

Fisheries Resources Research Fund

Annual Report 2000-2001

Published by: Agriculture, Fisheries and Forestry – Australia

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ABOUT THIS REPORT

This report covers the Fisheries Resources Research Fund's (FRRF) operations during the financial year 2000-2001. It describes the type of projects that were approved for funding during this period as well funding by organisation. It also lists the projects that were completed during 2000-2001.

FRRF's funding base is provided through an annual appropriation. This report provides details of FRRF funding allocation and its distribution by service providers.

In the 2000-2001 financial year, FRRF funded twenty-six projects and researchers completed twenty-five projects in the same period. During the 2000-2001 financial year, a number of projects were funded as ongoing across several years.

Performance information is provided on the effectiveness of FRRF research through completed reports in achieving FRRF's objectives as outlined in the FRRF 2000-2002 Strategic Plan and more specifically, as provided for the Annual Operating Plan for 2000-2001.

Legislative requirements

There are no legislative requirements for the presentation of FRRF annual reports or annual operating plans. However, annual reports are being prepared in the interests of accountability, transparency and effective management of the fund.

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PART A: OPERATING ENVIRONMENT

ABOUT THE FISHERIES RESOURCES RESEARCH FUND (FRRF)

The Commonwealth Government established the Fisheries Resources Research Fund (FRRF) in the 1991-92 financial year as a result of recommendations arising from the Government's *1989 Policy Statement: New Directions for Commonwealth Fisheries Management in the 1990s*. The funds were specifically established to support fisheries related research to be undertaken by the Australian Bureau of Agricultural and Resource Economics (ABARE) and the Bureau of Rural Sciences (BRS) in support of Commonwealth fisheries management. This research was to provide accurate independent assessments on the status of various fish stocks and of fisheries management priorities. The fund was also intended to support limited management related research categorised as being in the public interest, or where industry or other funds were unavailable or inappropriate.

In 1994, a Task Force Review into Rural Research, which included FRRF, re-emphasised the intention of the 1989 policy statement that a major role for FRRF was to enable an independent assessment of Commonwealth management performance including status of stocks and progress reports on fisheries. The Taskforce recommended that the Independent Assessment component of the FRRF to be revised to consist of:

- a rolling Program of Independent Assessment of all Commonwealth fisheries;
- a Program of Assessment Development to improve independent assessment techniques; and
- a Program of Policy Development to provide research as an input to underpin public fisheries policy development.

Following the 1994 Review, the formalities of FRRF funding approval changed and formal Ministerial endorsement of allocations was no longer obtained. The Fisheries and Aquaculture Branch (FAB) staff of the Department of Agriculture, Fisheries and Forestry – Australia (AFFA) continue to administer the FRRF and allocate funds under the guidance of an Advisory Committee of independent officers who oversee the evaluation of applications.

The Government intends that FRRF Programs:

- provide an agreed program of Independent Assessment of Commonwealth fisheries management performance; and
- support the development of new and improved policies for the management of Australia's fisheries.

For the remainder of the 90s, delegated officers within DPIE (now AFFA) approve funding allocations following an agreed broad range of priority areas developed by FAB as a framework for canvassing and assessing FRRF applications.

Revenue Base

The Commonwealth Government first allocated funding for the FRRF in the 1991-92 financial year, an amount equivalent to 0.25 per cent of the annual gross value of national fisheries production per year. This level was reduced by \$1 million from the 1993-94 Budget and continues at this reduced level.

In accordance with the recommendations of the *Review of Institutional Arrangements for Management-Related Research in Commonwealth Fisheries* in March 1995, \$1 million (indexed) of FRRF funds are currently transferred to AFMA annually for management-related component of research. That allocation recognizes AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

In the 2000-2001 Budget, funds of \$2.886 million were made available for FRRF allocation. This included \$1 million which was withheld during the 1999-2000 allocation due to budgetary restraints. Also, an additional \$1.507 million was carried over from the previous year for project commitments approved in 1999-2000 but not due for finalisation until 2000-2001. Total funds disbursed in 2000-2001 were \$2,368,399.

Administration

AFFA continues to administer the FRRF operating through generally twice-yearly calls for project proposals.

AFFA appointed an Advisory Committee (the Committee) to oversee the independent evaluation of applications and assist with the allocation of FRRF funds.

AFFA appoints members of the Committee on the basis of their skills, background and experience in fisheries management, research and assessment. The composition of the Committee is flexible and may change to reflect the range of proposals for consideration. Generally, the Committee consists of four or five members who, apart from AFFA officers, may include members from the Fisheries Research and Development Corporation (FRDC), the Australian Fisheries Management Authority (AFMA) and Environment Australia (EA). The composition of this Committee, comprising representatives from the above agencies, is necessary to maintain the integrity of the fund and to ensure that the commitment of public monies is an open and transparent process.

The role of the Committee is to provide expert independent advice and to recommend priority funding for research proposals submitted to the FRRF.

The Executive Manager, Fisheries and Forestry, AFFA, approves FRRF funding allocations, taking into account the advice of the FRRF Advisory Committee.

Selection of research and service providers

A component of the FRRF budget allocation each year is to fund fisheries related research to be undertaken by ABARE and BRS. Another component is used to select other research and service providers, particularly where ABARE and BRS are unable to undertake the research. This is based on the following:

- *Targeted research:* AFFA selects organisations or individuals following generally two calls for applications per year. These calls may be conducted by open or selective invitation, depending on factors such as the relative cost of evaluation processes and FAB's assessment of potential number of research/service providers capable of delivering the required outputs.
- *Commissioned research:* AFFA selects organisations or individuals from known research providers, according to the type of research being commissioned, prior to scrutiny by the Advisory Committee.

FRRF Program Assessment: 2000-2001

FRRF funding supports an agreed program of independent assessment of Commonwealth fisheries management performance, as well as the development of new and improved policies for fisheries management in accordance with the two-program approach as identified in the Strategic Plan 2000-2002. Under this arrangement, FRRF funds were allocated under the:

- Fishing Industry Development Program; and
- Resources Sustainability Program.

A full description is provided below:

Program 1: Fishing Industry Development Program

Purpose

To achieve a fishing industry whose commercial (wild-catch and aquaculture), recreational and traditional sectors are socially and politically resilient, and whose commercial sector is profitable and internationally competitive.

Program Description

The program is consistent with the following Government priorities for rural R&D:

- *Whole-of-chain approach*: A whole-of-chain approach to production, processing and marketing to ensure an effective supply chain approach that maximises our competitive advantages.
- *Biotechnology*: Development of biotechnology to support our aquaculture industries, along with sensitive handling to accommodate consumers' concerns, to supplement and replace wild-catch fisheries where appropriate.
- *Increases in trade and market access*: A need for data and associated market analysis to allow for informed debate and to support Australia's negotiating position in international forums.
- *Clean and green*: Maintenance and enhancement of our "clean, green" image.
- *Food safety*: Addressing food safety concerns of consumers.
- *Improving our human resources*: Cultivating creativity and innovation among our human resources.

These priorities for rural R&D within the Fishing Industry Development Program will be achieved through the following key strategies:

- Industry Growth and Competitiveness;
- Industry Sustainability; and
- Trade and Marketing.

Sub-Program 1: Industry Growth and Competitiveness

The strategy of Industry Growth and Competitiveness will include projects that provide for:

- review, assessment and development of policy to support restructuring and adjustment schemes;
- review, assessment and development of strategies to deal with factors affecting development of the wild-catch and industry sectors of the fishing industry;
- review, assessment and development of strategies to deal with industry competitiveness;
- identification of economic and political impediments to the development of aquaculture;
- development of innovative applications for aquaculture;
- identification, development, review and assessment of sustainability criteria for aquaculture; and
- identification, development, review and assessment of strategies by which Aboriginal and Torres Strait Islander people may develop commercial fishing activities.

Sub-Program 2: Industry Sustainability

The strategy of Industry Sustainability will include projects that provide for:

- identification, review and assessment of innovative methods of incorporating fisheries and aquaculture in regional development;
- determining the social characteristics of populations in, and associated with, the fishing industry to support the development of equitable fisheries policy that may affect regional Australia;
- acquisition and analysis of information that allows domestic and international fisheries policies to meet short-term and long-term challenges in the most effective and efficient way.

Sub-Program 3: Trade and Marketing

The strategy of Trade and Marketing will be achieved through projects that provide for:

- review and assessment of domestic marketing issues; and
- review and assessment of policy dealing with international trade negotiations.

Program 2: Resources Sustainability Program

Purpose

To achieve a sustainable resource base for the fishing industry.

Program Description

This program is consistent with the following Government priority for rural R&D:

- Sustainable management and use of our marine resource base through the integration of effective, scientifically based resource assessments and mitigation strategies into our fishing and aquaculture industries.

This priority for rural R&D will be achieved through the following key strategies:

- Status of Fish Stocks, Environment and Industry;
- Fisheries Management, Regulation, Compliance and Improvement;
- Ecosystem Processes
- External Fisheries Policy, Economic and Environmental Instruments; and
- Maintaining and Developing Linkages Overseas

Sub-Program 1: Status of Fish Stocks, Environment and Industry

The strategy of Status of Fish Stocks, Environment and Industry will include projects that provide for:

- independent assessment of status and condition of Commonwealth fishing stocks and industry; and
- development, assessment and review of tools, indicators and methodologies to support environmental assessment and monitoring and evaluation of fisheries performance against principles of ecologically sustainable development.

Sub-Program 2: Fisheries Management, Regulation, Compliance and Improvement

The strategy of Fisheries Management, Regulation, Compliance and Improvement will be achieved through projects that provide for:

- development of approaches for identifying and dealing with resource access and allocation issues;
- development, assessment and review of management strategies that support the sustainable utilisation of resources;
- assessment and review of management strategies, regulatory approaches and compliance arrangements;
- provide policy development to support specific fishery management plans;
- review and assessment of policy, legislation and jurisdictional issues (Commonwealth and oceans policy) to ascertain their support for an integrated ecosystem approach to fisheries resource management;
- identification, review and assessment of social and economic contributions, impacts and/or influences on sustainable management of the wild-catch and aquaculture sectors;

- development, review or assessment of alternative uses for bycatch; and
- identification and development of management strategies, indicators and methodologies to address aquaculture and land-use issues in coastal zones and inland Australia, such as integrated coastal zone management.

Sub-Program 3: Ecosystem Processes

The strategy of Ecosystem Processes will encompass projects that provide for the:

- identification and development of a comprehensive understanding of key ecosystem processes and the impacts of fishing, pollution, habitat destruction, environment and climatic factors on fish stocks;
- review and assessment of economic and/or social factors influencing fisheries and their ecosystems; and
- development, assessment and review of management strategies, tools, indicators and methodologies related to the management of marine health, diseases and pest incursions.

Sub-Program 4: External Fisheries Policy, Economic and Environmental Instruments

The strategy of External Fisheries Policy, Economic and Environmental Instruments will be achieved through projects that provide for:

- development, assessment and review of high seas management;
- review and assessment of policy dealing with international obligations and agreements that affect Australian fishery resources; and
- development, assessment and review of economic and environmental instruments to aid ecologically sustainable development.

Sub-Program 5: Maintaining and Developing Linkages Overseas

This strategy will focus on maintaining and developing formal linkages overseas – where there is a benefit, or partial benefit, to Australia and Australian industries – through shared research and development activity and membership of regional and international fisheries management or aquaculture organisations.

PART B: PROJECTS APPROVED FOR FUNDING IN 2000-2001

Projects approved for funding in 2000-2001 by program

During 2000-2001, 26 projects were approved for funding totaling \$2,368,399. Table 1 shows approved projects by program funding.

Table 1: Projects approved for funding in 2000-2001

Project ID	Project Title	Organisation	Funding	Start	Scheduled Final
Fishing Industry Development Program					
00/14992	Economic Impact of NPF Amendment Management Plan	ABARE	\$85,475	Oct 2000	June 2001
01/2189	Monitoring the economic performance of Australian fishing industry	ABARE	\$273,464	Nov 2000	Dec 2001
00/10830	Port access for foreign fishing vessels	ABARE	\$21,377	July 2000	Dec 2000
00/14933	Monitoring the Impact of the Northern Prawn Fishery Amendment Management Plan	ABARE	\$49,117	Oct 2000	Oct 2001
01/2191*	The use of potential biological removals (PBR) in Australia	BRS	\$99,757	June 2001	May 2002
00/16477*	An overview of the biology of small pelagic fish species and fisheries relevant to the management of Australia's Jack Mackerel Fishery	BRS	\$39,200	Nov 2000	March 2001
01/14543*	Third International Billfish Symposium	Billfish Foundation	\$15,000		Aug 2001
01/7885*	Seafood Directions Conference	Queensland Seafood Industry Association	\$15,000		Nov 2001
00/16621	FAO Consultations on Shrimp Culture	Queensland Department of Primary Industries	\$30,000		Dec 2000
01/14994*	World Recreational Fishing Conference	Amateur Fishermen's Assoc. of NT	\$20,000		May 2002

Total Fishing Industry Program					
\$648,390					
Resources Sustainability Program					
01/2119	Factors affecting the efficiency of individual transferable quotas (ITQs)	ABARE	\$29,979	March 2001	Oct 2001
01/1804	A scientific appraisal of the suitability of underwater setting chute technology as a seabird mitigation measure for Australian tuna longline fisheries	AFMA/ CSIRO	\$87,500	Oct 2000	Nov 2001
01/2195	Analysis of shark and ray verified catch history data in the southern shark, south-east trawl and Great Australian Bight fisheries	AFMA	\$24,035	Nov 2000	May 2001
01/2192	Status of Australian Fisheries (2001)	BRS	\$358,252	March 2001	Feb 2002
01/2193	Review of straddling fish stocks between Australia and East Timor	BRS	\$58,003	May 2001	Dec 2001
01/2190	Scientific support for emergent international policy priorities (2001)	BRS	\$232,000	Feb 2001	March 2002
01/6867	Bycatch of sea turtles in longline fisheries	BRS	\$64,500	June 2001	Dec 2001
01/6839	Mapping standardised stock abundance indices for use in fishery access and resources allocation and marine reserve planning.	BRS	\$88,431	June 2001	Aug 2002
00/15372	Striped marlin status in relation to measures of ecologically sustainable development	BRS	\$34,000 (transferred from earlier project)	Jan 2001	Dec 2001
01/2194	Monitoring the longline catch of SBT landed in Indonesia: 2000-2002	CSIRO	\$146,307	Nov 2000	June 2002
01/2197	The nature of southern bluefin tuna (SBT) bycatch in the Eastern Tuna and Billfish Fishery and determining the extent of mortality in SBT released alive: an integrated research and monitoring program	CSIRO	\$141,392	June 2001	June 2003
00/2138	Evaluation of complex population	CSIRO	\$130,104	June	June 2003

	models used for the assessment and management of migratory fish stocks			2001	
00/11136	Developing, in cooperation with FAO, an International Plan of Action (IPOA) to combat illegal, unreported and unregulated (IUU) fishing.	FAB	\$170,779	April 2000	March 2001
01/2509	Industry partner support of the ARC collaborative research agreement for regional marine plans	FAB	\$21,000	March 2001	July 2003
00/17222	Development of a model aquatic disease zoning policy to support aquaculture production, health certification and trade: marteiliosis	NSW Fisheries	\$120,000	June 2001	June 2004
01/5392	Assessment of options for dealing with illegal foreign fishers	FERM	\$47,727	May 2001	August 2001
	Total Resources Sustainability		\$1,720,009		
	Total both Programs		\$2,368,399		

- Contains elements of the Resources Sustainability Program

PROJECTS FUNDED IN 2000-2001 BY ORGANIZATION

FISHERIES and AQUACULTURE BRANCH, AFFA

00/11136 Developing, in cooperation with Food and Agriculture Organisation (FAO), an International Plan of Action (IPOA) to combat illegal, unreported and unregulated (IUU) fishing.

Objectives

Complete tasks identified under earlier related FRRF project 99/5302, including

- (i) participating with FAO, in collaboration with the International Marine Organisation, to measure and review the incidence/impact of illegal, unregulated and unreported (IUU) fishing both globally and in Australia's region; and
- (ii) hosting and participating in an international workshop in Australia to develop initial options and strategies toward a global framework to combat IUU fishing.

The key objective of proposal 00/11136 is the participation in FAO technical consultations on finalising the global plan of action to combat IUU fishing.

01/2509 Industry partner support of the Collaborative Research Agreement for proposal: Regional Marine Plans: Fisheries Management Challenges under Australia's Ocean Policy funded by Australian Research Council – 2001: Strategic Partnerships with Industry, Research and Training (SPRIT) Scheme.

Objectives

Deliver a range of tools and approaches for resolving conflict over regional marine plans as well as an inventory of alternative policy instruments.

Australian Bureau of Agricultural and Resource Economics (ABARE)

00/14992 Economic Impact of the Northern Prawn Fishery Amendment Management Plan

Objectives

Assess the economic impact of the Northern Prawn Fishery (NPF) Amendment Management Plan on the NPF fleet.

00/14993 Monitoring the Impact of the Northern Prawn Fishery Amendment Management Plan

Objectives

Monitor the economic impact of the Northern Prawn Fishery Amendment Management Plan 1999 on shore and offshore-based activities.

01/2189 Monitoring the economic performance of the Australian fishing industry

Objectives

Provide both the Commonwealth government and industry with an assessment of economic performance in the Northern Prawn, Torres Strait Prawn, Southern and Western Tuna and Billfish and the South East Trawl Fisheries.

Document economic performance in the major Commonwealth fisheries in relation to management changes, price shocks and changes in supply and demand.

00/10830 Port Access fees for Foreign Fishing Vessels

Objectives

Estimate the economic benefits to Australia from allowing foreign fishing vessels to use Australian port facilities; and

Provide advice on the appropriate level of fees for access to Australian ports by foreign fishing boats.

01/2119 Factors affecting the efficiency of individual transferable quotas (ITQs)

Objectives

Provide an outline of when ITQs are likely to provide the best economic solution to fisheries management, how they should be designed to do so and the circumstances in which they are likely to fail.

Bureau of Rural Sciences (BRS)

01/2191 The Use of Potential Biological Removals (PBR) in Australia

Objectives

Identify and review the information available for fisheries where the incidental catch of marine animals (i.e. seabirds, marine mammals and reptiles) is perceived as a problem and where the PBR approach may provide a management strategy for reducing or minimising that problem.

For two selected marine animals, evaluate the merits of the PBR approach and associated issues, in Australian fisheries.

Provide a comprehensive report comparing the potential usefulness of PBR and other bycatch mitigation approaches as management tools for these selected marine animals.

00/10827 Status of Australian Fisheries 2001

Objectives

Assess and report on the status of Commonwealth-managed fish stocks.

01/2193 Review of straddling fish stocks between Australia and East Timor

Objectives

Identify commercially fished species whose distributions straddle the Australian Exclusive Economic Zone (EEZ) and the probable East Timor zone.

Review both domestic and relevant international fisheries for those species.

Provide advice on those fisheries relevant to discussions on the interaction between the two fisheries zones.

01/2190 Scientific Support for Emergent International Policy Priorities

Objectives

Promote the development of regional research and monitoring programs to support ecologically sustainable development of the fisheries;

Ensure that Australia's contributions to management initiatives in regional fishery developments and stock assessments are based on sound scientific advice so that they may be integrated in management policies for Commonwealth fisheries.

Meet Australia's international obligations for providing fishery statistics to regional bodies.

Provide scientific advice for foreign access negotiations.

01/6867 Bycatch of sea turtles in longline fisheries

Objectives

Identify the extent of longline turtle bycatch in Australia.

Outline legal frameworks and policy responses implemented in foreign fisheries on the longline turtle bycatch issue.

Review the research being conducted on sea turtle- longline interactions.

Assess the possible usefulness of the management and mitigation responses adopted overseas to the Australian situation.

Establish a set of monitoring and mitigation measures that may be implemented in the Commonwealth tuna longline fisheries where turtle bycatch is an issue (Eastern Tuna and Billfish Fishery and Southern and Western Tuna and Billfish Fishery).

01/6839 Mapping standardised stock abundance indices for use in fishery access and resources allocation and marine reserve planning.

Objectives

Investigate the significance of oceanographic, geographic and effort variables in developing standardised spatial stock abundance indices using specific regression techniques.

Generate maps of the stock abundance indices developed under first objective.

Investigate the accuracy and precision of the predictive surfaces generated under Objective 2 and assess their potential for use in marine planning, and as a predictive tool for resource allocation.

01/15372 Striped marlin status in relation to measures of ecologically sustainable development.

Objectives

Summarise information on striped marlin biology.

Describe research, assessment and management of existing striped marlin fisheries.

Describe research, assessment and management of existing striped marlin fisheries.

Identify ways of mitigating striped marlin bycatch and evaluate their potential effectiveness.

Analyse evidence of longliner activities affecting angler strike rates of striped marlin.

Propose indicators and reference points for the sustainability of activities taking striped marlin.

Report on the status of striped marlin against proposed reference points.

00/16477 An overview of the biology of small pelagic fish species and fisheries relevant to the management of Australia's Jack Mackerel Fishery

Objectives

Summarise available information on the biology of small pelagic fishes of relevance to the Commonwealth Jack Mackerel Fishery and other related commercial and recreational fisheries.

Briefly describe the ecological significance of small pelagics within their ecosystem noting in particular the trophic relationship between the species and their prey and predators.

Describe commercial and recreational fisheries based on small pelagics in Australia and elsewhere.

Provide fishery managers and stakeholders with advice relevant to current management issues and development plans for the Jack Mackerel Fishery.

Australian Fisheries Management Authority

01/1804 A Scientific Appraisal of the Suitability of Underwater Setting Chute Technology as a Seabird Mitigation Measure for Australian Tuna longline Fisheries

Objectives

Assess and evaluate the technology used in the trial of the chutes for use as a management tool for sustainable use of the resources.

Increase scientific rigor of the trial with the collection of data and information, which can assist in developing policy and making management decisions for the sustainable use of the resource and to prove chutes are reducing seabird bycatch.

Ensure that the trial provides clear outcomes, which will enable fisheries managers, industry and policy makers to develop appropriate strategies to ensure that underwater setting chutes are taken up by the domestic industry.

Provide supporting information to assist Australia's case in international fora for promotion of the methodology in reducing seabird bycatch.

Help promote policy outcomes by increasing public awareness about the issues facing fishers, the need for the mandatory measures and the performance of the industry to date.

01/2195 Analysis of shark and ray verified catch history (VCH) data in the Southern Shark (SS), South East Trawl (SET) and Great Australian Bight Trawl (GABT) fisheries

Objectives

Provide a comparison of VCH shark and ray species (including species identification and processing methods) against recorded logbook data for the SS, SETF and GABTF

Identify issues relevant to current and future logbook collection and implications for fisheries management.

Provide an analysis of the resources for the VCH process using data collected by AFMA for staff time, salary expenditure and monies collected.

Commonwealth Scientific and Industrial Research Organisation

01/2194 Monitoring the longline catch of Southern Bluefin Tuna landed in Indonesia: 2000-2002

Objectives

Monitor the Indonesian longline fishery operating out of Benoa, Bali including species composition of landings and changes in fishing effort and targeting.

Monitor changes in the spawning population of SBT including size and age distribution, and temporal patterns of abundance on the spawning ground.

Support the database at the Provincial Fisheries Service, Bali to record the export of tuna by species, product type and country.

Support the database at Jakarta to record the catch data generated by longline monitoring at Benoa, Bali.

01/2197 Evaluation of complex population models used for the assessment and management of migratory fish stocks.

Objectives

To evaluate the performance of Statistical Catch-at-Age/Length Integrated Assessment (SCALIA) models in relation to the advice and stock status parameters needed for the formulation of management policies.

To evaluate performance of these models with respect to robustness, accuracy and precision given data of varying quality and levels of model complexity.

To provide advice on the appropriateness and implications of these models for application in the provision of stock status advice in an Regional Fisheries Management Organisation (RFMO) context on Southern Bluefin Tuna (SBT) specifically, and tuna in general.

To provide a non-technical description of the key scientific issues and critical assumptions in SCALIA assessments that managers will have to deal with in negotiations and formulation of policy in the Commission for Conservation of Southern Bluefin Tuna (CCSBT) and other tuna RFMOs.

01/2197 The nature of southern bluefin tuna bycatch in the Eastern Tuna and Billfish Fishery (ET&BF) and determining the extent of mortality in SBT released alive: an integrated research and monitoring program

Objectives

Determine the level of SBT bycatch taken by a range of vessels within the ET&BF over the June-September period.

Describe the extent to which bycatch varies with geographical location, time and targeting practices (gear, bait, time of set, depth of set).

Determine the life status of SBT caught by ET&BF longliners, and in particular what proportion of the catch is dead when brought to the vessel.

Through conventional tagging of all SBT released alive, determine the extent of post-release mortality in SBT after capture by longline and, within the limits imposed by small sample sizes, examine whether this varies with life status and set time.

NSW FISHERIES

00/17222 Development of a Disease Zoning Policy for marteiliosis to support sustainable production, health certification and trade in the Sydney rock oyster.

Objectives

To test and refine the zoning policy framework developed under AQUAPLAN in a practical context, to facilitate the development of further zoning policies for other significant disease of aquatic animals. This will be conducted using *Martelia* sp. As a case study to develop an effective zoning policy that is consistent with internationally recognised (OIE) standards.

Fisheries Economics, Research and Management Pty Ltd (FERM): Consultant

01/5392 Assessment of options for dealing with illegal foreign fishers

Objectives

Examine current arrangements for the apprehension and detention of illegal foreign fishers operating off northern Australia.

Examine whether current arrangements for the apprehension, detention and prosecution of illegal foreign fishers acts as a suitable deterrent, in terms of both an initial deterrent and recidivism.

Consider what practical options there are in maximising the deterrence factor to illegal fishing.

Examine the current cost structure of AFMA's foreign and fisheries compliance programs in northern Australia, including current and proposed detention facilities and conduct a summary cost/benefit analysis.

Report to the Steering Group on a range of alternative options to the current model of detaining illegal Indonesian fishers.

OTHERS

00/14543 Third International Billfish Symposium

The Fisheries Resources Research Fund sponsorship of the Third International Billfish Symposium held in Cairns, August 2001

Objectives

Provide fora to develop possible management strategies and arrangement.

Produce conference proceedings that will review outcome of workshops.

01/7885 Australian Seafood Industry National Conference.

The Fisheries Resources Research Fund sponsorship of the Australian Seafood Industry National Conference to be held in Brisbane, November 2001.

Objectives

Provide fora to develop policy direction for the seafood industry.

To establish international policy context for Australian fisheries

00/14994 World Recreational Fishing Conference

The Fisheries Resources Research Fund sponsorship of the World Recreational Fishing Conference to be held in Darwin, May 2002.

Objectives

Provide fora to develop policy directions for recreational fishing

Develop where possible, an international code of practice.

00/16621 FAO/Government of Australia Expert Consultation on Good Management Practices and Good Institutional and Legal Arrangements for Shrimp Culture Conference

The Fisheries Resources Research Fund sponsorship of the FAO Shrimp Conference held in Brisbane, December 2000.

Objectives

Provide fora to promote sustainable shrimp culture practices and related institutional and legal instruments worldwide.

Continue facilitating the process of consensus-building among major stakeholders concerned with shrimp culture development and management.

PART C: COMPLETED PROJECTS IN 2000-2001

Overview

During the financial year 2000-2001, twenty-five projects were completed. Outputs from the completed projects were consistent with FRRF funding guidelines.

In evaluating the effectiveness of the various completed projects in meeting their stated objectives, FRRF's goals and FAB's strategic plan, it is worthy to note that there is a time lag before inputs resulting from completed projects provide significant outputs and subsequent outcomes. This is particularly so in fisheries research. As a result, evaluation of the effectiveness of completed projects tends to be at a number of stages. The first stage is usually an evaluation of the completed project against its stated objectives. Following stages normally relate to the usefulness and effectiveness of the research's outputs as inputs to other related work.

Several completed projects from ABARE and BRS provide inputs to FRRF's key goal, ie, to provide an independent assessment on the status of various fish stocks and of fisheries management in order to assess whether AFMA is meeting its legislative requirements in terms of the objectives stated in the *Fisheries Management Act 1991* and the *Fisheries Administration Act 1991*.

An evaluation of completed projects during 2000-2001 is provided below:

1. *Monitoring the Economic Performance of the Australian Fishing Industry: 2000*

Project cost and Service Provider: \$260,458, ABARE.

Objective: Provide an independent assessment of AFMA's management performance in managing Commonwealth fisheries.

Result: A final report, *Monitoring the Economic Performance of the Australian Fishing Industry: 2000*, was published. The 2000 Survey includes results from the eastern tuna and billfish, the southern shark, the Bass Strait central zone scallop, and the southern squid fisheries for 1997-98 and 1998-99 are also presented in the report.

The inclusion of economic performance data in the 2000 Survey report has provided AFMA and AFFA with information regarding the net economic benefits of fishery management in each fishery surveyed. This has direct relevance in reporting against AFMA's 'economic efficiency' and 'cost effective management' objectives.

2. *Towards \$1 billion: the potential for Australian Aquaculture.*

Project cost and Service Provider: \$275,718, ABARE.

Objective: Assess the potential development of the Australian aquaculture through an examination of:

- the constraints to development, including natural, institutional, technological, economic and marketing factors;

- the economic prospects and risks to achieving successful industry development; and
- the market prospects for aquaculture products both in Australia and overseas markets.

Result: Three reports were published: *Profitability of selected aquaculture species*, *Market Demand for Australian aquaculture products*, and *Aquaculture development in Australia: a review of key economic issues*. These reports fulfill the key objectives of the proposal and as such will enable Commonwealth and state agencies with responsibilities for managing aquaculture to assess the impacts of various policies, programs and changes on aquaculture with a view to determining the most effective future policies. In addition, the research identifies the potential constraints and opportunities in Australian aquaculture, which assists Commonwealth funding bodies to identify directions for appropriate government research and development funding. There are also positive spin-off benefits to the private sector of the research. For example, the outcomes of the assessment contributed significantly to development of the Aquaculture Industry Action Agenda.

3. *Application of Performance Indicators to Monitoring Fish Resources Management.*

Project cost and Service Provider: \$80,122, ABARE.

Objective: Provide a context and rationale for the use of performance indicators in public sector resource management and develop an approach for the use of economic performance indicators in the context of both economic efficiency and the sustainability objectives of Commonwealth fisheries management.

Result: A final report, *Indicators of the economic performance of Australian fisheries*, was published. Using a framework developed in the report with reference to case studies, the information in the report now provides a basis for ABARE to measure the economic returns from a fishery and will assist in the assessment of the degree to which fishery managers are meeting legislated economic efficiency objectives.

4. *Foreign Longline Data: Its Quality and Relevance to Stock Assessment.*

Project cost and Service Provider: \$42,400, ABARE.

Objective: Provide an assessment of the ability of the foreign longline data collection programs to meet the requirements of stock assessment.

Result: A final report, *Foreign longline data: it's quality and relevance to stock assessment*, was published. This report provides a guide to the usefulness of data from foreign longline vessels and may have useful implications for the Commission for the Conservation of Southern Bluefin Tuna and Indian Ocean Tuna Commission.

5. *Flexible Seasonal Restrictions in the Northern Prawn Fishery*

Project cost and Service Provider: \$85,521, ABARE.

Objective: Develop a set of variable closure rules that could be used to expand management options in the Northern Prawn Fishery (NPF); and improve understanding of the spatial dimension of fishing activity and catch in the Fishery.

Result: A final report, *Flexible seasonal restrictions in the Northern Prawn Fishery*, was published. The findings of this study suggested that uncertainty about the relationship between surviving stocks and future recruitment reduced the effectiveness of most management options for the NPF. While real time monitoring rules may allow managers to preserve stocks

when they appear to be low and exploit stocks during abundant seasons, the subsequent impact of reduced current catch on future stocks is highly variable. Given the costs associated with a real time monitoring system, the benefits of its introduction to the NPF may be limited.

6. *Risk and Reward: Developing Efficient Property Rights for Exploratory and Development Fisheries*

Project cost and Service Provider: \$49,619, ABARE.

Objective: Examine the economic arguments for and against the current policy, and possible alternatives.

Result: A final report, *Efficient access rights regimes for exploratory and developing fisheries*, was published. The report concluded that, given AFMA's legislated responsibilities to take into account a number of factors in its management of Commonwealth fisheries, the current policy on exploration of fish resources represented a compromise between multiple sets of risks and rewards.

7. *The Role of Marine Reserves as Fisheries Management Tools*

Project cost and Service Provider: \$268,900, BRS.

Objective: A report, which documents potential and realised benefits for fisheries, identifies key gaps in knowledge, and outlines future directions that may be of benefit to fisheries managers regarding the potential for marine reserves for fisheries in Australia.

Result: A final report, *The Role of Marine Reserves as Fisheries Management Tools: A Review of Concepts, Evidence and International Experience*, was published. The report's main conclusion stated that, despite the lack of documented economic successes for fisheries, sanctuaries do offer major opportunities for fully and over-exploited fisheries to adopt a more precautionary and lower-cost approach to management that is highly likely to deliver improved benefits.

The over-arching benefit of the results of this report is the contribution it makes to Australia's Ocean Policy framework

8. *Status of Australian Fisheries 1998-99: Evaluation of the content, style delivery and value of Status of Australian Fisheries*

Project cost and Service Provider: \$265,770, BRS.

Objective: Review the scope, format, and content and delivery approach of the Status Reports.

Result: Through a questionnaire survey, an analysis was undertaken of the Status Report's clients. The results showed the report continued to be a scientifically objective reference source and that future editions of Status Reports would benefit by providing further information on evaluation of fisheries management in the context of ecologically sustainable development (ESD). This report fulfilled the third objective requirements of the previously completed project, Status of Australian Fisheries 1999, which was to review the scope, format, and content and delivery approach of the Status Reports.

9. *Joint Australian-New Zealand Research on Straddling Orange Roughy Stocks: South Tasman Rise (STR)*

Project cost and Service Provider: \$103,297, BRS.

Objective: Provide stock assessment advice and recommendations for future management arrangements for the South Tasman Rise Fishery.

Result: A report, *Joint Australian-New Zealand research on straddling orange roughy: South Tasman Rise*, was published. The report provided a preliminary estimate of the biomass of the orange roughy resource on the South Tasman Rise (STR) and the confidence limits associated with the estimate. This supported management recommendations that the current STR fishery should be managed as a single discrete stock and that Australian and New Zealand fisheries managers should give a high priority to developing a process to deal with the probable future development of the STR Fishery.

10. *Assessment of Shark Finning in Australian Commercial Fisheries*

Project cost and Service Provider: \$85,700, BRS.

Objective: Examine the extent of shark finning in Australian waters and provide options for management, as a basis for developing a Government position on the practice.

Result: A final report *Review of Shark Finning in Australian Fisheries*, was published. Following the release of the report and its recommendations, the Government instituted a temporary ban on shark finning in the tuna longline fisheries.

Building upon this work, AFFA extended the project into a second phase to enable a consultant to assist with developing Australia's National Plan of Action for the Conservation and Management of Sharks (Shark-Plan).

11. *2020 Vision for Aquaculture in Australia - the impact of technology and science on the development of aquaculture in Australia*

Project cost and Service Provider: \$160,098, BRS.

Objective: Identify existing and future aquaculture technologies and analyse the potential for these to be adopted or modified to benefit Australian aquaculture.

Result: A report, *Vision for Aquaculture in Australia*, was published. This report is important to the development of a national aquaculture policy, primarily for the Aquaculture Industry Action Agenda. This allowed appropriate policies to be developed at a national, state and regional levels to assist aquaculture development. The project's outcomes also contributed significantly to a paper and presentation to the Prime Minister's Science, Engineering and Innovation Council.

12. *An overview of the biology of small pelagic fish species and fisheries relevant to the management of Australia's mackerel (slimy mackerel) fishery.*

Project cost and Service Provider: \$39,200, BRS.

Objective: Provide information on small pelagics and its relationship with the local ecosystems, catch levels, zoning arrangements and the general productivity of small pelagic schooling fish to enable identification of indicators that could be used to monitor stock status.

Result: A report, *A Review of Biology and Fisheries for Mackerel*, was published. The report's scientific advice on the proposed development of an industry off south-eastern Australia based on blue mackerel and other small pelagic fish species, provided fishery managers and stakeholders with timely advice for the development of fisheries management policies relevant to the jack mackerel fishery.

13. Support for the Standing Committee on Fisheries and Aquaculture (SCFA) Initiative on Ecologically Sustainable Development.

Project cost and Service Provider: \$27,731, BRS.

Objectives: (1) Describe how common terms are used in the sustainable development context and suggest a terminology for the Standing Committee on Fisheries and Aquaculture (SCFA) Ecologically Sustainable Development (ESD) project that will maximise communication within the project and with the community at large.

(2) Critically review national and international experience with the assessment of ESD performance in fisheries and other sectors.

Result: A report, *Reporting on Ecologically Sustainable Development in Commonwealth Fisheries*, was published. The review was a useful base for the SCFA case studies and an important means of clarifying the role of the SCFA ESD national reporting framework.

14. Fisheries Modelling Framework

Project cost and Service Provider: \$48,686, BRS.

Objective: Provide a modelling framework to facilitate the selection and enhancement of many of the fishery models currently in use for fishery assessments.

Result: A report, *Fisheries Modelling Framework*, was published. The report stated that there was a need for more education in stock assessment concepts and methods, which should provide a valuable opportunity to enhance the knowledge of BRS fisheries staff in fisheries modelling. A workshop was conducted to review current fisheries models.

15. FAO Technical Consultation on Sustainability Indicators in Marine Capture Fisheries

Project cost and Service Provider: \$93,293, BRS.

Objective: Develop and publish a set of guidelines on “The development and use of indicators for sustainable development of marine capture fisheries”. Underlying this objective was the longer-term goal of assisting all countries develop and implement appropriate indicators of sustainable development for their fisheries.

Result: A report, *The development and use of indicators for sustainable development of marine capture fisheries*, was published. The report was presented at the joint *FAO/Australian Technical Consultation on Indicators of Sustainable Development in Marine Capture Fisheries* (Sydney, January 1999). With the assistance of FAO, the guidelines have now been widely distributed throughout the world through the FAO distribution channels. While the short-term benefits were the compilation of the guidelines, which clearly spelt out the meaning of sustainable development for fisheries and how to develop and implement indicators, the longer-term benefits will accrue when countries adopt the guidelines in pursuit of their own indicator development. The guidelines are the basis for the development of the SCFA ESD national reporting framework.

16. Assessment of the Effect of Fishing on Non-target Species in Commonwealth Fisheries

Project cost and Service Provider: \$151,900, BRS

Objective: Assess and review tools and methods that will increase understanding of the effects of fishing on non-target species leading to better evaluation of fisheries' performance against principles of ecologically sustainable development.

Result: A report, *Assessment of the Effect of Fishing on Non-target Species in Commonwealth Fisheries*, was published. Two methods were trialled in the Northern Prawn, the Southern Bluefin Tuna and the East Coast longline fisheries to assess their value in recommending appropriate management priorities. The report contributed to efforts aimed at assessing management's effectiveness in dealing with the effects of fishing on non-target species.

17. *Review of Illegal Fishing in the Australian Fishing Zone*

Project cost and Service Provider: \$54,500, BRS.

Objective: Study and assess the nature and extent of Indonesian fishing and determine the impact of this fishing on the fisheries resources of the northern AFZ in order to:

- Facilitate a comprehensive review of current policy and procedures in relation to Indonesian fishing in the northern AFZ so this impact may be better understood and managed; and
- Provide essential background information on Indonesian fishing so that discussions with relevant Indonesian authorities may be held to more effectively deal with illegal fishing.

Result: A report, *Indonesian fishing in the Australian Fishing Zone*, The report provided a basis for negotiations undertaken with Indonesian officials.

18. *Scientific Support for the Development of International Policy for Commonwealth Fisheries*

Project cost and Service Provider: \$41,400, BRS.

Objective: Through the provision of scientific support, provide a range of reports in line with the proposal's objectives including the objective of the promotion of the development of regional research and monitoring programs to support ecologically sustainable development on the fisheries.

Result: In line with the proposal's objectives, a number of reports were provided enabling the development and enhancement of international policy for Commonwealth fisheries. Reports were also provided on regional fishery developments and stock assessments, which could be integrated in management policies for Commonwealth fisheries.

19. *Application of Ecologically Sustainable Development (ESD) Evaluation Framework to Commonwealth Fisheries*

Project cost and Service Provider: \$151,100, BRS.

Objectives: The main objectives for the project were:

- (1) The applications of an ESD evaluation framework to a selected number of major Commonwealth fisheries; and
- (2) The development of further analytical techniques appropriate to those fisheries.

Results: A report, *Application of Ecologically Sustainable Development (ESD) Evaluation Framework to Commonwealth Fisheries* was published. The framework, which was developed in the report, was applied to eight Commonwealth fisheries and the results concluded that there was an immediate need to develop agreed operational objectives and to document them in a form that was readily accessible to all stakeholders.

20. *Illegal, Unreported and Unregulated (IUU) Fishing: Developing Policy and Elements for an International Plan of Action to Combat IUU Fishing.*

Project cost and Service Provider: \$170,779, FAB

Objective: Australia will work with FAO to progress and finalise an International Plan of Action to combat IUU fishing.

Result: Following Australia's role as leader/driver at related FAO meetings, an International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing was adopted by the FAO Committee on Fisheries in March 2001.

21. *FAO/Government of Australia Expert Consultation on Good Management Practices and Good Institutional and Legal Arrangements for Shrimp Culture*

Project Cost and Service Provider: \$30,000, FAB

Objectives: (i) Provide fora to promote sustainable shrimp culture practices and related institutional and legal instruments worldwide, and

(ii) Continue facilitating the process of consensus-building among major stakeholders concerned with shrimp culture development and management.

Result: The proceedings of the Consultations were published. The Consultations enabled wide sharing of experiences on better management practices for shrimp/prawn culture. The results will also provide a basis for formulating a Code of Conduct on responsible Shrimp Culture, now under consideration with FAO. The Australian Prawn Farmers Association were active participants at the Consultations and have subsequently increased their level of involvement with Asia-Pacific countries in developing sustainable shrimp practices.

22. *Southern Bluefin Tuna Research/Industry/Management Workshop*

Project cost and Service Provider: \$18,392, CSIRO

Objective: Through a workshop, provide a forum for an open exchange of views, directions and information between researchers, industry and managers involved with the southern bluefin tuna industry.

Result: The proceedings of the *Southern Bluefin Tuna Research/Industry/Management Workshop* were published. The proceedings contained a list of papers presented at the workshop as well as a summary of the workshop sessions.

23. *Examining Taiwanese fishing activities and catches of Southern Bluefin Tuna (SBT) in the Indian and Atlantic Oceans during 1999-2000: a basis for improved understanding of Taiwan's approach to Indian Ocean fisheries and their impact on the SBT stock.*

Project cost and Service Provider: \$42,390, CSIRO

Objective: Provide to both the Commonwealth and industry, an assessment of economic performance:

- Through a port monitoring program in Mauritius (Pt Louis) and South Africa (Cape Town) and collaboration with Taiwan's Overseas Fisheries Development Council, estimate the catch and catch rates of SBT and other tuna species by Taiwanese longliners in the Indian and Atlantic Oceans; and
- Provide intelligence and data on seabird bycatch by the Taiwanese longline fleet and document mitigation methods taken to minimize seabird bycatch.

Result: A report, *Examining Taiwanese fishing activities and catches of Southern Bluefin Tuna (SBT) in the Indian and Atlantic Oceans during 1999-2000: a basis for improved understanding of Taiwan's approach to Indian Ocean fisheries and their impact on the SBT stock*, was published. The report provided an understanding of Taiwan's approach to Indian Ocean fisheries and the impact of fishing activities on the SBT stock. The results were also vital for several other reasons:

- The information on the catch of SBT by non-members of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) was important for the development of policy for the international management of the resource; and
- The project provided information on the SBT catch by Taiwan and data for assessing the status of the SBT parental stock.

24. The Impact of Economic, Environment and Trade Instruments on Australian Fisheries Policy and Management

Project cost and Service Provider: \$71,100, University of Tasmania.

Objective: Identify and analyse trade and commerce instruments that impact or have the potential to impact upon Australian fisheries and provide an assessment of these instruments on Australian fisheries.

Result: A report, *The Impact of Economic, Environment and Trade Instruments on Australian Fisheries Policy and Management*, was published. The report identifies and describes the impact of the major economic, environment and trade instruments on Australian fisheries policy and management. A large number of recommendations have now been adopted by AFFA .

25. A National Aquaculture Development Strategy for Indigenous Communities in Australia.

Project cost and Service Provider: \$130,343, Western Australia Fisheries Department.

Objective: Provide a framework for a national policy for accelerating indigenous communities' involvement in aquaculture and recommendations as well as developing a strategic plan to increase economic independence and food production for indigenous communities in the country through involvement in aquaculture.

Result: A report, *A National Aquaculture Development Strategy for Indigenous Communities in Australia*, was published. The report's framework has received strong support from State and Territory Governments and indigenous Australians as well as from the Aquaculture Industry Action Agenda. Efforts are currently being made by the Aboriginal and Torres Strait

Indigenous Commission and AFFA to implement the plan. Over 1,000 copies have been distributed to indigenous groups around Australia.

**PART D: FISHERIES RESOURCES RESEARCH FUND: FINANCIAL
EXPENDITURE**

The following table shows a summary of FRRF expenditure, by service provider, for the period 1991-92 to 2000-2001. Note, from 1995-96, \$1 million has been transferred annually to AFMA for the management-related component of research. This allocation recognizes AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

Table 2: FRRF disbursements for 1991-92 to 2000-2001.

Provider	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
AFMA	\$2,270,212	\$1,942,778,	\$1,467,243	\$724, 006	\$38,702	nil
ABARE	\$232,000	\$362,522	\$359,257	\$300,317	\$775,555	\$564,462
BRS	\$230,000	\$641,700	\$408,500	\$1,002,283	\$816,880	\$843,936
OTHER	nil	nil	nil	nil	\$182,580	\$413,800
TOTAL	\$2,732,212	\$2,947,000	\$2,235,000	\$2,026,606	\$1,813,717	\$1,822,198

Provider	1997-98	1998-99	1999-2000	2000-2001
AFMA	nil	nil	\$318, 218	\$111,535
ABARE	\$511,273	\$784,270	\$420,214	\$459,412
BRS	\$1,062,213	\$901,751	\$1,381,058	\$940,143
OTHER	\$305,236	\$884,077	\$874,332	\$857,309
TOTAL	\$1,878,722	\$2,570,098	\$2,993,822	\$2,368,399

Attachment A

Fisheries Resources Research Fund Projects: 1999-2000

The FRRF was established in the financial year 1991-1992 as part of a re-organisation of fisheries research funding and delivery. By agreement with the then Minister of Finance, the money was allocated to AFMA, BRS and ABARE to undertake fisheries management-related research and research which was in the public interest. Set below are FRRF projects funded in 1999-2000. Details of projects funded from 1991-92 to 1998-99 are available in the Annual Report of 1998-99. They can also be accessed on the website, <http://www.affa.gov.au/docs/fisheries/researchdev>.

FRRF Projects funded for 1999-2000

	Project Title	Agency	Funds Disbursed
	Independent Assessment Program 1999-2000		
1.	Survey of <i>Holothuria scabra</i> (sandfish) on Warrior Reef, Torres Strait	QFMA	\$19,361
2.	Monitoring the economic performance of Australian fishing industry	ABARE	\$260,458
	<i>Total Independent Assessment Program</i>		\$270,819
	Assessment Development Program 1999-2000		
	No projects funded under this program		
	Policy Development Program 1999-2000		
3.	Towards national management systems for aquatic pest incursions: AFFA (FAB) contribution to the National Task Force	AFFA	\$51,775
4.	Monitoring Chinese Taipei fishing activities and activities of southern bluefin tuna in the Indian Ocean during 1999-2000	CSIRO	\$46,629
	<i>Total Policy Development Program</i>		\$98,404
	Projects approved and funded for 1999-2000 under the 2000-2002 Strategic Plan		
	Fishing Industry Development Program		
5.	Development of a business plan for the propagation of southern bluefin tuna	AFFA	\$73,307

6.	Fisheries subsidies: the Australian experience	ABARE	\$77,753
	Total Fishing Industry Development		\$151,060
	Resources Sustainability Program		
7.	Development of a new Commonwealth Fisheries Policy Statement	AFFA	\$155,500
8.	Conservation and optimum utilisation of southern bluefin tuna	AFFA	\$163,850
9.	National Competition Policy Review of fisheries legislation	AFFA	\$50,000
10.	Develop, in cooperation with Food and Agricultural Organisation, an International Plan of Action to combat illegal, unreported and unregulated (IUU) fishing.	AFFA	\$170,779
11.	Incorporating the recreational sector into fisheries management	ABARE	\$60,626
12.	Cost recovery from foreign fishing vessels	ABARE	\$21,377
13.	A new approach to fishing power analysis and its application to the Northern Prawn Fishery	AFMA	\$116,836
14.	Ecological indicators for fishery management: non-target species, habitats and food-chains	AFMA	\$171,382
15.	Preparation of a field guide to sharks and rays caught by Australian commercial fisheries	AFMA	\$30,000
16.	Assessment of shark finning in Australian commercial fisheries	BRS	\$85,700
17.	Status of Australian Fisheries	BRS	\$311,645
18.	Scientific support for the development of international policy for Commonwealth fisheries.	BRS	\$232,200
19.	Marine fisheries of south east Australia- a process to support regional marine planning.	BRS	\$198,147
20.	Implementation of a national fisheries production database	BRS	\$53,054
21.	Support for standing committee on fisheries and aquaculture-ecologically sustainable development initiative	BRS	\$27,731
22.	Estimates of the volume and value of exported product for Australia	BRS	\$38,374

23.	Impact of fish aggregating devices on tuna and billfish fisheries	BRS	\$122,812
24.	Collation of available information on demersal fish resources of the Southern Indian and Southern Oceans	BRS	\$84,525
25.	Provide a vehicle for information flow (with limited access).	BRS	\$27,481
26.	Social and economic links between coastal communities and adjacent marine resource use.	BRS	\$199,389
27.	Monitoring the longline catch of southern bluefin tuna landed in Indonesia.	CSIRO	\$92,831
28.	Approaches for mitigating bycatch in Commonwealth waters	Uni W'gong	\$59,300
	<i>Total Resources Sustainability Program</i>		\$2,473,539
	Total all Programs		\$2,993,822