6)

Numbers of fish harvested and released in key fisheries with available data

**HOOKING LOCATIONS**

No data is currently available on locations where hooks are lodged in Snapper. It is recommended that gear that reduces deep hooking of Snapper be used.

**REFERENCE MATERIAL**

The following reference material has been used in the completion of this fact sheet and can be used to obtain more detailed information.

(1) Released Fish Survival Fact Sheet on Hooking  
(2) Released Fish Survival Fact Sheet on Barotrauma  
(3) Martin and Freemaster Research Institute (in progress 2003-2008) Survival of snapper and freemaster released by recreational fishers in shallow coastal temperate ecosystems. FRIC project 2003/04  
(4) The Fisheries (in progress 2003-2005) Maximising survival of released undersized wild coast reef fish. FRIC project 2003/04  
(5) Henry G and Lyle J (ed) (2003). The National Recreational and Indigenous Fishing Survey. Available at [www.dfa.gov.au/indigenous/](http://www.dfa.gov.au/indigenous/)  
(6) Higgs J (2001) Recreational fish catch estimation for Queensland Residents. RPI/01/01. Fish Tag Report 86, results from the 1999-00 fish tag survey available from Qld Dept of Primary Industries & Fisheries

This fact sheet is based on the latest available data and will be updated when new information becomes available

Figure 5: Sample fact sheet on Snapper available from the website



### 6.2.3 Printed Information Products

A range of information products were produced through the national strategy or by projects that came under the strategy from July 2004 to June 2008.

The original Gently Does It pamphlet continued to be distributed from July 2004 to August 2007 when it was replaced with the 2007 updated version (*figure 6*). From July 2004 to June 2008 there were 36,500 copies of the pamphlets distributed. Since the strategy commenced there have been 149,500 copies distributed and it was the most popular printed product produced.

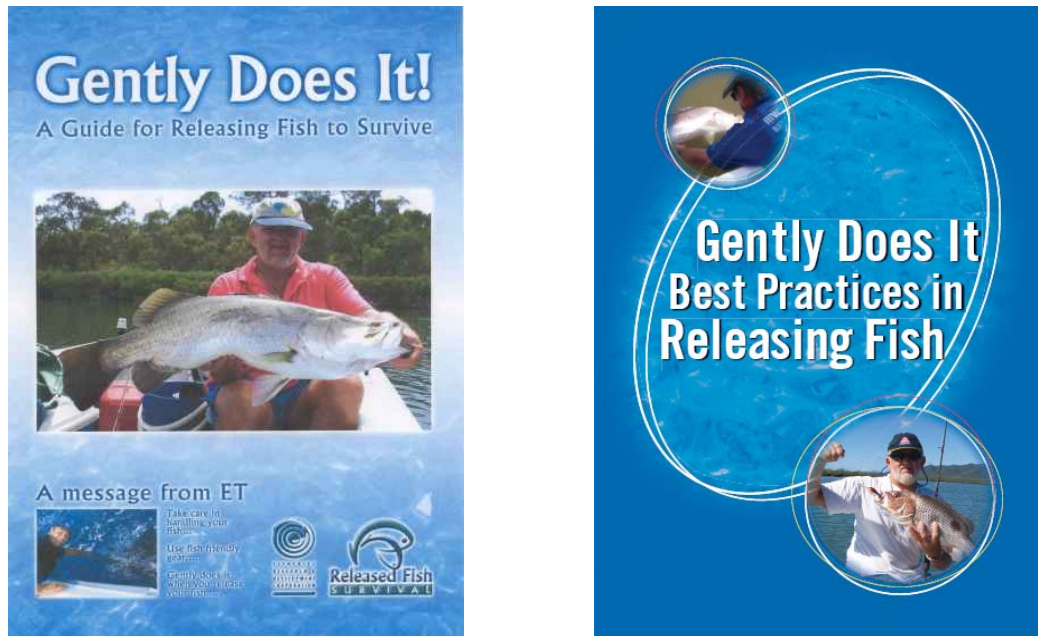


Figure 6: Original and 2007 version of the Gently Does It Best Practices in Releasing Fish

A poster was produced promoting fish friendly tackle in May 2005. Two versions of the poster were produced, one aimed at adults and another aimed at children (*figure 7*). These posters were produced in A3 size as well as A4 and have been very popular with Fishcare volunteers and for education kits aimed at school children. A total of 33,000 posters were distributed to June 2008. The style for the adult poster was adopted as style of approach used in later strategy products.



Figure 7: Posters produced promoting fish friendly tackle



Two posters were produced in 2004 (*figure 8*) based around the research into Barramundi survival undertaken by NT Fisheries as part of FRDC project 2002/039 “Assessment of post-release survival and stress physiology of barramundi”. The posters were produced by NT Fisheries but additional copies were printed and distributed more widely through the strategy. The number of posters distributed by NT Fisheries is not known however 10,000 were distributed through the strategy.



Figure 8: Barramundi posters produced as part of the NT Barramundi project 2002/039

A further two pamphlets were produced in 2005 promoting best practices and providing information on releasing fish. One was directed at charter operators and the other at fisheries management (*figure 9*). Interest in the Released Fish Survival is Your Business pamphlet has been limited with 3,000 copies distribute, even though it was promoted through charter boat organisations in Queensland and Western Australia. It continues to be sent out to individual charter operators on an opportunistic basis. In Western Australia it was sent out with the association’s newsletter. The Released Fish Survival for Fisheries Management was sent to all recreational fisheries managers in fisheries agencies as well as promoted through the communications networks however there have been few enquiries for this product. A total of 2,000 copies of this pamphlet have been sent out.



Figure 9: Pamphlets for charter operators and fisheries management



Figure 10: Gently Does It satchel used for distribution of Released Fish Survival products

Two Gently Does It satchels were also produced so that information products could be packaged together for distribution. A plastic satchel (*figure 10*) was produced for premium presentation while a glossy pack was produced for standard presentation. The plastic satchels were used for providing information to fisheries agencies managers.



Figure 11: Pamphlets dealing with Flathead and Tropical Reef fish Survival

Posters were also produced from two other FRDC projects (*figure 11*). One covered survival of Sand Flathead in Tasmania which was based on the research undertaken as part of FRDC project 2004/071 "National Strategy for the Survival of released line caught fish: maximizing post-release survival of line caught flathead taken in sheltered coastal waters" was produced in May 2006. A total of 6,500

copies of this poster have been distributed through the project or through the strategy.

The other poster promoted the research and findings of FRDC project 2003/019 “National strategy for increasing the survival of released line-caught fish: tropical reef species” and was produced in September 2007. This pamphlet was distributed through the project and through the strategy with 5,500 copies distributed.

Two further products that were produced as part of other projects have also been distributed through the strategy (*figure 12*). One was a Catch and Release poster produced in February 2007 by NSW DPI Fisheries Conservation Technology Unit as part of a number of projects into fish survival of key recreational species. Around 1,000 copies were distributed through the strategy. The other was a pamphlet in 2005 on a release weight that was developed as part of FRDC project 2000/194 “Maximising survival of released undersize west coast reef fish”. Around 1,000 copies were distributed through the strategy.



Figure 12: NSW Fisheries Catch and Release poster and WA Release Weight brochure

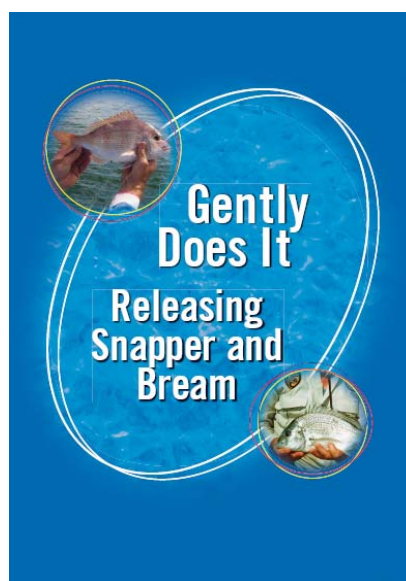


Figure 13: Pamphlet on releasing Snapper and Bream



Towards the end of 2007 two further products were produced. One was a pamphlet on Bream and Snapper survival based on work undertaken in Victoria, New South Wales and Western Australia (figure 13) with 5,500 copies distributed. The other was a poster on Black Jewfish survival produced by NT Fisheries as part of FRDC project 2004/004 (figure 14).



Figure 14: NT Fisheries posters on Black Jewfish survival and best practices

#### 6.2.4 Gently Does It DVD and Video

A Gently Does It video (later converted to a DVD) was produced as part of project 2001/199 and continued to be distributed during the current project. In 2005 the "Handling and Releasing Big Fish" segment was added to the DVD. From July 2004 to December 2007 a total of 450 videos and DVD were distributed. This was replaced by the Gently Does It #2 DVD in May 2008.



Figure 15: Gently Does It DVD and Video

In November 2006 funding was obtained from the Recreational Fishing Community Grants program to produce an updated DVD based on the research that had been undertaken. This DVD was titled *Gently Does It #2* (figure 16) was completed in May 2008. 28,000 copies of the DVD were distributed in the May 2008 edition of the Fishing World magazine with a further 2,500 distributed to tackle stores, government agencies, charter operators and other outlets.



Figure 16: Gently Does It #2 DVD released in 2008

#### **6.2.5 Distribution of Information Products**

The availability of information products was publicised through briefings, news bulletins and through the website. Requests for products were constantly received from fisheries agencies, schools, Fishcare volunteers, fishing clubs, tackle stores, fishing competitions and individual fishers.

In May-June 2008 there was a final national mail out of an Information Kit which contained all printed material and the research DVD. The mail out went to all tackle stores, government agencies, charter operators, fishing competitions and others. Requests for these information products will continue and will be dealt with under Recfishing Research.

### **6.3 New tools, models and data for fisheries management**

As part of the national strategy a model was developed outlining the levels of information required on recreational fish species to provide input to stock assessments and to provide information to fishers to maximise fish survival.

For each of the key species identified the following information was considered to be required:

- ☐ The number of fish caught and released
- ☐ The extent of deep hooking
- ☐ The survival rate for the species
- ☐ Best practices in releasing the species

At the commencement of the strategy there were 4 species for which basic survival data, including a survival rate, was available. These survival rates were obtained from research that were undertaken before the national strategy was implemented. These projects were carried out between 1993 and 2002.



Since the implementation of the national strategy a number of research projects have now provided an estimate of survival for a range of species. *Figure 17* provides an overall summary of the survival rates however care is required in the interpretation of these results as they come from a number of projects using different methodologies. Reference to the underlying research is required for more details on the interpretation of the results.

University students were also encouraged to undertake research into aspects of fish survival that assisted with the knowledge gained. Financial assistance was provided to assist with some of this work. Two projects examined hook retention by Black Bream in the Hopkins River (Roennfeldt et al 2003) and from the Glenelg River in Victoria (Roennfeldt in progress).

Another project examined swim bladder properties and implications for barotrauma (Olivier Bittar Honors project 2005). Some funding for this project was provided from the national strategy.

A further project dealt with management and monitoring of fish spawning aggregations of Samsonfish within the West Coast Bioregion of Western Australia (Rowland 2006) This project focused on catch care, tag and release, barotrauma and related issues within the Samsonfish sports fishery.

The National Strategy and Deakin University co-funded a Travel Fellowship by Daniel Gixti to attend the Florida's 7<sup>th</sup> Annual Edison Big Snook Tournament in 2006 (Gixti 2006). The fellowship was to examine Snook survival in a live release tournament and the report is available at [www.info-fish.net/releasefish](http://www.info-fish.net/releasefish).

PERCENTAGE SURVIVAL RATES

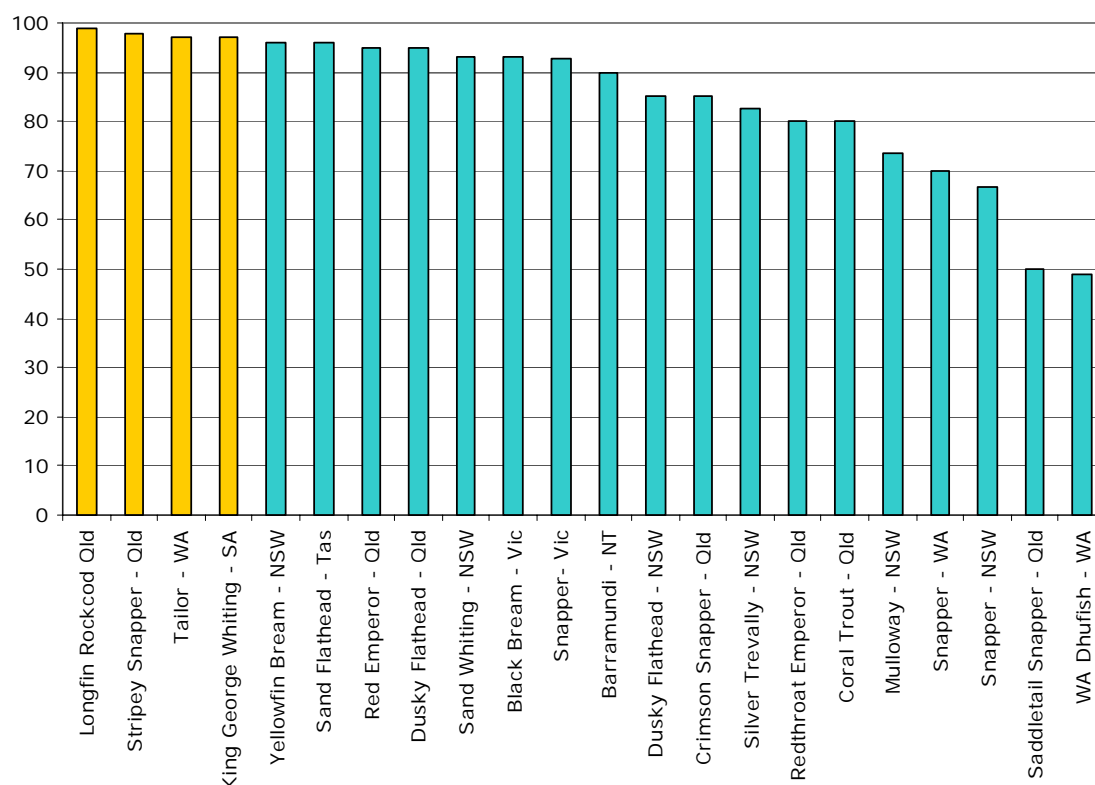


Figure 17: Summary of Survival Rates derived from Australian research (data for species in orange derived from research prior to National Strategy)

Deep hooking was identified as a key issue in fish survival and the Australian National Sportfishing Association, through its tagging programs in Victoria, New South Wales and Queensland collected data on the rate of deep hooking for a wide range of species including those being researched. Data collected on Flathead was used as part of the research work. Data continues to be collected by the Suntag program in Queensland with hooking locations available at June 2008 for over 42,000 fish using a wide range of fishing gear.



Figure 18: Gently Does It T-shirt used to recognise recreational fishers contributions to the research projects

To encourage fishers to assist with data collection Gently Does It T-shirt (*figure 17*) were given to those that provided hooking data and also to those that took part in other aspects of the research projects. This included taking part in the tagging component of the tropical reef fish survival project. A total of 350 T-shirts were provided to contributing fishers.

## 7 DISCUSSION

### 7.1 Leadership for Australia's Investment in Released Fish Survival R&D

The national strategy was a new approach to dealing with an issue of importance to recreational fishing. Instead of an initial investment in research and waiting several years for the results the strategy commenced by promoting what was then considered to be best practices based on a Code of Practice adopted by the Australian National Sportfishing Association (and later Recfish Australia). This allowed information to be made available sooner and resulted in changes in practices earlier.

The steering committee took on a leadership role and was instrumental in working with researchers on the development of projects that addressed survival issues and improvements in best practices. This resulted in the significant investment that was made into released fish survival.

Part of the reason that the national strategy and steering committee were able to take on a leadership role had to do with the approach that was taken. The strategy was never about taking control of the issues surrounding fish survival. The primary focus was to provide guidance and assistance and to add value to what groups and individuals were trying to achieve. It also assisted in the distribution of new knowledge derived from the technical projects which led to a better understanding of issues and the need for change in some practices.

This developed a strong culture of ownership in all those involved in strategy projects and has resulted in many industry groups, government agencies and individuals assisting in the distribution of strategy products and extension of new

knowledge. As a result of this approach the national strategy has strong support from within government agencies, industry groups and individual fishers. This was clearly reflected in the parallel surveys of industry, managers and other key personnel at the conclusion of the strategy. These indicated excellent uptake of the strategy's messages throughout these groups, and a strong perception of changes in attitudes and behaviour among the fishing public with respect to releasing fish for survival.

## **7.2 Providing recreational fishers, charter operators and fisheries management with new knowledge**

Getting new information to recreational fishers is never a completed task. With 3.36 million recreational fishers in Australia in 2000 (Henry and Lyle 2003) engaged in recreational fishing and people leaving and entering the fishery constantly it is not possible to get information to everyone.

The strategy therefore adopted an approach of getting information into as many communication networks used by recreational fisher as possible. That way the networks assisted in the task of getting the information out by passing relevant information to its own audience.

It was also considered important to target avid fishers to a greater extent than casual fishers as improvements in the practices of regular fishers was considered to have the greatest improvement in the survival of released fish.

Avid fishers are more likely to watch television fishing shows, read fishing magazines, use fishing websites and be fishing club members so much of the effort was directed at getting information into those areas.

## **7.3 New tools, models and data to assist in fisheries managers**

At the commencement of the national strategy many stock assessments were undertaken using commercial fishery data only. This was mainly due to the lack of information on recreational fisheries. Data on fish survival was not factored into any of those assessments where recreational data was used.

It is hoped that many stock assessments will now factor in recreational catches and also data on fish survival where there is a significant recreational component in the fishery being assessed.

The strategy has developed a model of what data need to be collected on fish survival to improve the quality of stock assessments.

# **8 BENEFITS AND ADOPTION**

Having the national strategy with defined priorities areas for investment and a steering committee that was active in assisting the development of projects to address those priorities provided a clear direction for research in this area. This assisted in obtaining a good return on investment and avoided duplication of effort.

While no survey was undertaken of individual fishers at the completion of the strategy the survey of government and industry clearly indicated that there had been a marked change in knowledge and behaviour of the fishing public with respect to survival of released fish.

The success of the approach used in the national strategy was reflected in fact that a similar approach was adopted for Recfishing Research.

## 9 FURTHER DEVELOPMENT

While the national strategy has now finished, work on released fish survival will continue under Recfishing Research. The national strategy was gradually absorbed into Recfishing Research during 2006 and the last Steering Committee meeting under the Released Fish Survival banner was meeting 14 held in Sydney in May 2006. Following that meeting Released Fish Survival became an agenda items at Recfishing Research meetings.

It is expected that there will be further projects that address released fish survival as additional priorities have been identified that will need to be addressed. NSW Fisheries is currently undertaking a project addressing the survival of freshwater species Australian Bass, Golden Perch and Murray Cod and a number of other projects are not due to be completed until the end of 2008/09. Recfishing Research will continue to monitor any new work in this area.

## 10 PLANNED OUTCOMES

The planned outcomes as outlined for the project were:

- 1) A continuing change in culture in how recreational fishers perceive unwanted fish that are discarded.
- 2) An increase in survival of released fish within Australian recreational fisheries.
- 3) Fisheries managers will have regard to and incorporate the impact of recreational fishing and fish survival into stock assessment and management arrangements.

The terminology used in the national strategy was always positive with the use of released fish survival as opposed to discard mortality (the term commonly used by fisheries managers and researchers prior to the strategy). This meant that the emphasis was on fish survival and not on discard mortality. This ensured that the messages that emanated from projects were also couched in positive terms with "Gently Does It" being the theme for public messages on best practices.

A survey at the end of the initial project identified a number of improvements in attitudes and practice following phase 1. No survey of fishers was undertaken at the end of phase 2 to determine if there were further changes in attitudes and practices or if this resulted in a cultural change. However the practice of catch and release continues to grow and it is likely to have continued a gradual cultural change. It is likely that many more fishers think about releasing fish before they do it rather than just tossing them back.

It would be hard to attribute any cultural change to the strategy as many other factors are likely to have influenced change eg Rex Hunt kissing fish before releasing them and increasing regulation in many States encouraged fishers to think more about the fish they released. Importantly the "Gently Does It" messages complemented these actions and provided some substance to answer many of the questions that were asked.

The strategy identified that the survival rate was high for many species (over 90% survival for many species). For some of the species with lower survival rates there have been a number of improvements to best practices identified which, if adopted, will improve the survival rate for some species. However these changes to practices have only recently been publicised and it will be some time before they are likely to emerge in fishing practices. This will be monitored through Recfishing research.

There is now significantly more data available on recreational fishing that can be used in stock assessments and these assessments need to make use of this data including that on fish survival.

## **11 CONCLUSION**

The investment in the national strategy has seen a significant improvement in our knowledge of issues affecting fish survival and estimates of survival are now available for 20 species. Despite initial scepticism about the approach from both within fisheries agencies and recreational fishing bodies at the end of the strategy there has been widespread support for the strategy and what it has been able to achieve. There has also been international interest in the strategy, especially from the USA, so the influence of the strategy has extended beyond Australia.

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## **13 APPENDIX 1 - INTELLECTUAL PROPERTY**

There is no intellectual property associated with this project and all information is in the public domain.

## **14 APPENDIX 2 - STAFF**

The following staff worked on this project:

Infofish Services  
Bill Sawynok Principal Investigator  
Shirley Sawynok Financial Manager

Pepperell Research and Consulting Pty Ltd  
Julian Pepperell

Winstanley Fisheries Management Services Pty Ltd  
Ross Winstanley

# 15 APPENDIX 3 – SUMMARY OF INVESTMENT IN RELEASED FISH SURVIVAL

Issue	Species	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	FRDC\$K	OTHER\$K
Barotrauma/survival rates	WA Dhufish, Snapper, Coral Trout, Baldchin Groper											420.5	313.7
Research summary/future priorities												49.7	43.3
Handling and releasing big fish	Barramundi											0	9.4
Managing strategy/promoting best practices 1												526.5	345.0
Catch and release impacts	Barramundi											75.6	58.8
Preliminary survival rates	Snapper, Black Bream											0	41.0
Barotrauma/survival rates	Coral Trout, Emperor, tropical Snappers											680.0	1351.4
Survival rates/best practices	Bream, Snapper											216.7	182.8
Best practices	Samsonfish												
Managing strategy/promoting best practices 2												218.2	115.0
Survival rates/best practices	Flathead											103.5	300.7
Hooking locations	Suntag/Newtag/Victag											0	80.0
Swim bladder properties	Various											2.7	1.5
Estimating survival using recreational fishers 1	Flathead, Snapper, Bream, Trevally											0	372.7
Estimating survival using recreational fishers 2	Snapper, Luderick, Tailor, Flathead, Mullet, Garfish											0	950.0
Fishtag 2005	Various											0	5.0
Hooking	Murray Cod											75.0	25.0
Quantifying and improving survival	Murray Cod, Golden Perch, Bass											0	573.7
Jewfish survival	Black Jewfish											15.0	35.0
Gently Does It 2 DVD	Updated DVD											0	89.0
Total												2383.4	4893.0

**NATIONAL STRATEGY FOR THE SURVIVAL OF RELEASED  
LINE CAUGHT FISH  
STEERING COMMITTEE  
TERMS OF REFERENCE AND ENGAGEMENT (may 2004)**

**1. Composition of Steering Committee**

The steering committee comprises the following members (May 2004):

Independent Chair	Ross Winstanley (Vic)
Research	Paul Grieve (Qld)
Management	Richard Sellers (NT)
Communications	Bill Sawynok (Qld)
Recreational	Frank Prokop (WA)
Commercial	Russ Neal (ASIC)
Tackle Industry	Doug Joyner (NSW)
National Fisheries Communicators Network	Rae Burrows (WA)
Media	Julian Pepperell (Qld)
FRDC	Patrick Hone
International Advisor	Jon Lucy (VIMS USA) Gene Wilde (TTU USA)

**2. Term of the Steering Committee**

The steering committee was initially appointed from May 2002 – June 2004. The term of the steering committee is extended through to June 2007.

**3. Replacement of Steering Committee Members**

The steering committee is expertise and not representative based. Vacancies on the steering committee will be filled to cover the same area of expertise as covered by a resigning member unless determined otherwise by the steering committee.

**4. Role of Steering Committee**

- 4.1 Provide leadership to the National Strategy for the Survival of Released Line Caught Fish.
- 4.2 Maintain a national strategy document that identifies ongoing research priorities.
- 4.3 Provide advice to researchers, FRABs and FRDC on specific project proposals that are considered to be part of this strategy.
- 4.4 Monitor and evaluate communications on the strategy and strategy progress.
- 4.5 Provide steerage and supervision for project 2004/070 "National Strategy for the Survival of Released Line Caught Fish: planning, project management and communications: Phase 2" project.
- 4.6 Approve national strategy projects to be undertaken by university students.
- 4.7 Facilitate data availability.
- 4.8 Liaise with other relevant committees.

## **5. Steering Committee Meetings**

It is proposed to hold 4 steering committee meetings per year with 1 face-to-face meeting and 3 teleconferences. The proposed schedule of meetings is set out below however these meeting times may be adjusted to meet steering committee needs.

August 2004	Teleconference
October 2004	Canberra
February 2005	Teleconference
May 2005	Teleconference
September 2005	Brisbane
February 2006	Teleconference
May 2006	Teleconference
September 2006	Sydney
March 2007	Teleconference

Meetings in August 2004 and September 2005 will allow the steering committee to review research proposals associated with the strategy to provide feedback to proponents in time for proposals to be submitted to FRDC.

The September 2006 meeting will review the strategy in time for any recommendations to be made to FRDC.

## **6. Steering Committee Operations**

The Steering Committee will be maintained as part of project 2004/071 "National Strategy for the Survival of Line Caught Fish: planning, project management and communications: Phase 2". Infofish Services (Bill Sawynok) will provide management services to the steering committee.

FRDC will fund the following steering committee expenses. No sitting fees, other than for the independent chair will be provided for steering committee members.

- Travel and accommodation expenses for industry members to attend steering committee meetings.
- Any background or developmental work required by the steering committee.
- Management services.

A weekly briefing on progress in the strategy will continue to be provided to the steering committee, researchers involved in strategy projects and key peak recreational fishing bodies.

Ross Winstanley  
Chair  
Released Fish Survival Steering Committee

**The steering committee was replaced by the interim Recfishing Research Steering Committee in August 2005 and new terms of reference were adopted for that committee based on these terms of reference.**