



# National Strategy for the Survival of Released Line Caught Fish

PLANNING, PROJECT MANAGEMENT  
AND COMMUNICATIONS

W Sawynok and J Pepperell

infofish





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

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## ACKNOWLEDGEMENTS

An Australia wide strategy covering the recreational fishing sector involves a large number of people that have contributed to this initiative. Many people from national and state recreational fishing organisations, industry businesses, fishing clubs, state fisheries agencies and individuals have contributed to making this project 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. Also to Patrick Hone, and initially Alex Wells, for their contribution to the steering committee on behalf of FRDC. All the members of the steering committee are included under the section on the steering committee. Special thanks also 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 on projects in which they were involved, and for input to various aspects of the strategy.

Rae Burrows and John Smith for providing links to State Fisheries agencies communications staff through the Australasian Fisheries Communicators Committee and the input on various aspects of the project provided by members of the communicator's network.

Putting together a national television awareness campaign lasting a year is no easy task and required the contribution of a large number of people. Janelle Chapman put together the original concept and negotiated the campaign with Channel 9 and WIN television. Andrew Ettingshausen, John Haenke and Liz Thomas of ET Productions and John Dunphy of Dunphy Imports Pty Ltd require special mention for making Andrew Ettingshausen available to be the presenter for the television advertisements and for the best practices video. ET Productions also provided considerable footage as well as shooting specific footage for both the advertisements and the video. Ian Bow of WIN television for scripting the advertisements and the video and coming up with the Gently Does It! theme. Athol Foster of WIN who shot additional footage to meet some of the specific requirements for the video.

Shirley Sawynok managed the television campaign and negotiated the specific requirements to get the advertisements to air around Australia. Bob Mouseley of Win NBN was particularly helpful in ensuring the television campaign ran smoothly.

Special mention needs to be made of recreational fishing bodies that contributed to various aspects of the project. The board of the Australian National Sportfishing Association (ANSA) and the state branches of ANSA supported the project from the outset, provided their code of practice on releasing fish as the basis for best practices. A number of ANSA members 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 development of the national strategy and the national television awareness campaign. AFTA provided the mailing list of Australian recreational fishing businesses, subject to confidentiality arrangements, for the mail out of best practices pamphlets and for the industry market survey.

Recfish Australia, the peak national recreational fishing body, is a strong supporter of the national strategy. The support of state peak fishing bodies Recfishwest, Amateur Fisherman's Association of the Northern Territory, Sunfish Queensland, Recreational Fishing Alliance of NSW, VRFish and the South Australian Recreational Fishing Advisory Committee is also acknowledged.

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Alf Hogan for providing the impetus to expand the strategy to include non-FRDC projects. His work on the "Handling and Releasing Big Fish" CD was the catalyst for viewing the strategy more broadly than FRDC projects.

## STEERING COMMITTEE

The Released Fish Survival Steering Committee is 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.



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 for the Planning, Project Management and Communications project and is responsible for the national strategy. Bill runs his own business Infotish Services based in Rockhampton in Queensland. He is a director of the CRC Reef Research Centre, a director of the Australian National Sportfishing Association and a past director of the Fisheries Research and Development Corporation.



Julian Pepperell is Co-investigator for the Planning, Project Management and Communications project and has been 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.



Patrick Hone is Programs Manager for the FRDC based in Canberra and is its nominee on the steering committee. In this role he oversees FRDC's investment in recreational fishing which extends to all habitats in Australian waters. In recent years this investment has been targeted/focused on achieving sustainable recreational fishing through developing better methods to reduce fishing mortality.



Richard Sellers is the Executive Director of Northern Territory Fisheries in Darwin and is the nominee of the Australian Fisheries Management Forum. Richard has wide relevant experience developed whilst working in fisheries management and research in Western Australia and the Northern Territory. Richard also has a keen interest in the development of strategically driven research. Richard is also a very keen recreational fisher and jumped at the chance to participate in the steering committee.



Paul Grieve is the Director of Fisheries and Aquaculture within the Queensland Department of Primary Industries & Fisheries' Agency for Food Fibre Sciences. Paul is based at the Bribie Island Aquaculture Research Centre in Queensland and is the nominee of the Australian Fisheries Management Forum Research Committee on the steering committee. Paul replaced Steve Kennelly on the steering committee from May 2003.



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 their resources held in trust by various agencies.



Frank Prokop is the president of Recfish Australia and the Executive Director for Recfishwest and is based in Perth in Western Australia. Frank has written 5 books on recreational fishing and hosted a fishing radio show on the ABC in Perth for 4 years. 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.



Rae Burrows is the Manager of Corporate and Community Relations of the Western Australian Department of Fisheries, and chair of the Australasian Fisheries Communicators Committee. She has worked for more than twenty years in the marketing, communications and interpretation areas for a variety of natural resource management agencies. Rae is based in Perth and replaced John Smith on the committee in July 2002.



Russ Neal is Chief Executive Officer of the Australian Seafood Industry Council (ASIC) based in Canberra. ASIC is the national peak body representing all facets of seafood industry operations. Russ has a background in regional media and has served as advisor on agriculture, fisheries, trade and rural policy to senior Ministers and Shadow Ministers in both the Federal and NSW Parliaments. He holds a degree in economic and politics, with honours in politics, from Macquarie University.

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 Infotish 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.

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## 1. NON-TECHNICAL SUMMARY

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

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### Objectives

To develop and implement a communication and extension program based on the current best available knowledge for releasing line caught fish by recreational fishers.

To assess changes in different recreational sectors and regional groups on their adoption of best practice line caught release methods and provide recommendations for improvements.

To transfer ongoing responsibility for the developed communication and extension program to the recreational sector.

To provide national leadership for Australia's investment in R&D in line caught fish survival.

### Non-technical Summary

#### OUTCOMES ACHIEVED

The national strategy has focused the attention of recreational fishers, researchers and managers on issues relating to the survival of released fish. The initial emphasis on promoting best practices in releasing fish has raised the awareness of recreational fishers of their practices in releasing fish and the gear that they use. The response and feedback on the best practices products indicates that a significant gap, in information being provided to recreational fishers, has been filled.

The approach of promoting best practices based on the best available scientific data, largely from the USA, before data from Australian research are available, is likely to have resulted in a quicker uptake of fish-friendly practices and gear and an earlier improvement in the survival rate of released fish. Before and after surveys show that 35% of fishers have changed their practices to improve the survival of released fish as a result of the awareness campaign.

The guidance of the national strategy by an expertise-based steering committee has ensured that the considerable commitment of \$5.1 million to date has been directed towards the highest priority issues and species.

The National Strategy for the Survival of Released Line Caught Fish is 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 this project 2001/099.

At May 2004 the strategy includes a total of 7 FRDC funded projects and 4 non-FRDC funded projects that have been completed, are in progress or about to commence. The total commitment to invest in strategy projects is now \$5.1 million of which FRDC has contributed \$2.3 million and state agencies and industry groups have contributed \$2.8 million.

The strategy is managed by an expertise-based steering committee whose members are from right around Australia and supported by international advisors. Bill Sawynok of Infish Services is the Principal Investigator for this project and manager of the national strategy.

The strategy was identified as a high priority in 2001. FRDC project 2001/101 was undertaken in 2001/02 to review research and fishery information and to identify priority issues and species for research. The National Recreational and Indigenous Fishing survey in 2000 estimated the recreational catch at 107.7 million fish of which 47.3 million (43.9%) were released and subsequently confirmed priority species for research.

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.

This project 2001/099 was set up to manage the national strategy and to promote best practices in releasing fish to recreational fishers.

Management of the strategy has been through the steering committee that has overseen the development of projects to address priority issues and species identified initially from FRDC project 2001/101 and subsequently confirmed by the national survey. The strategy was originally focussed on FRDC funded projects but has been expanded to include non-FRDC funded projects. The strategy is attempting to bring all fish survival research projects under its umbrella, especially in relation to consistency of approach to research, to avoid duplication, and in the communication of the results.

The Australian National Sportfishing Association was the only recreational body to have a code of practice on releasing fish when the strategy was established. This code was used as the basis of best practices and a range of products were developed built around those best practices.

To raise awareness of the issues relating to releasing fish a national television awareness campaign was conducted during 2003. This campaign involved a series of advertisements featuring Andrew Ettingshausen of the "Escape with ET" television show. Six advertisements were produced, three for temperate markets and three for tropical markets, with these shown nationally on the channel 9/WIN and affiliate networks running for a three month period in each of 14 metropolitan and regional market areas. The advertisements were shown 1,458 times across the networks as part of the paid and bonus component. The paid campaign was supported by a substantial community service promotional campaign.

The television campaign was supported by a website, best practices pamphlet and best practices video.

The website features a series of fact sheets dealing with the full range of issues on fish survival and best practices for releasing key species or group of similar species. The website currently features 44 fact sheets and to end June 2004 there were 3,547 downloads of these fact sheets.

The best practices pamphlet was distributed through tackle stores, fishing clubs and state fisheries agencies. It was also included as an insert in the September 2003 edition of the Fishing World magazine. A total of over 113,000 pamphlets have been distributed to the end of June 2004 and demand for the pamphlets continues.

The best practices video was distributed to tackle stores, fishing clubs and educators. A total of 157 videos to end June 2004 have been distributed. The video has recently been converted to DVD to expand the options for obtaining the information.

Alf Hogan of the Queensland Department of Primary Industries produced a CD on releasing large barramundi. This was produced in response to concerns arising out of the increased incidence of large barramundi being found dead after capture and release. To end June 2004 141 have been distributed. A total of 71 were distributed through the strategy and 70 distributed by Mr Hogan. This is a good example of increased distribution of this information through the strategy.

Prior to the commencement of the television awareness campaign an initial national telephone survey was carried out in the second half of 2002 into attitudes and practices in releasing fish to provide a benchmark. A follow up survey was conducted in the first half of 2004 to assess the effectiveness of the awareness campaign and changes in practices.

The initial survey showed that 88% of fishers occasionally voluntarily released fish they could keep. It also showed that there was a reasonable level of awareness of practices that should be used when releasing fish with 66% of fishers considering they were aware of these practices. While the level of awareness of best practices was high among fishers this was not reflected in their practices. Seventy nine percent (79%) of fishers believed that using a barbless hook increased survival however only 5% used a barbless hook on their most recent fishing trip.

The follow up survey showed that 90% of fishers had released fish in the past 12 months/2 years which was comparable to the initial survey result. In relation to the awareness campaign 59% of all fishers recalled the campaign with 36% of all fishers recalling seeing the television advertisements. More importantly, 35% of fishers indicated they had changed their practices as a result of the campaign. Eighty one percent (81%) of fishers believed that using a barbless hook increased survival and 13% used a barbless hook on their most recent trip, which is a significant increase. In relation to practices in releasing fish there was an increase to varying degrees in the use of all best practices.

A small online Internet survey of tackle industry retailers and wholesalers was undertaken after the campaign to determine awareness of the campaign by industry and if there had been changes in the sale of 'fish-friendly' products that supported best practices. Awareness of the campaign by tackle retailers and wholesalers was 65% with 57% recalling the pamphlet and 31% the television campaign and this compares well with the survey of recreational fishers. Increases in sales of five 'fish-friendly' products were recorded with over 50% of suppliers recording a sales increase of circle hooks.

## **Keywords**

National strategy, releasing fish, fish survival, best practices, communications, extension, steering committee.

## **2. BACKGROUND**

The National Strategy for the Survival of Released Line Caught Fish is an initiative of the FRDC to address issues arising from the growing numbers of fish released by recreational fishers. Workshops held by FRDC at Cronulla NSW in May 2001 and March 2002 led to the development of the national strategy.

The National Strategy involves 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 the FRDC has funded seven projects to address these issues and from 2002 this group of projects were bought under the national strategy. A number of projects where no funding was provided by FRDC have also been incorporated into the national strategy, specifically in relation to extension of the results of those projects.

In the development of the national strategy it was recognised that it would be some years before the results of research would be available while the numbers of fish released was substantial and growing. It was also recognised that there was already considerable research data available on how best to release fish, particularly in the USA, that could be applicable in general terms to Australian recreational fisheries. The Australian National Sportfishing Association (ANSA) adopted a code of practice for releasing fish in March 2002, based on the available science, and this was considered to be an appropriate code on best practices that could have wider application.

For the national strategy to be effective it was considered that it needed to be managed through a coordinated approach to planning, project management and communication. That resulted in the development of this project during 2001 and 2002 and the establishment of a steering committee to guide the implementation of the strategy.

## **3. NEED**

In the 12 months prior to May 2000 it was estimated that 3.36 million Australian residents, 19.5% of the population, went recreational fishing (Henry and Lyle 2003). Surveys of participation in a number of states and nationally provide additional information on participation in recreational fishing at various times (eg Coleman 1995, Higgs 1999, Higgs 2001, Roy Morgan Research 2002, Roy Morgan Research 2004).

Recreational fishing is regulated in all States. The most common form of regulation of the recreational catch is through the use of size and bag limits. These limit the sizes and numbers of fish that can be legally kept. Reviews of fisheries management plans in the last few years have led to increases in minimum size limits for some species, the introduction of maximum size limits and reductions in bag limits.

Corresponding to the restrictions imposed through regulation there has been a growing trend among recreational fishers towards catch and release. Fishers taking part in the ANSA Suntag program in Queensland from 1996/97 to 2002/03 released 88.2% of all the fish they caught (Sawynok 2003).

The participation in recreational fishing and the releasing of fish to comply with regulation or by choice resulted in the release of 47.3 million (43.7%) of the 107.7 million fish caught in 2000 throughout Australia (Henry and Lyle 2003).

The Fishcount survey in Northern Territory in 1995 found 0.75 million (47%) of the 1.6 million fish caught were released (Coleman 1995). The Northern Territory results from the National Recreational Fishing Survey in 2000 found that 1.0 million (60%) of the 1.7 million fish caught were released (Coleman 2004).

The 1997 RFISH survey in Queensland showed that 21.7 million (52%) of the 41.7 million fish caught were released (Higgs 1999). A similar survey in 1999 showed that 20.6 million (51%) of the 40.7 million fish caught were released (Higgs 2001).

Rates of captured tagged fish that are re-released in Suntag in Queensland have risen from 8.3% in 1985/96 to 61.4% in 2003/04 (figure 1). The release rate by ANSA members is over 90% of the tagged fish they catch for most of that period. The rate of release by non-ANSA members has steadily risen to 34.3% in 2003/04 (Sawynok 2004). This is indicative of the growing trend in the number of fish released.

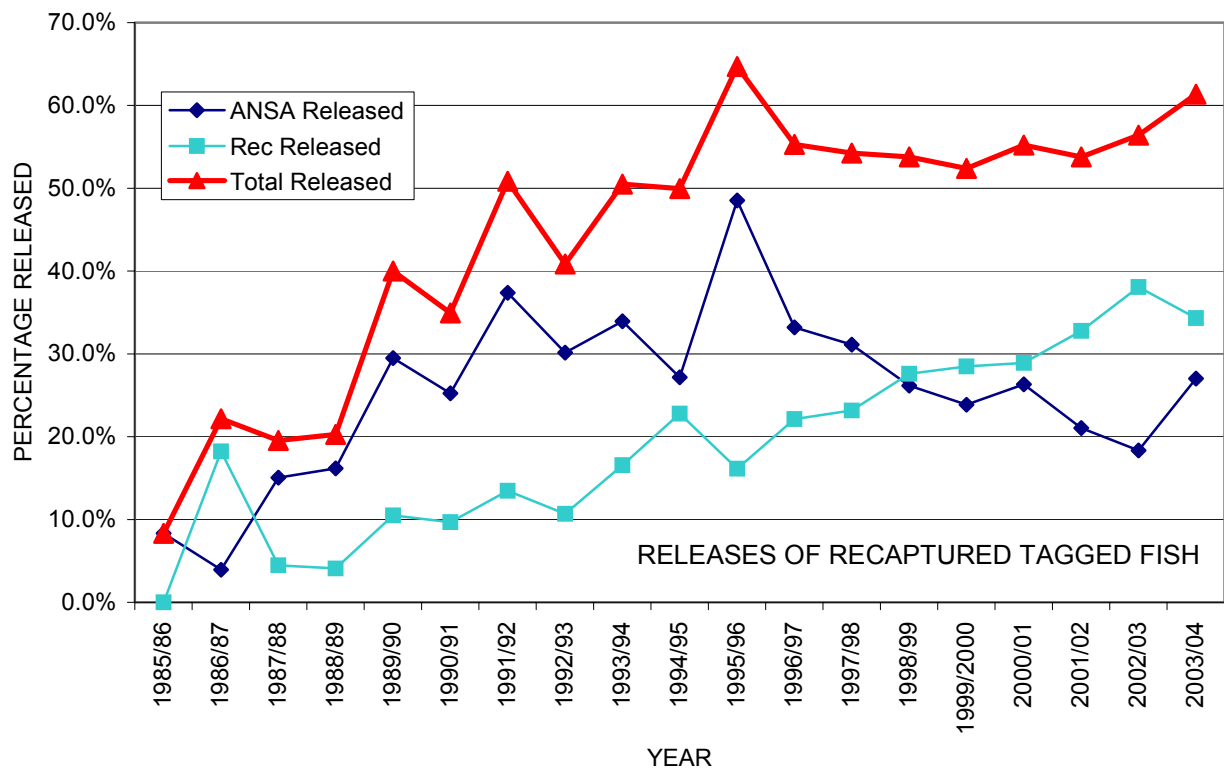


Figure 1: Comparison of rates of releases of recaptured tagged fish in Suntag in Queensland

A comparison of species released by Northern Territory fishers shows an increase in the percentage of each species released between 1995 and 2000 (Harrison *pers comm* figure 2). This is significant in showing the trends in releasing fish as there are no size or bag limits on species shown in figure 2 other than for barramundi and cod (maximum size limit only for cod). This is indicative of the growth in voluntary release of fish.

The number of fish released by recreational fishers around Australia is significant and the trend indicates that these numbers will continue to grow.

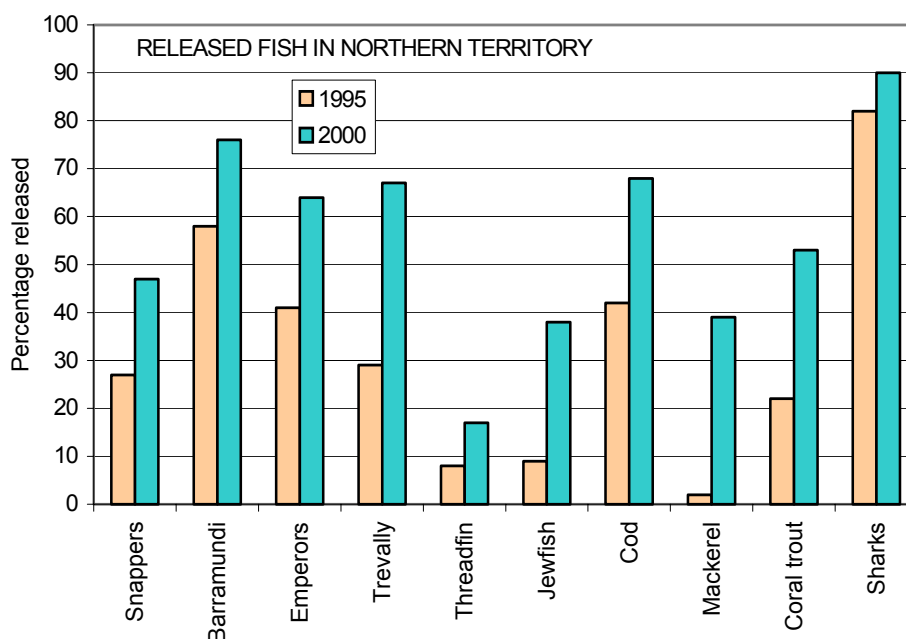


Figure 2: Comparison of rate of release of key NT species between 1995 and 2000 (data from Fishcount 1995 and National Survey 2000)

In virtually all instances around Australia the survival rate of the fish that are released is not known, nor is the impact of post release mortality on fish stocks. Many stock assessments where the catch is shared between commercial and recreational fishers have only in recent years commenced taking the recreational catch into account. Stock assessments are only now beginning to recognise that part of the recreational catch that is released may not survive. For species where stocks are being assessed it is vital that the survival rate is known.

To maximise the survival of released fish, a priority is the adoption of best practices in releasing fish. The ANSA code of practice (Appendix 7) is based on the best scientific data available at the time of its development, even though much of the research is from the USA. This code is considered suitable in that form, or modified to suit individual recreational fishing organisations, for widespread adoption by recreational fishers.

Promotion of various practices for releasing fish has been attempted for at least a decade however this has been done in an ad hoc manner with limited scientific input, not necessarily based on best practices and with no overall objectives or delivery strategy.

In summary:

1. Fishers catch and release a large number of fish, particularly undersized target species.
2. There is a considerable amount of information on fish release techniques from Australia and overseas, particularly the USA.

The need for a national strategy is to:

1. Ensure that the fate of released fish is an issue of concern for recreational fishers.
2. Influence fisher behaviour by ensuring they are informed of best practice in releasing fish and move to using best practices.
3. Promote a culture and attitude change among recreational fishers to releasing fish.
4. Use of industry to deliver messages to change fisher behaviour instead of the usual paradigm relying on fisheries agencies to produce and distribute information products.
5. Inform the broader community on the responsible way recreational fishers are approaching sustainability of fish stocks.



The key R&D needs are to:

1. Develop a package of communication products from available information that fits the target audience.
2. Assess the current attitudes and practices of recreational fishers to obtain a benchmark.
3. Use a wide range of communication and extension techniques to deliver information on strategies to maximise the survival of released fish.
4. Quantify the performance of the communication strategy and recommend changes to improve adoption.
5. Given this initiative involves several related projects and future investment to achieve the planned outcomes there is a need to provide a mechanism for a greater level of project management similar to that which FRDC provides for a subprogram activity.

Delivery of the planned outcomes requires investing in various aspects of line caught fish survival and a mechanism is required to plan, manage and deliver on this R&D investment. There is a need for a steering committee to guide the development and implementation of the national strategy.

#### **4. OBJECTIVES**

The objectives of the project were:

1. To develop and implement a communication and extension program based on the current best available knowledge for releasing line caught fish by recreational fishers.
2. To assess changes in different recreational sectors and regional groups on their adoption of best practice line caught release methods and provide recommendations for improvements.
3. To transfer ongoing responsibility for the developed communication and extension program to the recreational sector.
4. To provide national leadership for Australia's investment in R&D in line caught fish survival.

#### **5. METHODS**

##### **5.1. Extension of Best Practices**

A communication plan was developed to extend current best practices to recreational fishers. It was decided that a television awareness campaign supported by a range of educational products was the best way to inform Australia's 3.36 million recreational fishers of best practices in releasing fish.

ANSA was the only recreational fishing organisation identified that had a code of practice on releasing fish and this code of practice was used as the basis for best practices.

To increase recognition of the campaign a theme of "Gently Does It" was adopted and a Released Fish Survival logo was produced, including an animated version that was used on the television advertisements and the video.

A television awareness campaign was based on three 30 second advertisements promoting aspects of best practices in releasing fish. The advertisements dealt with handling fish and fish friendly gear to use. Two versions of the three advertisements were produced, one suitable for northern tropical markets and the other suitable for southern temperate markets.

The advertisements were produced by WIN television in Rockhampton, Queensland and featured Andrew Ettingshausen from the "Escape with ET" television fishing show. ET Productions provided considerable footage, much of which was used in the production of the advertisements. Additional footage to meet specific requirements for the advertisements was obtained by ET Productions and WIN television.

The advertisements were shown in 14 metropolitan and regional markets in all States of Australia reaching 90% of the potential Australian audience of 19.53 million viewers (WIN Television *pers comm*).

The television campaign was designed to raise awareness of the issues surrounding releasing fish and was supported by a best practices pamphlet, video and website that provided access to more detailed information.

Some informal market research was undertaken through a small number of tackle outlets in Queensland to determine the most appropriate format for a handout printed product promoting best practices. This market research indicated that a pamphlet providing detailed information was preferable to a leaflet with limited information. This resulted in the production of a two fold six page x A4 pamphlet titled "Gently Does It! A Guide for Releasing Fish to Survive".

The size of the pamphlet allowed all issues on fish survival to be dealt with at a level where the average fisher would receive enough information to check against their own practices and to make some adjustments to those practices to improve fish survival. It directed readers to the website if they required even more detailed information.

The Australian Fishing Tackle Association (AFTA) provided a list of 1,760 tackle industry businesses from around Australia. This included tackle manufacturers, importers, wholesalers and retailers. It also included some tourism establishments that were targeting the recreational fishing market.

An initial mail out of pamphlets was made to these businesses based on an assessment of their ability to make the pamphlets available to recreational fishing customers. The mail out included a fax order sheet that could be used to order more pamphlets. Tackle outlets only had to add their contact details and the number of pamphlets they required and fax in their request. This resulted in a substantial number of requests for additional pamphlets.

The Australian National Sportfishing Association has about 120 affiliated clubs with a total membership of about 5,000 around Australia and an initial mail out of pamphlets was made to these clubs based on membership. Pamphlets were also sent out to non-ANSA clubs that requested copies.

Pamphlets were also supplied to State Fisheries Agencies, particularly through the National Fisheries Communicators Network and through the Fishcare volunteers network, for distribution through these communication networks.

Pamphlets were also included as an insert in the September 2003 edition of the Fishing World magazine.

Pamphlets were also supplied to boating and tackle shows, tourism outlets, fishing events and competitions, Recfish Australia and state peak bodies, Fisheries Research Advisory Bodies and anyone that requested copies.

Some pamphlets were also sent overseas to personal contacts in the United States, Canada, Mexico and New Zealand to increase overseas awareness of the Australian campaign.

A website also supports the campaign. An assessment was made of three competitive proposals to develop the website with the successful proposal being submitted by Zephyr Business Service and DNe Design.

The website is a standalone site at [www.info-fish.net/releasefish](http://www.info-fish.net/releasefish) and it was designed so that it could be maintained without the need for technical website skills and requiring only minimal technical support.

The website was designed to provide easy access to fact sheets on every aspect of releasing fish. Fact sheets are normally one page designed to provide maximum details on an aspect on releasing fish. Handling different species varies greatly and requires knowledge and skills that are specific to that species (or group of similar species). Fact sheets were produced covering the full range of key recreational species.

Fact sheets were continually updated as new information became available and all sheets include the date the information was last updated.

The website also provides easy access to research material from around the world. Wherever possible links were provided direct to research papers or abstracts on other websites. This was designed to allow non-technical persons to have easy access to the research material.

A six minute 30 second long video of best practices was also produced by WIN television to expand on the television advertisements. The video used footage provided by ET Productions with additional footage from WIN Television. Andrew Ettingshausen was the presenter on the video to maintain the links to the television awareness campaign. The video was also converted to DVD.

The video was designed for use in tackle stores, by fishing clubs and by fishing educators. There was no general distribution although copies were sent to Recfish Australia, national and state fishing bodies, State Fisheries agencies and FRABs to raise awareness of the video. The video was distributed on request free of charge.

During 2003 the steering committee was made aware of work undertaken by Alf Hogan of the Department of Primary Industries and Fisheries Walkamin Research Centre. This work involved providing new information on the handling of large barramundi. The information was in the form of a CD presentation and was considered important new knowledge to improve the survival of large barramundi released. Following discussions with Mr Hogan it was considered that wider distribution of this information could be achieved by bringing it under the national strategy.

## **5.2. Changes in Attitudes and Practices towards Releasing Fish**

Prior to the commencement of the television awareness campaign a market survey was undertaken to assess attitudes and practices in releasing fish. An assessment was made of three competitive proposals to undertake the market survey with the successful proposal submitted by Roy Morgan Research.

The survey was undertaken in November and December 2002 using computer assisted telephone interviewing (CATI). The survey involved a 12 minute questionnaire of 1,524 fishers from around Australia selected randomly from the Electronic White Pages to produce a statistically valid result at the national and state level. Complete details of the methodology are contained in the report on the survey (Roy Morgan Research 2003).

Following the completion of the television awareness campaign a follow up market survey was undertaken to assess changes in fishing practices since the original survey and the effectiveness of the awareness campaign. The methodology for this survey was the same as

that used for the original survey to allow comparison of results. A further small survey was undertaken of the tackle industry to determine changes in sales of fish-friendly products.

As for the initial survey an assessment was made of two competitive proposals (three were requested however one company declined to submit a proposal) to undertake the follow up market survey with the successful proposal submitted by Roy Morgan Research.

The follow up survey of recreational fishers was undertaken in March and April 2004 using CATI so that valid comparisons could be made with the initial survey. The survey involved a 12 minute questionnaire of 1,318 fishers from around Australia selected randomly from the Electronic White Pages to produce a statistically valid result at the national and state level. Complete details of the methodology are contained in the report on the survey (Roy Morgan Research 2004).

The survey of the tackle industry was to assess industry awareness of the campaign and trends in sales of fish friendly equipment. This was an Internet online survey undertaken by Roy Morgan Research in June and July 2004. Letters were sent out to 316 tackle businesses that were members of AFTA inviting them to participate in the survey.

An identification code and password were required to take part in the survey and all details of respondents were kept confidential in accordance with the requirements of the *Privacy Act*. An incentive of three nights accommodation at Conrad Jupiters on the Gold Coast (value approximately \$620) was provided to encourage completion of the survey to a participant through a lucky draw.

### **5.3. Transfer Responsibility for Communication and Extension**

The role of the FRDC in the development of the national strategy was to evaluate issues surrounding the survival of released fish as a national priority for the recreational fishing sector. Led by the steering committee, the National Strategy's role was to provide broad direction to the sector and to researchers in developing projects to address the identified priorities, and to communicate existing and new information to fishers. The overall intent was that, in the future as new information continued to emerge from research, these roles would be transferred to the recreational sector itself.

The approach taken towards achieving this objective was to promote the adoption of best practices on releasing fish to recreational fishing bodies. As all state peak bodies and national recreational fishing bodies are members of Recfish Australia, the code of practice on releasing fish has been coordinated through Recfish annual general meetings in 2002 and 2003.

Recreational fishing bodies, particularly ANSA, were also encouraged to use information generated through the national strategy to develop material for their own communication products.

### **5.4. Leadership of National Strategy**

While there was a need to broaden ownership of the National Strategy to the national and state recreational fishing bodies it was recognised that leadership was required for planning, management and delivery of the R&D investment in the National Strategy.

That leadership was provided through a steering committee and the maintenance of a simple national strategy document that outlines priority areas for investment and is updated regularly as new knowledge is generated. The current version of the national strategy is in Appendix 1.

An interim steering committee was appointed following the workshop in May 2001 and was replaced by a steering committee of nine members at the workshop in March 2002. The steering committee comprises members with expertise covering all areas of the National Strategy and has an independent chair. Infofish Services provided support services to the steering committee. Members of the steering committee are identified on pages 6 and 7 of this report. Terms of reference and engagement for the steering committee were developed and adopted as outlined in Appendix 2.

The steering committee met on 10 occasions from May 2002 to May 2004. This involved five face-to-face meetings and five teleconferences (Appendix 3). Meetings of the steering committee dealt with matters where the steering committee needed to make a decision or provide guidance for dealing with matters arising from the strategy. The steering committee also provided advice to the FRDC on project proposals related to the national strategy submitted for funding in the 2003/04 and 2004/05 rounds.

The steering committee was kept informed of progress on the strategy through a one page briefing sent to members by email at the end of each week. This minimised the need for face-to-face meetings. At the end of June 2004 100 briefings have been provided to the steering committee and other key participants in the strategy.

Reefish Australia and the ANSA board were also provided a weekly briefing on progress. As research projects were added to the strategy principal investigators and key researchers were also included in the weekly briefings.

The steering committee was also responsible for corporate governance issues related to this project and the FRDC policy for dealing with pecuniary interests was applied throughout this project.

The steering committee also considered it necessary to keep recreational fishing bodies, fisheries management agencies, fishing industry opinion makers and anyone interested informed of developments in the strategy and on new information emerging in relation to releasing fish. This was through a simple one page news bulletin sent out by email and available from the website as new information became available.

## **6. RESULTS**

### **6.1. Extension of Best Practices**

The Released Fish Survival logo finally adopted is shown in figure 3. The logo was used on all communication products produced for the national strategy. An animated version of the logo was used on the television advertisements and on the video.



Figure 3: Released Fish Survival logo

From January to December 2003 the television awareness campaign ran in specified viewing markets around Australia. In each market area three advertisements were used in rotation. Each advertisement dealt with a different aspect of releasing fish. Two versions of the three advertisements were produced, one using species and footage suitable for northern tropical markets and the other using species and footage suitable for southern temperate markets. The advertisements are included on the DVD available with this report.

The television campaign was based on a three month paid campaign supplemented by a Community Service Announcement campaign. To provide maximum coverage of the recreational fishing population the Channel 9, WIN and affiliates network was chosen for the airing of the awareness campaign. This network reaches 90% of the Australian population and has a total potential audience of 19.53 million viewers (WIN Television *pers comm*). The timeframe for the campaign in each market area is shown in Appendix 4 with the campaign running from January to December 2003 in 14 metropolitan and regional markets. Where possible advertisements were scheduled to coincide with fishing seasons in each of the market areas.

Including paid and bonus spots the advertisements went to air a total of 1,458 times in all market areas during 2003 with placements in prime time and off-peak slots such as during Escape with ET, Early Morning News and Today show, 60 Minutes, evening movies, afternoon programs, AFL football (Darwin), Cricket, Rugby League, National Nine News, Getaway and sporting schedules. The paid campaign was supported by a community service promotional campaign using the same advertisements.

The Released Fish Survival National Follow Up Survey Report (Roy Morgan Research 2004) found that 59% of all fishers recalled the campaign and that 36% of all fishers recalled seeing the campaign television advertisements. This indicates the success of this approach in raising awareness of fish survival issues with fishers.

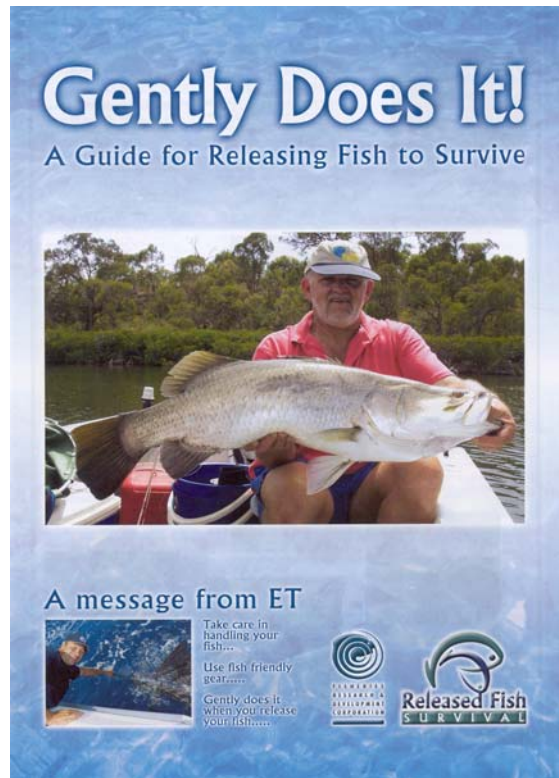


Figure 4: Cover of the Gently Does It! pamphlet

The Gently Does It! pamphlet as shown in figure 4 was completed in February 2003 with an initial print run of 70,000. Initial mail out of the pamphlet was to recreational fishing businesses and to ANSA fishing clubs. This was followed up by an insert of the pamphlet in the September 2003 edition of the Fishing World magazine with 30,000 copies provided for the insert. Requests for additional copies of the pamphlet have continued since the original mail out.

Up to the end of June 2004 a total of 113,044 pamphlets have been distributed with a further 241 downloads of the pamphlet from the website. Based on 3.36 million fishers in Australia (Henry and Lyle 2003) and, assuming at least one fisher read each pamphlet, then the pamphlet is estimated to have reached a minimum of 3.4% of recreational fishers.

The Released Fish Survival National Follow Up Survey Report (Roy Morgan Research 2004) found that a total of 28% of fishers recalled the pamphlet comprising:

- 14% in fishing magazine.
- 11% at fishing store.
- 3% at fishing club.

This is significantly higher than the estimate assuming one reader per pamphlet and strongly suggests a number of fishers reading each pamphlet. It is also possible that copies of the pamphlet downloaded from the website were printed and further distributed.

Figure 5 shows the number of pamphlets sent out to each state in the initial mail out and those sent out to meet requests for additional pamphlets. This excludes the 30,000 pamphlets included as an insert in the Fishing World magazine and those sent overseas.

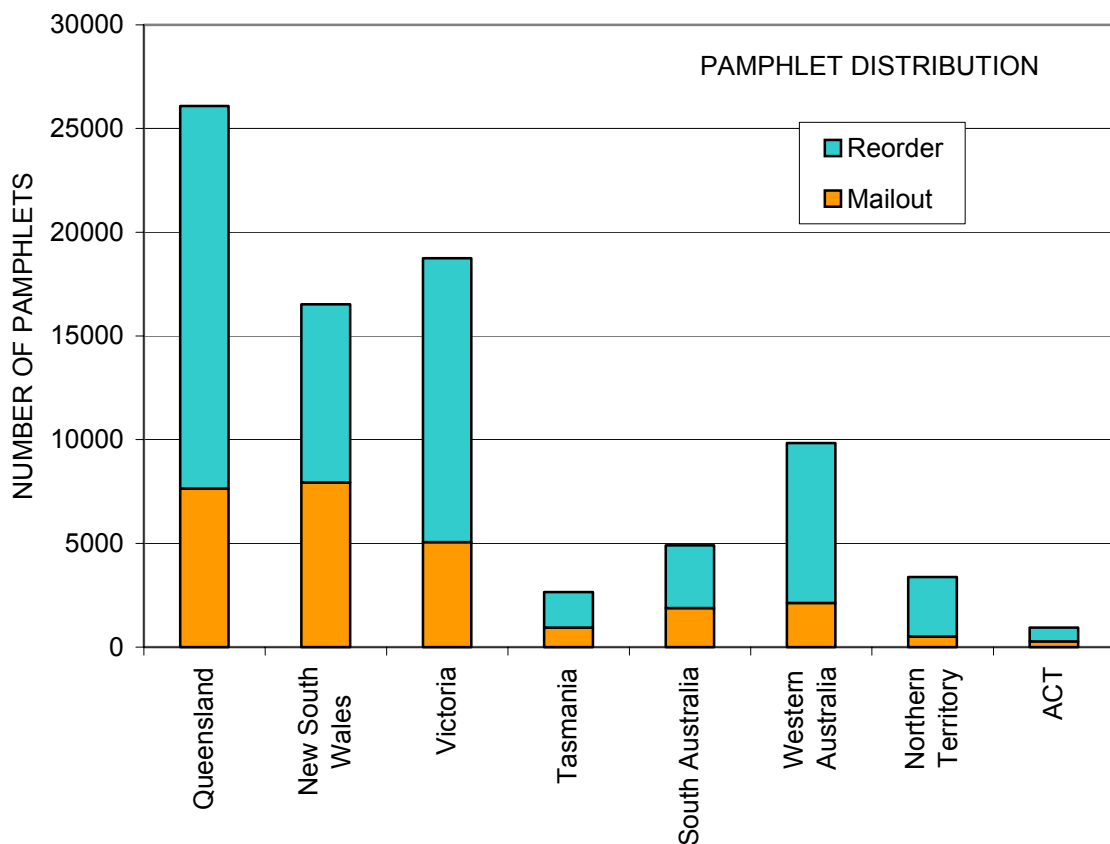


Figure 5: Distribution to June 2004 of Gently Does It! pamphlet by state

Figure 6 shows the number of pamphlets sent out based on industry business groups. The media figure does not include those inserted in the Fishing World magazine.

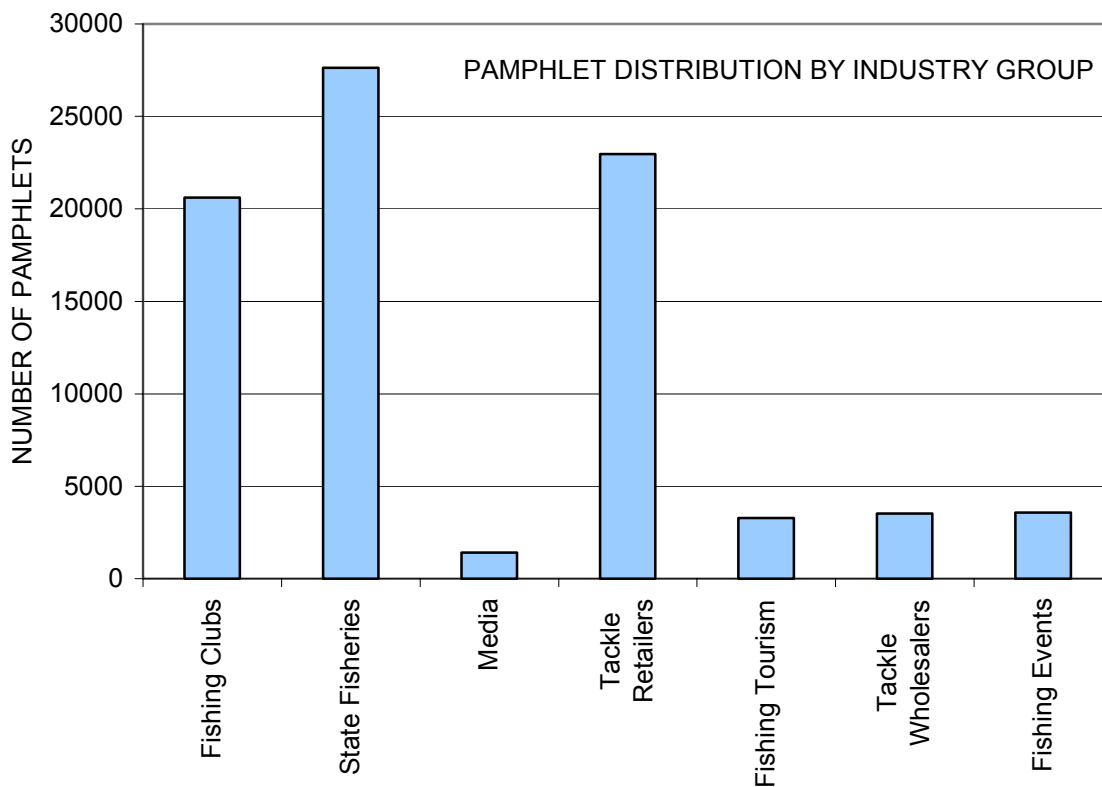


Figure 6: Distribution of Gently Does It! pamphlets to June 2004 by Industry business groups

The television campaign and the pamphlet were the two primary products aimed at occasional fishers but were also considered important to raise the awareness of regular fishers. Occasional fishers are defined as those that fish less than ten days per year and comprise 85% of recreational fishers. Regular fishers are defined as those that fish more than ten days per year and comprise 15% of the fishing population, however were responsible for over half the fishing effort in 2000 (Henry and Lyle 2003).

Other strategy products that dealt with fish survival issues in greater depth were primarily aimed at regular fishers as they are more skilled, catch and release the most fish and have more detailed information needs. Regular fishers more often require information specific to their target species. The Released Fish Survival website was designed in part to cater for the additional information needs of regular fishers.

Figure 7 is the home page of the website [www.info-fish.net/releasefish](http://www.info-fish.net/releasefish). The website at end June 2004 had a total of 44 fact sheets dealing with aspects of releasing fish.

- ❑ 14 fact sheets on best practices
- ❑ 7 fact sheets on releasing fish facts
- ❑ 23 fact sheets on releasing species (or groups of species)

Current and past editions of the Released Fish Survival Email news bulletins are also available from the website and there is user-friendly access to research papers on all aspects of releasing fish.



**Released Fish SURVIVAL**

**infofish**

**Welcome to Released Fish Survival Website**

FISHERIES RESEARCH & DEVELOPMENT CORPORATION

Improve your knowledge on releasing fish through the **National Strategy** for the Survival of Released Line Caught Fish.

**Gently does it**

**News**

Data on released fish now available.....  
Read More...

FRDC funds 2 new fish survival research projects...  
...  
Read More...

**Message from ET**

Take care in handling your fish.. Use fish friendly gear.. Gently does it when you release your fish.....

**Browse**

Best Practices  
Releasing Fish Facts  
Releasing Species  
News Bulletins

→ National Strategy  
→ Locate Research

→ Home  
→ Feedback  
→ Privacy Policy  
→ Terms of Use

→ Related Links

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**Subscribe**  
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[Home](#) | [Privacy Policy](#) | [Terms of Use](#) | [Related Links](#)  
| [National Strategy](#) | [Feedback](#)

Created by DNe Design and managed by Zephyr Virtual Office

Figure 7: Home page of the Released Fish Survival website [www.info-fish.net/releasefish](http://www.info-fish.net/releasefish)

The website went live in January 2003 and since then there have been a total of 3,547 documents downloaded from the site. Document downloads is considered a better measure of use of the website than a simple count of 'hits'.

The Follow Up survey (Roy Morgan Research 2004) found that a total of 4% of fishers had accessed the website. This equates to 94,000 'hits' however is considered to be an overestimate of the use of the website when compared to the number of downloads actually recorded. The report also found that 85% of those that visited the site found it very useful or somewhat useful.

The ten most downloaded documents to end June 2004 were:

1. Released Fish Survival National Survey Report	263
2. Gently Does It! pamphlet	241
3. ANSA Code of Practice	166
4. Causes of Fish Mortality fact sheet	151
5. Dealing with barotrauma fact sheet	148
6. Removing hooks fact sheet	127
7. Handling and releasing fish fact sheet	109
8. Practices that need to change fact sheet	108
9. Releasing bream fact sheet	107
10. Fish friendly equipment fact sheet	105

A number of technical reports related to the national strategy are also available from the website and downloads of these reports to end June 2004 were:

1. Released Fish Survival National Survey Report (Roy Morgan Research 2003) 263
2. National Strategy for the Survival of Released Line Caught Fish: A review of research and fishery information (McLeahy *et al* 2002) 80
3. Assessment of the Post-Release Survival and Stress Physiology of Barramundi (*Lates calcarifer*) (deLestang *et al* 2004) 18

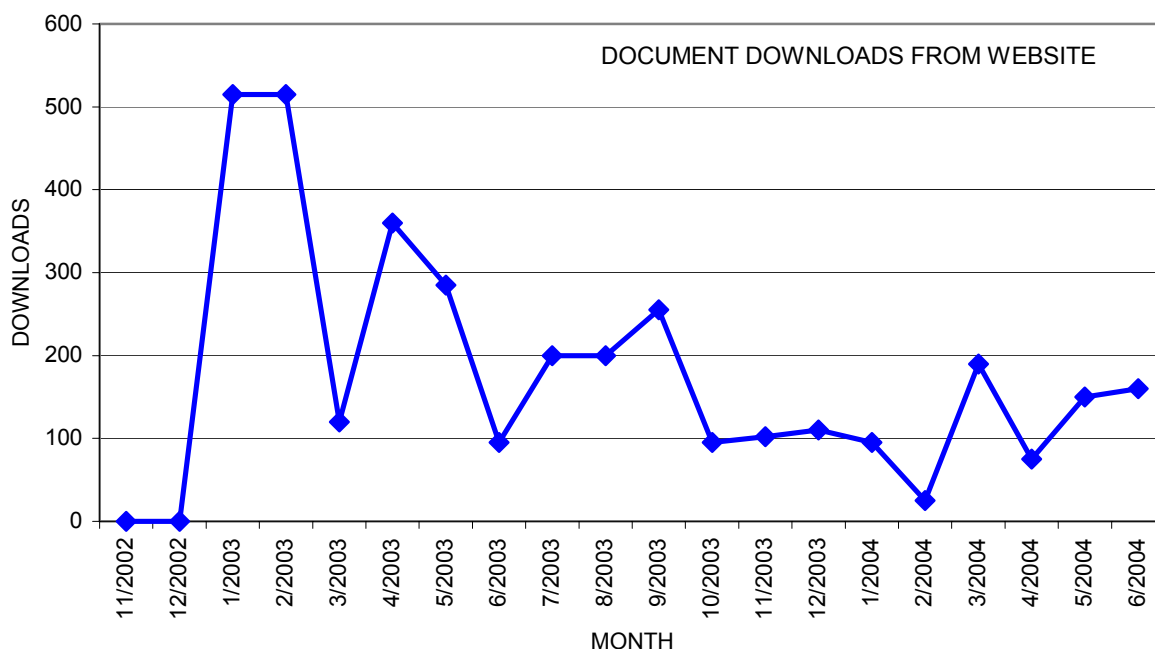


Figure 8: Monthly downloads of documents from the Released Fish website

A monthly track of download of documents since the website commenced in January 2003 is shown in figure 8 showing an initial high level of downloads following initial promotion of the website and then a steady rate of downloads since that time.

A 6 minute 30 second video was produced by WIN television and featured Andrew Ettingshausen as the presenter. The video was completed in August 2003 and was provided on request. A total of 157 videos have been distributed to end June 2004. Figure 9 shows the packaging of the video and a copy of the DVD is included with this report.

The video was also converted to DVD in February 2004 following requests for it to made available in that media and three copies on DVD have been distributed.

Videos and DVDs were only provided on request. The video was promoted via email news bulletin 8 issued in August 2003 and on the website. Figure 10 provides a summary of the distribution of videos and DVDs based on industry groups. State Fisheries includes semi-government bodies and research institutions.

AFTA is developing a DVD for distribution to tackle outlets. The DVD will contain a large range of information of interest to fishers and the best practices video has been provided to AFTA for inclusion on the DVD. An initial estimate is that 25,000 copies of the DVD will be printed so this would significantly increase the distribution of the best practices video.

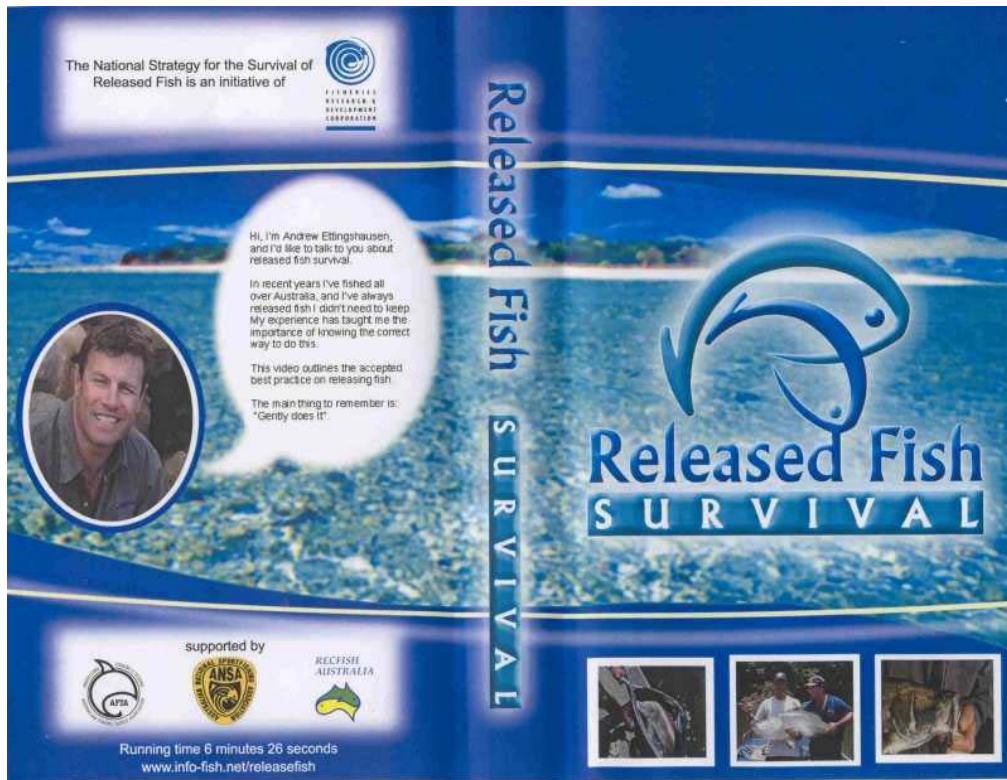


Figure 9: Best Practices video

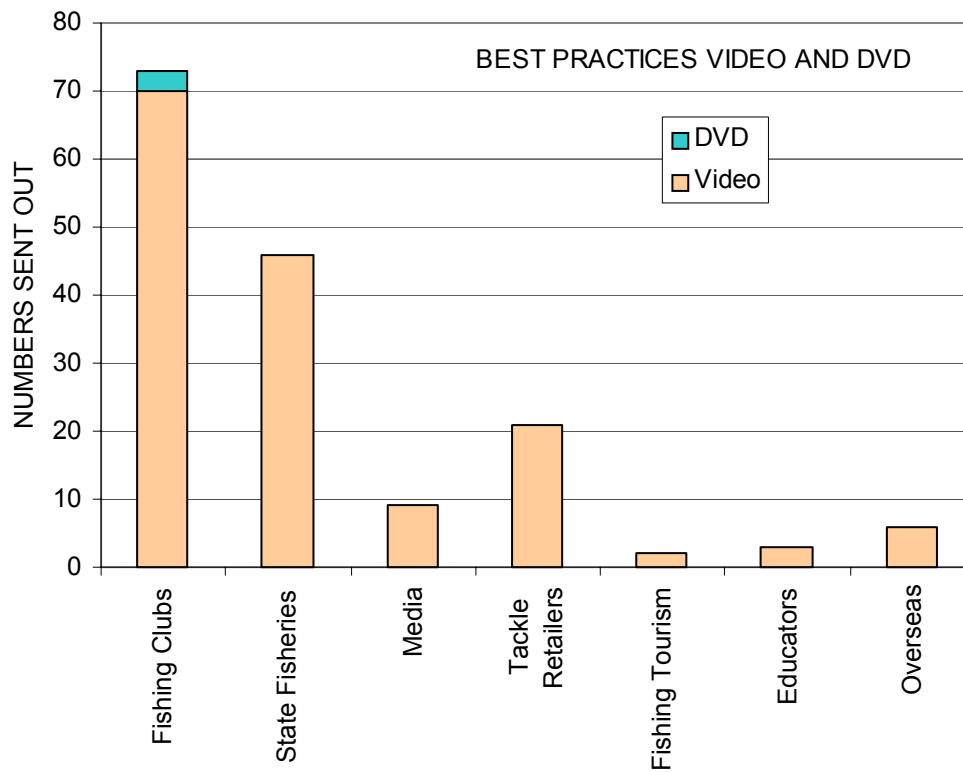


Figure 10: Summary of distribution of best practice videos and DVDs

Alf Hogan of the Queensland Department of Primary Industries and Fisheries produced a CD on releasing large barramundi. The CD was produced in response to concerns arising out of the increased incidence of large barramundi being found dead after capture and release, especially in Lake Tinaroo. It was considered that this important information needed to be incorporated into the national strategy to ensure wider distribution.

The CD was promoted through email news bulletin 7 in June 2003 and on the website. A total of 141 CDs have been distributed to end June 2004. Of these 71 CDs were distributed through the strategy and over 70 distributed by Mr Hogan. Figure 11 shows the distribution of CDs through the strategy.

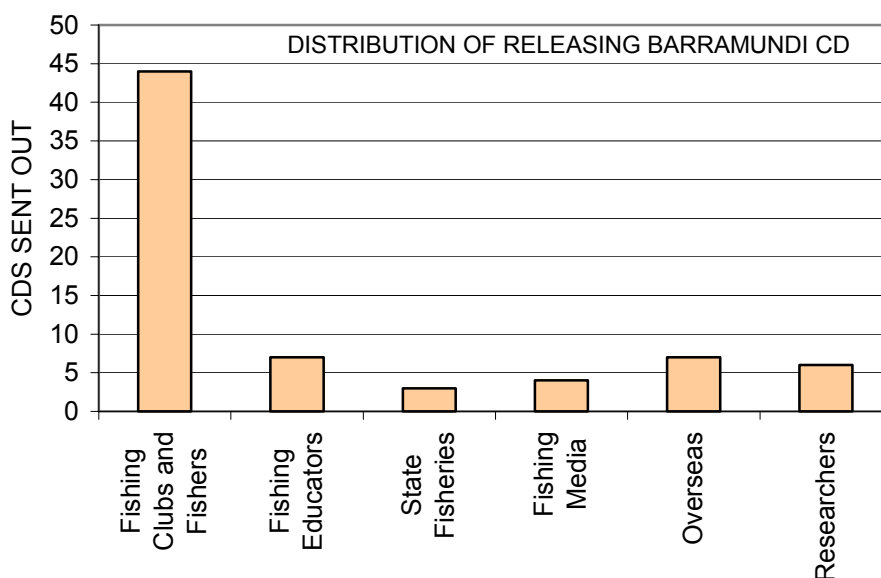


Figure 11: Distribution of Releasing Barramundi CD through National Strategy

## 6.2. Changes in Attitudes and Practices in Releasing Fish

Prior to the commencement of the television awareness campaign an initial survey into attitudes and practices was undertaken to provide a benchmark so that the effectiveness of awareness campaign and strategy products could be assessed. The full report on the findings of this survey (Roy Morgan Research 2003) is available with this report or can be downloaded from the website.

The survey was undertaken in November and December 2002 and estimated that 19% of the population had fished in the two years prior to the survey. This compared with 19.5% estimated in the national survey in 2000 (Henry and Lyle 2003).

Information was obtained on fishing preferences for saltwater or freshwater and fishing platforms such as from a boat, shore, beach, rocks or estuary and whether fishers were members of a fishing club. Information was obtained on the most popular saltwater and freshwater species caught and released. This information was used to assist in profiling fishers in relation to their responses.

88% of fishers occasionally voluntarily released fish they could legally keep and approximately 12% of fishers never released caught fish.

A number of attitudes, perceptions and practices were measured amongst those fishers that at least sometimes released fish. Their attitudes and perceptions were summarised as follows:

- ❑ 90% do not need to keep all the fish they catch to have a successful fishing trip;
- ❑ 60% found it more satisfying to release rather than keep the fish they catch;
- ❑ 80% want to eat the fish they catch;
- ❑ 66% like to clean the fish they catch;
- ❑ 50% felt that they do not need to demonstrate their fishing skills by bring home the catch;
- ❑ 95% believe that released fish benefit fish stocks;
- ❑ 88% see benefit to releasing caught fish;
- ❑ 87% do not believe that most released fish die;
- ❑ 49% found it more satisfying to release rather than keep the fish they catch;
- ❑ 83% felt that they have the equipment to properly release fish; and
- ❑ 72% believe they know the proper catch and release techniques;

66% of all fishers were aware that there are practices that should be used when releasing fish. Fishers in older age groups were more likely to be aware of these practices.

The perceptions of all fishers regarding fishing catch and release practices were summarised as:

- ❑ 92% believed that holding the fish gently in the water to release it increases the survival rate;
- ❑ 79% believed using a barbless hook increases the survival rate;
- ❑ 76% believed using a landing net to land a fish increases the survival rate;
- ❑ 65% believed that playing a fish hard to get it in quickly increases the survival rate;
- ❑ 65% believed that using wet hands to handle fish increases the survival rate;
- ❑ 59% believed that if a fish is deeply hooked, cutting the line without trying to remove the hook increases the survival rate;
- ❑ 94% believed that keeping a fish out of water for several minutes decreases the survival rate;
- ❑ 82% believed that using a gaff to land a fish decreases survival rate;
- ❑ 57% believed that holding a fish up vertically by the jaw decreases the survival rate;
- ❑ 51% of all fishers believed that removing the hook from a deeply hooked fish with a hookout or long pliers decreases the survival rate;
- ❑ 35% believed that deflating the swim bladder of a fish caught in deep water decreases the survival rate; and
- ❑ 45% believed that using bait in preference to a lure or fly makes no difference to survival rate.

29% of all fishers believed that **holding the fish gently in the water to release it** is the single practice that provides the greatest benefit for the survival of the fish. This was considered an important finding given that the theme for the awareness campaign was Gently Does It!

48% of all fishers stated that they would use new fishing gear that improves fish survival even if it makes no difference to catch rate and 25% stated that they would use new fishing gear that improves fish survival even if it reduced the catch rate.

Fishers were asked to provide information on their most recent fishing trip. On the most recent fishing trip:

- ❑ 80% of all fishers practiced bait fishing;
- ❑ 73% of all fishers used a single barbed hook;
- ❑ 42% of all fishers used a spinning rod and reel; and
- ❑ 53% of all fishers used the fishing line to land the fish;

79% of fishers believed that using a barbless hook increased survival however only 5% used a barbless hook on their most recent fishing trip.

76% of fishers believed that using a landing net to land fish increased survival however only 25% used a landing net to land a fish on their most recent fishing trip and only 6% used a knotless landing net.

62% of fishers did not know what a circle hook was. The use of circle hooks on their most recent trip was not determined. Given the level of recognition and low availability of circle hooks in tackle stores the usage rate would be low.

These were the only measures in relation to gear used where a comparison between attitudes or perceptions and practices was possible. This shows that while recognition of practices that improved survival rates was generally high the actual use of gear that would improve survival was low. With circle hooks it is likely to be a result of lack of information on and availability of these hooks.

After the completion of the television awareness campaign a Follow Up survey into attitudes and practices was undertaken to provide comparisons with the before survey and to measure effectiveness of the awareness campaign. The full report on the findings of this survey (Roy Morgan Research 2004) is available with this report or can be downloaded from the website.

The survey was undertaken in March and April 2004 and estimated that 15% of the population had fished in the two years prior to the survey. With the margin of error involved in the two surveys, this difference was not significant, however was less than the 19% estimated in the before survey in 2002.

As with the before survey information was obtained on fishing preferences for saltwater or freshwater and fishing platforms such as from a boat or shore and whether fishers were members of a fishing club. This information was used to assist in profiling fishers in relation to their responses and for comparison with the results of the 2002 survey.

Overall, 90% of all fishers said they have released fish in the past 2 years. 59% of all fishers said they were Very Interested in practising correct fish release methods and of these fishers, 72% 'Often' voluntarily released fish. 29% of all fishers said they were Somewhat Interested in practising correct fish release methods and of these fishers, 21% 'Often' voluntarily released fish.

42% of all fishers stated that they would use new fishing gear that improves fish survival even if it makes no difference to catch rate.

In regard to the **Released Fish Survival Campaign**:

Campaign Recall:

- 59% of all fishers recalled the campaign**, indicating the campaign was effective in reaching a large majority of fishers
- 15% of all fishers recalled information on correct fish release (from somewhere else)
- 26% did not recall information on correct fish release

Those who recalled the campaign:

- 51% of all fishers have released fish in the last 12 months
- 35% of all fishers have changed their practices as a result of the campaign**, indicating a relatively high level of effectiveness in changing behaviour
- 16% of all fishers did not change their practices
- 13% of all fishers did not change their practices because they were already practicing correct fish release methods

Those who did not recall the campaign:

- ❑ 29% of all fishers have released fish in the last 12 months
- ❑ 23% of all fishers have changed their practices

Campaign Media:

- ❑ 36% of all fishers recalled seeing the campaign Television Advertisement
- ❑ 22% of all fishers recalled seeing/reading articles in fishing magazines
- ❑ 14% of all fishers recalled seeing/reading pamphlets in fishing magazines

Main Messages recalled by fishers:

- ❑ Release Fish Gently (53% of all fishers)
- ❑ Support Fish Underneath their Body (49% of all fishers)
- ❑ Do not Keep Fish Out of Water for a Long Period of Time (48% of all fishers)
- ❑ Use a De-hooker or Pliers to Remove Hooks (45% of all fishers)
- ❑ Use a Wet Towel or Wet Hands when Handling Fish (44% of all fishers)
- ❑ Do not Remove Swallowed Hooks (37% of all fishers)
- ❑ Use Barbless Hooks for Lure Fishing (35% of all fishers)
- ❑ Do Not Hold Fish by their Jaw (35% of all fishers)

Effectiveness and Usefulness of Information:

- ❑ 83% of fishers who recalled the campaign (49% of all fishers) said the information was Somewhat or Very effective at encouraging them to practice correct fish release methods
- ❑ 91% of fishers who recalled the campaign (54% of all fishers) said the information was Somewhat or Very useful

The perceptions of all fishers regarding fishing catch and release practices were summarised:

- ❑ 81% of all fishers believed that using a barbless hook *increases* the survival rate (79% in 2002);
- ❑ 76% of all fishers believed that using wet hands when handling fish *increases* the survival rate (65% in 2002);
- ❑ 72% of all fishers believed that using a landing net to land a fish *increases* the survival rate (76% in 2002);
- ❑ 71% of all fishers believed that if a fish is deeply hooked, cutting the line without trying to remove the hook *increases* the survival rate (59% in 2002);
- ❑ 40% of all fishers believed that deflating the swim bladder of a fish caught in deep water *increases* the survival rate (23% in 2002);
- ❑ 29% of all fishers believed that using a circle hook *increases* the survival rate (8% in 2002)
- ❑ 77% of all fishers believed that using a gaff to land a fish *decreases* the survival rate (82% in 2002);
- ❑ 69% of all fishers believed that holding a fish up vertically by the jaw *decreases* the survival rate (57% in 2002);
- ❑ 59% of all fishers believed that playing a fish hard to get it in quickly *decreases* the survival rate (65% in 2002);
- ❑ 49% of all fishers believed that removing the hook from a deeply hooked fish with a hookout or long pliers *decreases* the survival rate (51% in 2002);

- 40% of all fishers believe that using bait in preference to a lure or fly *makes no difference* to the survival rate (45% in 2002);
- 43% of all fishers *don't know* what a circle hook is (62% in 2002).

On their most recent fishing trip:

- 82% of all fishers practiced bait fishing (80% in 2002);
- 69% of all fishers used a single barbed hook (73% in 2002);
- 10% of all fishers used a single barbless hook (5% in 2002);
- 4% of all fishers used a ganged hook (7% in 2002);
- 4% of all fishers used treble barbed hooks (7% in 2002);
- 3% of all fishers used treble barbless hooks (1% in 2002);
- 39% of all fishers used a spinning rod and reel (42% in 2002);
- 29% of all fishers used the fishing line to land the fish (29% in 2002).

Access to the Released Fish Internet Site:

- 4% of all fishers accessed the Released Fish Internet Site
- 39% of fishers who accessed the site said it was 'Very Useful'

Access to the Fisheries Research and Development Corporation's (FRDC) Internet Site:

- 7% of all fishers accessed the FRDC Internet Site
- 41% of fishers who accessed the site said it was 'Very Useful'

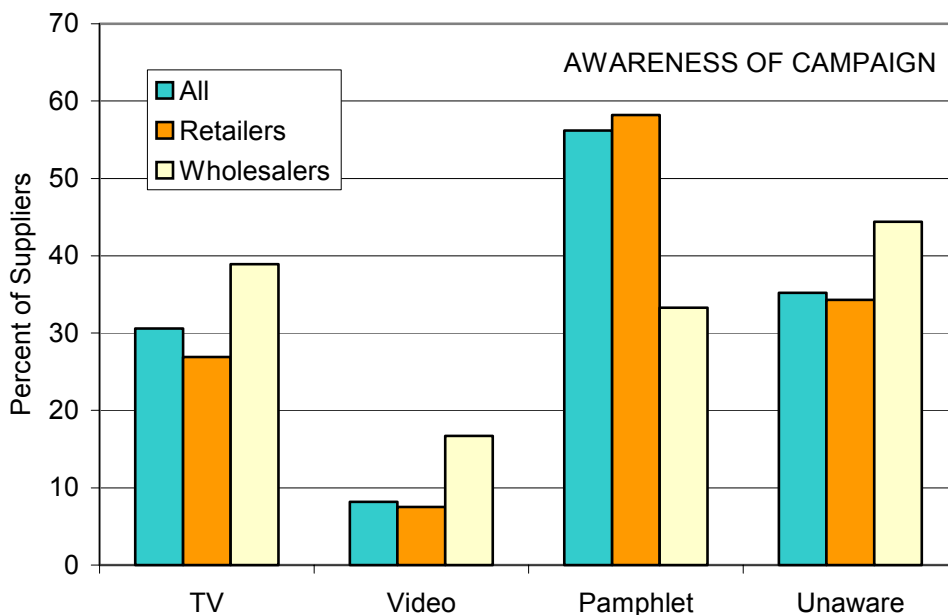


Figure 12: Recall of Released Fish Survival campaign by fishing tackle suppliers

The tackle industry survey was undertaken in June and July 2004 and of the 316 tackle industry business invited to take part in the survey there were 95 (30%) responses, 85 (26.9%) of which were fully completed. This was considered to be a good response rate for this type of survey. The full report on the findings of this survey (Pepperell 2004) is available with this report or can be downloaded from the website.

Retailers and wholesalers of fishing tackle were asked if they recalled any elements of the Released Fish Survival campaign. Figure 12 indicates that over half of the suppliers surveyed recalled at least one aspect of the campaign with the pamphlet being the most



recalled element. This was expected as the pamphlet was forwarded to all wholesalers and retailers around Australia. Retailers in particular recalled this component. Television advertisements were recalled by over 30% of all suppliers but the video had relatively low recall (less than 10% overall). About 35% of surveyed suppliers did not recall any part of the campaign, but conversely, this means that 65% did recall some part. This compares well 59% of the general angling who remembered some part of the campaign, as indicated in the overall released fish survey.

One of the key aims of the survey was to determine if any changes in sales of 'fish-friendly' devices may have taken place in the period during and following the Released Fish Survival campaign. Suppliers were therefore first asked if they stocked or supplied any of the following devices: Circle hooks, knotless landing nets, hookouts (including longnosed pliers), barbless treble hooks or fish grips for releasing fish. With the exception of barbless treble hooks, over 60% of suppliers stated that they stocked at least one of the listed 'fish-friendly' devices (figure 13), with a high of 81% stocking hookouts. (The latter category included needle-nosed pliers which may explain this result). Barbless treble hooks were stocked by 27% of surveyed suppliers, but this is not surprising since these are relatively specialised 'off the shelf' items and many anglers who wish to use barbless hooks, including trebles, simply crimp down the barbs themselves.

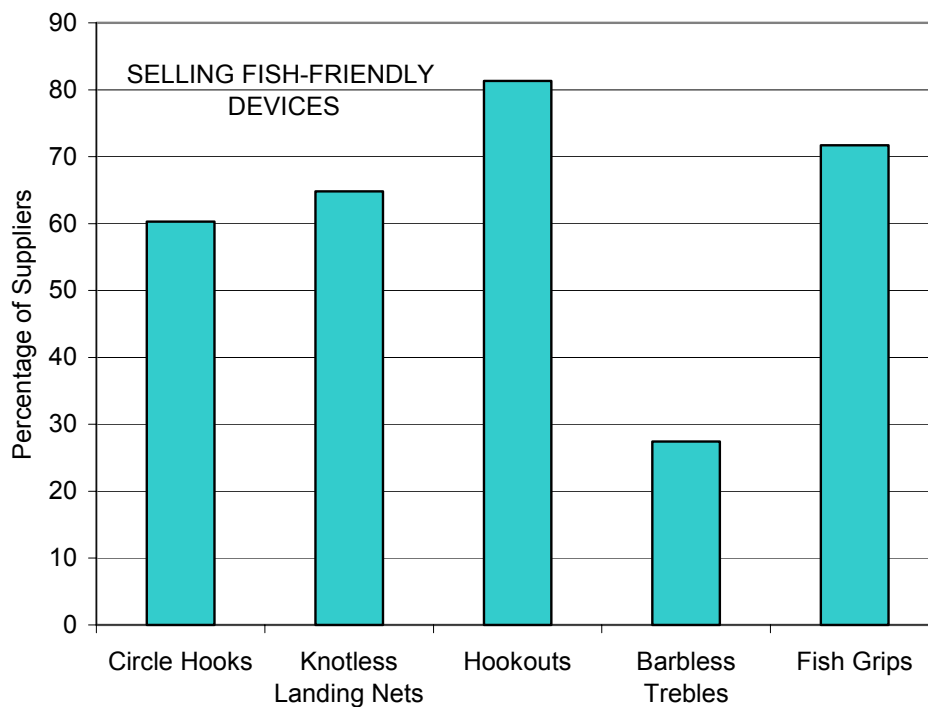


Figure 13: Percentages of suppliers who sell listed 'fish-friendly' items

Regarding sales of these items, between 40% and 50% of surveyed suppliers stated that their sales of at least one of the items had increased in the calendar year 2003, ie, following the Released Fish Survival campaign (Figure 3). This was much greater than the percentages of suppliers indicating a downturn in sales of any of these items, while the proportion of respondents who stated that sales had not changed in the period averaged about 30% across the five items. Increased sales for circle hooks were indicated by the highest percentage of suppliers (just over 50%), while increases in sales of barbless treble hooks were indicated by the lowest percentage (40%).

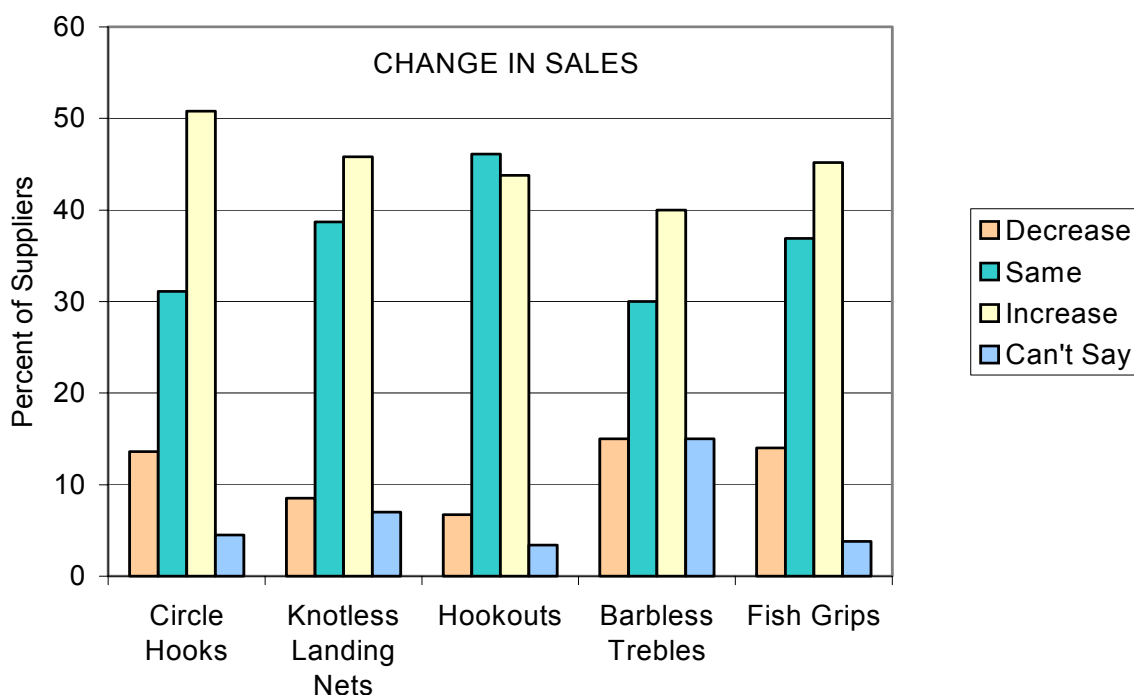


Figure 14: Trends in sales of 'fish-friendly' devices in 2003

### 6.3. Transfer Responsibility for Communication and Extension

There was strong acceptance by recreational fishing bodies that the national strategy was important and that it dealt with a priority issue for the recreational sector. This was indicated by the high level of recognition of the campaign, subscriptions to the email news bulletin, requests for the Gently Does It! pamphlets for distribution to fishers and use of material from the strategy in their own publications and communications.

Recfish Australia, as the peak recreational fishing body, was encouraged to adopt the code of practice on releasing fish or develop a code of its own and it was on the agenda for the 2002 and 2003 Annual General Meetings. While there was strong support for the code of practice for releasing fish it has not been formally adopted by Recfish. ANSA remains the only national fishing body that has a formal code of practice for releasing fish. Recfish is still being encouraged to adopt or develop a code and it is expected that this will occur sometime in the future.

The national strategy has been an important catalyst in raising the issue of fish survival with recreational fishers. The role of this project was to make information on best practices available to leading recreational fishing bodies, influential individuals and fishing media personalities so that information was disseminated through their organisational or individual networks, through the fishing media and also the general media.

While the media was monitored in relation to items on releasing fish it was not possible to determine the full range of media items, nor was it possible to determine the extent to which the strategy influenced the production of these items.

However actions such as the request to include the best practices pamphlet as an insert in the Fishing World magazine and the request for an article on releasing fish for the Modern Fishing magazine indicate a strong industry uptake of the responsibility for communication and extension. ANSA used information from the strategy widely in its branch and club newsletters.

## 6.4. Leadership of National Strategy

Leadership was provided by the steering committee through its guidance of the national strategy and setting the framework for communication and extension. The steering committee adopted a concise, outcome focused strategy document that set out the mechanism for implementing the strategy, the level of current investment and the key areas for future investment. This strategy document was updated as new information became available and provided a key guide for researchers in the development of projects to address the areas for future investment.

The strategy was identified as a high priority in 2001. FRDC project 2001/101 was undertaken in 2001/02 to review research and fishery information and to identify priority issues and species for research (McLeay *et al* 2002). The National Recreational and Indigenous Fishing survey in 2000 estimated the recreational catch at 107.7 million fish of which 47.3 million (43.9%) were released (Henry and Lyle 2003) and subsequently confirmed priority species for research. The current version of the strategy is in Appendix 1.

The members of the steering committee are listed in the section on the Steering Committee and the terms of reference are in Appendix 2. The steering committee met on ten occasions from May 2002 to May 2004 as shown in Appendix 3.

The main issues that the steering committee addressed were:

- ❑ Development, maintenance and promotion of the national strategy document;
- ❑ Advice to applicants seeking to submit applications to the FRDC to address national strategy priorities;
- ❑ Review of applications to address national strategy priorities and advice to the FRDC board;
- ❑ Development and review of the communications plan;
- ❑ Inclusion of non-FRDC projects under the national strategy; and
- ❑ Corporate governance issues associated with this project.

From April 2002 the steering committee was kept informed of progress on the strategy and on this project through a weekly email briefing. The briefing was one page that highlighted actions during the week and any future actions that the steering committee needed to be aware. This ensured that the steering committee were up to date with progress on the strategy. To the end of June 2004 a total of 100 briefings were provided to the steering committee.

It was also considered necessary that the board of ANSA and Recfish Australia were kept up to date with progress on the strategy and weekly briefings were also provided from April 2002. To the end of June 2004 a total of 92 briefings were provided to ANSA and Recfish.

From June 2003 researchers involved in technical projects under the strategy were added to the briefings to the steering committee.

During the conduct of this project the approach has been to ensure that all those that needed to be aware of progress on the strategy were provided with regular information. The email briefings were a cost effective method of ensuring this.

Beyond the steering committee a wider range of persons with an interest in the strategy were kept informed by an email new bulletin. This was a one page bulletin that was sent out when significant information on aspects of the strategy or when new research information was available. A total of ten bulletins were sent out from April 2002 to June 2004. The initial distribution of the first news bulletin was to 35 email addresses and by June 2004 this has risen to 585. The bulletins are also available from the website.

The strategy is a national one however it was felt that there was wider interest in the approach being taken in Australia. Information was provided to a range of international fishers and researchers. Countries where information was sent included the USA, Canada, Mexico, New Zealand, Great Britain and South Africa.

The national strategy was promoted as an umbrella for all projects dealing with fish survival, not just projects funded by FRDC. It was successful in including a number of non-FRDC funded projects under the strategy.

One project was the "Handling and releasing big fish" by Alf Hogan of the Walkamin Research Centre of the Department of Primary Industries in Queensland.

Another project was "To obtain a preliminary measure of the survival rates resulting from anglers releasing undersized snapper and bream" undertaken by the Marine and Freshwater Resources Institute in Victoria. The results of this project were used in the development of project 2003/074 "Survival of snapper and bream released by recreational fishers in sheltered coastal temperate ecosystems."

Another project "Survival from Hooking and Tagging" being undertaken by ANSA's Suntag program Queensland is obtaining data on the locations where hooks are lodged in fish.

The strategy also encouraged a small project into the effects of landing nets on barramundi and this was incorporated into project 2002/039 "Assessment of post-release survival and stress physiology of barramundi."

A related project undertaken by NSW Fisheries "The 2004 Botany Bay Research Challenge: preliminary results from an experiment to assess the survival of fish released by recreational anglers" has collected survival data on a number of key NSW species.

## **7. DISCUSSION**

### **7.1. Extension of Best Practices**

Using a national strategy that had an initial focus on promoting best practices in releasing fish, before undertaking research into the issues surrounding survival, has been an innovative approach. It has had the effect of elevating the survival of released fish as an issue among recreational fishers and sped up the adoption of changes to fishing practices.

The television awareness campaign had the ability to reach the greatest number of recreational fishers. The potential viewing audience of the Channel 9 and WIN networks where the advertisements were shown was 19.53 million. Given that the advertisements were shown in each market area for a minimum of three months this provided the maximum opportunity for fishers to be made aware of the campaign.

The high level of recall of the television campaign at 36% by recreational fishers and 31% by the tackle industry surveyed showed the effectiveness of this approach in promoting awareness of the issues.

The Gently Does It! pamphlet was very successful. The initial print estimate was 70,000 however to June 2004 a total of 120,000 have been printed and requests for the pamphlets continue on a weekly basis. The feedback on the content of the pamphlet has been very positive and supports the decision to provide more rather than less information.

The decision to target tackle stores, fishing clubs and major fishing events for initial distribution of the pamphlets ensured that the information got to regular fishers. The high level of recall of 59% by tackle retailers of the pamphlet supports the effectiveness of this approach. Providing an easy fax back order form to obtain more pamphlets promoted a good response from all areas. Tackle outlets were the prime users of the fax back form. In all

states the number of pamphlets that were reordered exceeded the numbers originally sent out. State Fisheries agencies made good use of the pamphlets and distributed them with their own products. Fishcare volunteers were a significant distributor of the pamphlet.

The pamphlet has reached a minimum of 3.4%, based on each pamphlet being read once only or a maximum of 28% based on the results of the follow up survey. It is possible that other material sighted that was not part of the campaign material influenced the figure from the follow up survey. However it is clear that the pamphlet did reach a significant number of fishers.

The use of the website to download 3,547 fact sheets indicates a high use of the website to get more detailed information. The estimate of 94,000 hits on the website from the follow up survey is likely to be an overestimate when compared with the number of document downloads. However the result that 85% of those that visited the site found it very useful or somewhat useful is encouraging.

Having data on the download of individual documents has been particularly helpful as this provides information on what users are finding useful and will assist in modifications to the website in phase 2 of the National Strategy.

Downloads of technical reports produced as part of the strategy was encouraging with the 263 downloads of the Released Fish Survival National Survey Report (Roy Morgan Research 2003). This is considered a high level of usage of a technical report.

One area of the website that received little use was the Locate Research section. It would appear from feedback that researchers already have their established patterns for accessing research material on the Internet and that there is little interest by recreational fishers in scientific reports. This area of the website will be reviewed and modified in phase 2 of the strategy.

While the level of use of products such as the video, DVD and CD has been less these were aimed at regular fishers providing more specific information that was likely to meet the needs of this group of, generally, more knowledgeable fishers. This group has the highest level of fishing skills and releases the most fish voluntarily. Fishers in this group are also considered to be opinion makers and leaders so there is likely to be a high level of flow on if members of this group change their practices.

## **7.2. Changes in Attitudes and Practices in Releasing Fish**

A desired outcome of the National Strategy is a change in fisher behaviour to use fishing gear and handling practices that improve the survival rate of released fish.

The initial and follow up surveys have provided a measure of the changes that have occurred as a result of the campaign with 35% of fishers having changed their behaviour as a direct result of the campaign. While it is likely that some of the material that influenced fishers was not part of the campaign it is possible that the campaign, through raising awareness of the issues of fish survival, influenced the content and the amount of additional material that was published or presented during that time.

The follow up survey also provided data on changes in the use of fishing gear that was fish friendly. In all areas that were surveyed there were positive changes in the use of fish friendly products and practices.

On the last fishing trip by fishers the use of barbless single hooks had risen from 5% in 2002 to 10% in 2004. The use of barbless trebles for lure fishing increased from 1% to 3% for total fishers and this is considered to be significant given that only around 15% of fishers fish with lures. In 2004 3% of lure fishers used barbless trebles while 4% used barbed trebles so that

over 40% of those using lures with trebles were using barbless hooks. This shows the increasing use of barbless trebles by those fish with lures.

In landing fish 9% of fishers used a knotless landing net in 2004 compared with 6% in 2002, again indicating the trend in using fish friendly gear.

The increase in use of 'fish-friendly' devices is supported by the industry survey that identified increases in sales of five products.

Based on all measures used in this project the handling of fish and the use of 'fish-friendly' gear have increased and the campaign has contributed significantly to those changes.

### **7.3. Transfer of Responsibility for Communication and Extension**

While the aim of having recreational fishing organisations other than ANSA formally adopt the code of practice or develop their own has not been achieved there has been widespread support for the code. Recfish considers that the greatest effort needs to be directed at average recreational fishers rather than at fishing organisations. However the formal adoption of a code of practice will still be promoted to Recfish and other fishing organisations.

There is also a strong sense of affinity with the overall national strategy and the work being undertaken. Recfish and its member organisations have provided strong support and all have assisted in the communication and extension of information on best practices. There was strong support for extension of the strategy through to 2006/07. The transfer of responsibility for communicating strategy outputs and working on outcomes with recreational fishers will continue to be a priority during this period.

### **7.4. Leadership of National Strategy**

The national strategy is a significant investment by the FRDC, State Fisheries agencies and industry groups. There is a total commitment of \$2.1 million by FRDC and \$2.9 million by other investors in 8 FRDC and 2 non-FRDC projects up to 2006/07. To ensure the greatest national return for this investment it has been necessary to clearly define national priorities, specify what FRDC will invest in and what areas others should invest in.

This approach has resulted in all projects being funded by FRDC addressing the key areas for investment that were identified early in the strategy development. There are only three priorities where there has not been investment through the current projects. The remaining priorities that need to be addressed are whiting, Murray cod and deep hooking.

The steering committee also considered that it was desirable that all projects addressing fish survival issues were under the umbrella of the national strategy. It was considered that coordination and strategic direction would be enhanced if all projects were viewed as being under the one banner. This was achieved with three projects. The National Strategy assisted in distributing the results of the work on releasing large barramundi. The work on the effects of landing nets on barramundi was eventually incorporated into project 2002/039. ANSA, through its Suntag program in Queensland, commenced collecting data on hooking locations in fish.

Informal communication is also being maintained with the Principal Investigator of the NSW Fisheries project examining survival of key species in that state.

The initial focus of the strategy has been to get information on best practices to recreational fishers. As the results of the research projects become available the emphasis will shift to getting the new information out to recreational fishers and charter operators, updating best

practices and encouraging fisheries managers to incorporate the new knowledge in fisheries management plans.

## **8. BENEFITS AND ADOPTION**

Prior to the National Strategy there was a move already underway by various fishing organisations, state fisheries agencies and the recreational fishing media promoting catch and release and practices for releasing fish. However this was not coordinated and did not cover all the issues of releasing fish in a consistent manner. The introduction of the National Strategy elevated the issues of survival of released fish through the awareness campaign and sped up the adoption of best practices.

The National Strategy has established a framework for getting information on fish survival out to recreational fishers and the tackle industry in a consistent format and in a timely manner. In the future that framework could be used to extend other research information of interest to recreational fishers.

The benefit of a National Strategy approach was reinforced many times during the awareness campaign with considerable feedback received that supported the messages that were being provided to fishers and the timeliness of the campaign.

The recall of the awareness campaign by 59% of recreational fisher and 65% of tackle retailers and wholesalers is a clear indication of the increased awareness of fish survival issues. More importantly 35% of fishers indicated that they had changed their practices as a result of the campaign. This is a high level of change and indicates that the information was provided in a way that resonated well with fishers and encouraged changes in behaviour.

The changes in the use of fish friendly gear reported by recreational fishers was confirmed by the industry survey which showed increases in the sales of the five products of fish friendly fishing gear that were examined.

Trends in sales of these products showed that between 40-50% of surveyed suppliers that responded stated that their sales of at least one of the items had increased during 2003. Between 37-50% of suppliers indicated an increase of 1-20% in sales of at least one item with a further 35-41% indicated increased sales of 21-50%.

In landing fish 9% of fishers used a knotless landing net in 2004 compared with 6% in 2002. This is supported by 47.6% of tackle suppliers reporting a 1-20% increase in sales and 41.5% reporting a 21-50% increase in sales of knotless landing nets.

Based on the initial survey, the follow up survey and the industry survey all aspects of changes in practices showed a positive trend towards the use of best practices.

## **9. FURTHER DEVELOPMENTS**

This project was from July 2002 to June 2004. The FRDC has now approved the extension of the strategy and the communications plan to June 2007.

The steering committee will continue to guide the strategy through to that time and provide assistance in the development of projects to address national priorities. As part of its leadership role the steering committee will also promote the development of new tools, models and data to assist in decision-making by fisheries managers.

The focus in the first two years of the strategy was on the promotion of best practices to recreational fishers until new Australian information became available. The next three years of the strategy will focus on providing new knowledge from the research projects within the

strategy and from other relevant international research while continuing to provide basic information products.

Information products based on new knowledge generated from these projects will be directed at recreational fishers, charter operators and fisheries managers. Recommended changes in handling and use of gear will result in changes to best practices.

Best practices will be extended to include the releasing of abalone and rock lobster by recreational fishers and to the humane killing of fish in response to a need for these issues to be addressed.

The strategy will look for opportunities to encourage industry to take part in data collection. A good example of this is the collection of locations where hooks are lodged in fish by the ANSA Suntag program in Queensland. The strategy will provide incentives for industry groups to continue and enhance the collection of such data.

To encourage innovation a number of small grants will be offered to university students to address lower priority controversial issues associated with fish survival. Issues currently identified are the use of keeper nets and fish grips.

A poster will be provided to tackle stores to promote the use of fish friendly tackle products. The website will be enhanced and a new template for the fact sheets on releasing species developed.

The steering committee will examine ways to address the remaining issues in the national strategy as outlined in Appendix 1 that have not yet been addressed. These issues are survival of whiting species, Murray cod and deep hooking.

## **10. PLANNED OUTCOMES**

The beneficiaries of this project were identified as:

- ❑ Recreational fishers
- ❑ Fisheries managers and researchers
- ❑ Community groups concerned with the maintenance of ecological communities

Planned outcomes were:

1. A change in culture in how recreational fishers perceive unwanted fish that are currently 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.

The high level of recall of the awareness campaign and the 35% of fishers indicating a change in practices suggests that a cultural change is occurring and that the National Strategy is influencing that change.

The changes in practices towards best practices and the increasing sales and use of fish friendly gear supports an increase in the survival of released fish however the measurement of that change was beyond the scope of this project. Technical projects that are part of the National Strategy are examining key species and will provide data on survival rates over the next few years.

Stock assessments undertaken as part of the development of fisheries management plans are now including recreational catch and survival rates more and more as part of the data used for stock assessment however no definitive data is available to quantify any changes.



## 11. CONCLUSIONS

The decision to develop a national strategy, directed and managed by industry, and supported by science generating new knowledge has proven to be a sound approach to address an important issue in the sustainability of fish stocks – the survival of fish released by recreational fishers.

The approach to bring all work addressing this issue under the umbrella of the strategy has resulted in a consistency of approach to research, an avoidance of duplication and value adding in the communication of results. The extension of the strategy to June 2007 will ensure the benefits of this approach will continue.

The focus on promoting best practices to recreational fishers, based on overseas knowledge and before much of the new Australian knowledge is available, is likely to have accelerated changes in practices and fishing gear used, much sooner than if we had waited for the results of our own research. The 35% change in practices recorded in the follow up survey is a measure of the success of the approach adopted.

The increasing trend in the numbers of fish released and the lack of use of best practices by many fishing media presenters supported the need for urgent action to address this issue. The high demand for best practices products, the feedback from recreational fishers and the uptake of best practices messages by fishing writers and media presenters have all indicated an important information gap is being filled by the National Strategy.

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## 13. APPENDIX 1 – NATIONAL STRATEGY DOCUMENT

This is the current version of the national strategy as at May 2004.



### NATIONAL STRATEGY FOR THE SURVIVAL OF RELEASED LINE CAUGHT FISH

#### 1. BACKGROUND

The National Strategy for the Survival of Released Line Caught Fish is an initiative of the Fisheries Research and Development Corporation (FRDC) in conjunction with the Australian National Sportfishing Association (ANSA) and Recfish Australia. The strategy aims to improve the understanding of and increase the survival rates of released line caught fish.

The National Recreational and Indigenous 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. Minimal information is available on the survival of these released fish.

The strategy involves projects aimed at achieving the following outcomes.

Improving the survival of released line caught fish through:

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

Improving 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.

#### 2. IMPLEMENTING THE STRATEGY

The development and implementation of the strategy is the responsibility of the Released Fish Survival Steering Committee. The steering committee comprises a wide range of expertise relevant to the issue.

Ross Winstanley – Independent chair	Bill Sawynok – Infofish Services
Paul Grieve – AFMF Research	Doug Joyner – Aust Fishing Tackle Assoc
Richard Sellers – AFMF Management	Frank Prokop- Recfish
Julian Pepperell – Media	Russ Neal – Aust Seafood Industry
Patrick Hone – FRDC	Rae Burrows – Fisheries Communicators

The steering committee will play a role in the development of projects to address the national issues identified in this strategy. Other issues will need to be addressed and funded by government agencies and industry groups, preferably as part of the national strategy. The steering committee can provide assistance in the development of these project and assist in securing funding where appropriate.

Two documents form the bases for developing projects to address these issues.

“National Strategy for the Survival of Released line caught fish: A review of research and fishery information” (2002) by Lachlan McLeay et al. This report provides a summary of the current research knowledge and priorities where future investment should be made. This was an initial objective of the strategy.

“The National Recreational and Indigenous Fishing survey” (2003) edited by Gary Henry. This report provides information on the number of fish released by recreational fishers.

The first report is available from the Released Fish Survival website [www.info-fish.net/releasefish](http://www.info-fish.net/releasefish) and a link has been provided to the second report.

### **3. STRATEGY PROJECTS COMMENCED 2000-2004**

Projects that have been undertaken or are in progress that address the key issues are outlined in the summary table.

FRDC project 2001/099 “National Strategy for the Survival of Released line caught fish: planning, project management and communications” is managing the initiative and addressing the promotion of best practices in releasing fish to recreational fishers. National project July 2002-June 2004.

FRDC project 2000/194 “Maximising survival of released undersized west coast reef fish.” Western Australian project July 2000-June 2005.

FRDC project 2002/039 “Assessment of post-release survival and stress physiology of barramundi.” Northern Territory project July 2002-June 2004.

FRDC project 2003/019 “National strategy for increasing the survival of released line-caught fish: tropical reef species.” Queensland project July 2003-June 2007.

FRDC project 2003/074 “Survival of snapper and bream released by recreational fishers in sheltered coastal temperate ecosystems.” Victorian project July 2003-June 2005.

Projects have also been developed outside the national strategy addressing some of the key issues and have been incorporated under the national strategy.

“Handling and releasing big fish” Completed QDPI project in Queensland including a CD outlining how to release big barramundi.

“Effects of landing nets on barramundi” Completed NT Fisheries project that was incorporated into 2002/039.

“To obtain a preliminary measure of survival rates resulting from anglers releasing undersized snapper and black bream” Completed MAFRI project in Victoria that collected preliminary data for project 2003/074.

“Survival from hooking and tagging” Current ANSA Suntag project in Queensland to obtain data on locations where fish are hooked.

### **4. STRATEGY PROJECTS COMMENCING 2004-2005**

The following projects directly related to the national strategy have been approved by FRDC commencing in 2004/05:

FRDC project 2004/070: “National Strategy for the Survival of Released Line Caught Fish: planning, project management and communications Phase 2”. National project July 2004-June 2007.

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.” Tasmanian project July 2004-June 2006.

## 5. KEY AREAS FOR INVESTMENT

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 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.

## NATIONAL STRATEGY INVESTMENT

Issue	Species or Activity	00/01	01/02	02/03	03/04	04/05	05/06	06/07	FRDC\$K	OTHER\$K
Barotrauma/survival rates	WA dhufish, snapper, coral trout, baldchin groper								420.5	313.7
Research summary	Identify future research priorities								49.7	43.3
Handling and releasing big fish	Barramundi								0	9.4
Manage strategy/Promote best practices	Communication and extension								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	6 reef species - coral trout, emperors, sea perch								680.0	1351.4
Survival rates	Bream, snapper								216.7	182.8
Manage strategy/Promote best practices	Communication and extension								218.2	115.0
Survival rates	Flathead								103.5	300.7
Survival rates/hooksing locations									0	64.0
Total									2290.7	2827.1

This table provides a summary of current investment in the National Strategy for the Survival of Released Line Caught Fish as at May 2004.

## 14. APPENDIX 2 – STEERING COMMITTEE TERMS OF REFERENCE

These terms of reference and engagement were adopted in May 2002 and last updated in August 2002.

# STEERING COMMITTEE TERMS OF REFERENCE AND ENGAGEMENT

### Composition of Steering Committee

The steering committee comprises the following members:

Independent Chair	Ross Winstanley (Vic)
Research	Steve Kennelly (NSW)
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)

The majority of members of the steering committee were agreed to at the workshop in Sydney on 20 March 2002. Jon Lucy to be retained as an International Advisor with a background of research into the issue in the US.

### Role of Steering Committee

- Provide leadership to the National Strategy for the Survival of Released Line Caught Fish.
- Advise FRDC on strategic direction for research and communications in accordance with priorities outlined in the review of research and fishery information project.
- Provide advice to proponents, FRABs and FRDC on specific project proposals that are considered to be part of this strategy.
- Monitor and evaluate communications on the strategy and strategy progress.
- Provide steering and supervision for project 2001/099 “National Strategy for the Survival of Released Line Caught Fish: planning, project management and communications” project.
- Facilitate data availability.
- Liaise with other relevant committees.

In addition the FRDC board in approving project 2002/099 included the following to the Steering Committee role.

- Evaluate and audit the scripts and video prior to release.
- Monitor the media campaign and respond to both negative and positive responses.
- Develop a media response strategy that provides planned scenario responses for possible negative coverage.
- Monitor all costs including specific consultancy costs.

## Steering Committee Operations

The steering committee should meet 4 times per year with 2 face to face meetings and 2 teleconferences. Brisbane and Sydney are proposed as the most cost effective locations to meet given the composition of the steering committee. Suggested timeframe for meetings are:

May 2002	Darwin
October 2002	Coolangatta
December 2002	Teleconference
February 2003	Teleconference
May 2003	Sydney
August 2003	Sydney
December 2003	Teleconference
February 2004	Teleconference
May 2004	Sydney

An informal meeting of the steering committee was held in Darwin in May 2002 as most members attended the 3<sup>rd</sup> World International Recreational Fishing Conference.

The August 2002 meeting has been deferred to October to coincide with the Workshop on Recreational Fishing Rights and Resource Allocation in Commonwealth Fisheries.

The December 2002 meeting should be held to assess the results of the market survey, implementation of the television campaign, review the communications action plan and consider relevant FRDC applications for the 2003/04 round.

The February 2003 meeting will follow the commencement of the television campaign and provide any necessary fine-tuning as well as review the supporting communication products.

The May 2003 meeting will review the communications action plan based on feedback from the start of the television campaign.

The August 2003, December 2003 meetings will again review the communications action plan and the follow up market survey.

The May 2004 will review the operations of the steering committee to determine if it needs to continue and in what form.

The Steering Committee will be managed as part of the “National Strategy for the Survival of Line Caught Fish – Steering Committee and Communications” project. Management services to the steering committee will be provided by InfoFish Services (Bill Sawynok).

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.



## 15. APPENDIX 3 – STEERING COMMITTEE MEETINGS

The following table provides information on meetings of the steering committee.

Meeting	Planned date	Actual date	Planned Location	Actual Location
1	May 2002	21 May 2002	Darwin	Darwin
2		11 June 2002		Teleconference
3	October 2002	10 October 2002	Coolangatta	Coolangatta
	December 2002		Teleconference	
4	February 2003	3 February 2003	Teleconference	Teleconference
5		18 March 2003		Brisbane*
6		21 March 2003		Teleconference*
7	May 2003	20 June 2003	Teleconference	Teleconference
8	August 2003	16 Sept 2003	Sydney	Teleconference
9	December 2003	13 November 2003	Teleconference	Sydney
	February 2004		Teleconference	
10	May 2004	11 May 2004	Sydney	Canberra

\* Meetings 5 and 6 were meetings of a sub-committee of the steering committee and researchers involved in strategy projects to provide advice to researchers and the FRDC on projects being considered by the FRDC board for funding in the 2003/04 round.

## 16. APPENDIX 4 – TELEVISION CAMPAIGN

This schedule is the timeframe of when advertisements were shown in each of the markets. In each market 3 advertisements were used in rotation. Advertisements shown using footage and species suitable for temperate markets are shown in green while those using footage and species suitable for tropical markets are shown in yellow.

SCHEDULING OF TV ADVERTISING CAMPAIGN												
Year 2003	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
<b>METROPOLITAN</b>												
BRISBANE												
SYDNEY												
MELBOURNE												
ADELAIDE												
PERTH												
DARWIN												
<b>REGIONAL</b>												
QUEENSLAND												
SOUTHERN NSW/ACT												
NORTHERN NSW												
WESTERN NSW												
VICTORIA												
TASMANIA												
WESTERN AUSTRALIA												
SOUTH AUSTRALIA												

Market	Potential Audience	Total Spots
<b>METROPOLITAN</b>		
BRISBANE	1,389,600	76
SYDNEY	2,482,500	88
MELBOURNE	2,287,400	89
ADELAIDE	709,000	80
PERTH	878,000	75
DARWIN	82,000	133
<b>REGIONAL</b>		
QUEENSLAND	2,643,000	112
SOUTHERN NSW/ACT	2,170,000	112
NORTHERN NSW	2,888,000	112
WESTERN NSW	75,000	120
VICTORIA	1,998,000	110
TASMANIA	1,033,000	115
WESTERN AUSTRALIA	830,000	102
SOUTH AUSTRALIA	63,900	134
<b>TOTAL</b>	<b>19,529,400</b>	<b>1,458</b>

\* Total spots include paid and bonus component. The paid campaign was supported across the networks with a substantial community service promotional campaign.

**17. APPENDIX 5 – DISTRIBUTION OF BEST PRACTICES PAMPHLETS**

Total number of pamphlets distributed by industry group in each state from December 2002 to June 2004.

Industry Group	Qld	NSW	Vic	Tas	SA	WA	NT	ACT	Total
Fishing Clubs	8968	2317	4932	116	772	1640	1543	336	20624
State Fisheries	5680	3435	7165	1640	2415	5415	1420	464	27634
Media	590	705	60	20	0	30	10	0	1415
Tackle Retailers	5472	6515	6180	735	1540	2170	220	135	22967
Fishing Tourism	795	1725	90	70	85	400	120	0	3285
Tackle Wholesalers	1558	1265	320	65	90	175	60	0	3533
Fishing Events	3026	560	0	0	0	0	0	0	3586
Fishing World									30000
<b>Totals</b>	<b>26089</b>	<b>16522</b>	<b>18747</b>	<b>2646</b>	<b>4902</b>	<b>9830</b>	<b>3373</b>	<b>935</b>	<b>113044</b>



### ANSA CODE OF PRACTICE ON RELEASING FISH

The Australian National Sportfishing Association adopted this Code of Practice on Releasing Fish in March 2002.

All fishers are encouraged to adopt this code of practice for handling fish that are to be released. Fish should be caught, handled and released in a manner that will ensure they are returned to the water in as healthy a condition as possible.

#### TACKLE TO USE

- Use tackle that will land a fish quickly to minimize exhaustion. However, avoid bringing in the fish too quickly as this may increase the risk of damage from the fish thrashing about once landed.
- Use artificial lures, with barbless hooks where possible, as this results in fewer fish being gut hooked and hooks are easier to remove without further damage to the fish and reduces the time the fish is out of the water.
- For bait fishing use hook patterns such as circle hooks to maximise the likelihood of the hook being lodged in the jaw and minimising damage from gut hooking.
- Use a dehooker, such as a hookout or long nosed pliers, for quick removal of hooks taking care not to damage the fish further. If the fish has swallowed the hook do not attempt to remove it. Leave the hook where it is and cut the line as close to the hook as possible.
- Use a knotless landing net as this removes less slime and reduces time out of the water for the fish. Gaffs should never be used.
- Use a fish grip device to assist in handling a fish for release, but always with the body of the fish fully supported.

#### HANDLING AND RELEASING FISH

- Plan ahead and make sure you have all equipment close at hand. Work rapidly but without haste to ensure the fish is out of the water for the least possible time.
- Do not place a fish on a hot, dry surface for hook removal, use a wet towel on which to rest the fish and use wet hands when handling it.
- Do not put fingers inside the gill cover or eye sockets when handling fish for release. A fish grip device may be used and the body of the fish should be supported at all times when lifting to release the fish.
- Direct sunlight can damage fish eyes so ensure that eyes are shaded during time out of the water.
- Large fish should have their body fully supported at all times to avoid damage to internal organs which may result from the fish being held upright by the jaw. The best method is to place a hand under the stomach while still in the water and take the weight off the hook. Very large fish should not be removed from the water.
- Fish should be released by carefully placing them head first back into the water. Some fish may need to be swum around to promote water flow over the gills to ensure revival. Do not just throw fish overboard.

#### REEF FISH CAUGHT IN DEEP WATER

Reef fish caught in deep water may require special handling to improve survival. When fish are brought to the surface from depths of around 20m or more the gases in their swim bladder may have expanded significantly. This condition can be easily detected as the stomach of the fish is pushed out of its mouth.

- Venting of the air in the swim bladder may increase the survival rate of fish that are released by allowing them to return quickly to the bottom. There are a number of alternative ways of venting fish and the most appropriate for a particular species should be used.
- Options such as weighted lines to return a fish quickly to the bottom may be considered as an alternative to venting especially if there are predators present.