

Fisheries Resources Research Fund

Annual Report 2001-02

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ABOUT THIS REPORT

This report covers the operations of the Fisheries Resources Research Fund (FRRF) during the financial year 2001-02. It describes the projects that were approved for funding during this period, the level of funding listed by research provider, and projects that were completed during 2001-02.

The funding base for FRRF is provided through an annual appropriation, usually between \$2 – 3 million. This report provides details of FRRF funding allocations and its distribution to service providers.

In 2001-02, FRRF funded 39 projects and researchers completed 27 projects in the same period. At the end of the financial year, 36 funded projects were ongoing.

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 2001-02.

Legislative requirements

There is no legislative requirement for the presentation of FRRF Annual Reports or Annual Operating Plans. However, annual reports are prepared in the interests of accountability, transparency and effective management of the Fund.

Secretary
Fisheries Resources Research Fund
April 2003

ABBREVIATIONS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABFA	Australian Barramundi Farmer's Association
AC	Advisory Committee of the FRRF
AFFA	Department of Agriculture, Fisheries and Forestry – Australia
AFMA	Australian Fisheries Management Authority
APEC	Asia Pacific Economic Cooperation
APFA	Australian Prawn Farmer's Association
ATSIC	Aboriginal and Torres Strait Islander Commission
BRS	Bureau of Rural Sciences
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CRC	Cooperative Research Centre
CRRC	Cooperative Regional Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPIE	Department of Primary Industries and Energy (now AFFA)
EA	Department of the Environment and Heritage (Environment Australia)
EEZ	Exclusive economic zone
ESD	Ecologically Sustainable Development
ETBF	Eastern Tuna and Billfish Fishery
F&A	Fisheries and Aquaculture business group, AFFA
FAD	Fish aggregating device
FAO	Food and Agriculture Organization of the United Nations
FERM	Fisheries Economic, Research and Management Pty Ltd
FRDC	Fisheries Research and Development Corporation
FRRF	Fisheries Resources Research Fund
GOOS	Global Ocean Observing System
HOMA	Heads of Marine Agencies
ITQ	Individual transferable quota
IOC	Intergovernmental Oceanographic Commission
IUU fishing	Illegal, unreported and unregulated fishing
NGO	Non-government organisation
NPOA	National Plan of Action

OCS	Offshore Constitutional Settlement
PBR	Potential biological removals
QX	<i>Marteilia sydneyi</i>
R&D	Research and development
RFMO	Regional fisheries management organisation
RIMF	Research Institute of Marine Fisheries
SBT	Southern bluefin tuna
SCALIA	Statistical Catch-at-Age/Length Integrated Assessment
SEAGOOS	South East Asian regional component of the Global Ocean Observing System
TAC	Total allowable catch
UN Fish Stocks Agreement	Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks, 1995
WESTPAC	Western Pacific Regional Sub-Commission of the Intergovernmental Oceanographic Commission

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 FRRF was 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 FRRF was also intended to support 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 fisheries management performance including the status of stocks and progress reports on fisheries. The Taskforce recommended that the independent assessment component of the FRRF 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 required. Fisheries and Aquaculture business group (F&A) staff of the Department of Primary Industries and Energy (DPIE) – now the Department of Agriculture, Fisheries and Forestry (AFFA) - continued to administer the FRRF and allocate funds under the guidance of an Advisory Committee (AC) of independent officers who oversee the evaluation of applications.

The Government intended 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 1990s, delegated officers within DPIE (now AFFA) approved funding allocations following agreed priorities developed by F&A 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 with 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, as a budgetary measure, 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 the original funding allocation is currently transferred to the Australian Fisheries Management Authority (AFMA) annually for management-related research. The allocation recognises AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

In the 2001-02 Budget, funds of \$2.189 million were made available for FRRF allocation. This figure was later reduced by \$150,000 to allow for the rescheduling of some projects. Of the revised figure of \$2.039 million, total funds disbursed during the year were \$2,038,979.

Administration

AFFA continues to administer the FRRF through a yearly call for project proposals. In addition, a second call for applications may be made, and several proposals are assessed out-of-session when required. The AC oversees the independent evaluation of applications and assists with the allocation of FRRF funds.

AFFA appoints members of the AC 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 AC consists of four or five members who, apart from AFFA officers, may include members from the Fisheries Research and Development Corporation (FRDC), AFMA and the Department of the Environment and Heritage - Environment Australia (EA). The composition of the Committee 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 current AC membership is:

- Jonathon Barrington (AFFA)
- Patrick Hone (FRDC)
- David Walter (EA)
- Sam Nelson (AFMA)
- Mary Lack (Independent expert)
- Norm Kelly (FRRF Secretary, AFFA)

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 AC.

Selection of research and service providers

A component of the FRRF budget is allocated to ABARE and BRS for fisheries related research. 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 one or 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 assessment by F&A of the 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 AC.

FRRF PROGRAM ASSESSMENT: 2001-02

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 FRRF Strategic Plan 2000-2002. Under this arrangement, FRRF funds are allocated to the:

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

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 research and development (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 Australia's competitive advantage.
- *Biotechnology:* Development of biotechnology to support Australia's 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 analyses to allow for informed debate and to support Australia's negotiating position in international forums.

- *Clean and green*: Maintenance and enhancement of Australia's 'clean, green' image.
- *Food safety*: Addressing food safety concerns of consumers.
- *Improving human resources*: Cultivating creativity and innovation in the use of human capital.

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; and
- acquisition and analysis of information that allows domestic and international fisheries policies to meet short-term and long-term challenges in the most efficient and effective 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 within the Resources Sustainability Program 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 (ESD).

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 Australia's *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 fisheries resources; and
- development, assessment and review of economic and environmental instruments to aid ESD.

Sub-Program 5: Maintaining and Developing Linkages Overseas

The strategy of Maintaining and Developing Linkages Overseas will focus potential benefits, 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 FUNDED IN 2001-02

Projects funded in 2001-02

During 2001-02, FRRF provided a total of \$2,038,979 funding for 39 projects.

Research Organisation	Project Title	Funding \$	Start	Scheduled Final
ABARE	Data Requirements	30,000		Jan 02
ABARE	South East Fishery Quota	31,000		Jan 02
ABARE	Stochastic Production Frontier Analysis of the Northern Prawn Fishery	30,384	Jul 01	Jan 02
ABARE	Sustainable Ecosystems	64,353	Jan 02	Feb 03
ABARE	Australian Aquaculture	25,778	Jan 02	Feb 03
ABARE	Assessing Alternative Management Instruments	37,140	Jan 02	Feb 03
ABARE	Performance Monitoring and Surveys	324,248	Jan 02	Mar 03
ABARE	Conservation of SBT (southern bluefin tuna)	20,000	Jun 02	Jun 02
AFMA	Northern Prawn Fishery: Fishing Power	46,736		Dec 02
AFMA	Ecological Indicators	51,415		Dec 02
BRS	Analysis of Ballast Water Decision Support System Risk Evaluation Threats	92,080	Oct 01	Oct 02
BRS	The Future of Beche-de-mer and Trochus Fisheries in Australia	40,000	Feb 02	Nov 02
BRS	Summary of data provision requirements for Regional Fisheries Management Organisations and UN Fish Stocks Agreement ¹	60,000	Mar 02	Jan 03
BRS	Towards Ecosystem-Based Fisheries Management – the nature and extent of land-based pollution and its impacts on fisheries ecosystems	25,000	Mar 02	Dec 02
BRS	Offshore Constitutional Settlement (OCS) arrangements and potential byproduct species/reallocation of OCS species	40,000	Feb 02	Aug 02
BRS	A National Approach to the Management of Exotic Fish Species in the Aquarium Trade	29,712	Jan 02	Sep 02
BRS	Fishery Status Reports 2002-03	120,000		Feb 02

¹ Agreement for the implementation of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks, 1995.

BRS	Scientific Support	116,100		Jun 02
BRS	Fishery Status Reports 2000-01	179,126		Jun 02
BRS	Marine Matters: South East Fisheries	40,688		May 02
BRS	FAO ² Expert Consultation	20,000	Jun 02	Jan 03
Cocos Island	Baseline Survey of Marine Environments and Stock Size Estimates of Marine Resources of the South Cocos (Keeling) Atoll	23,088		Mar 02
CRC	Development of a proposal for the establishment of a Cooperative Regional Research Centre in the APEC ³ region	40,000	Nov 01	Aug 02
CSIRO	Complex Population Modeling	74,724		Jul 03
CSIRO	SBT Monitoring – Indonesia 2000-02	42,775		Jul 02
CSIRO	SBT Monitoring – Indonesia 2002-03	40,000	Jun 02	Jul 03
Dominion	Sectoral Catch	10,750	Jun 02	Oct 02
FERM ⁴	IUU ⁵ Fishing	22,722	Oct 01	Oct 01
F&A	Regional Marine Plans	7,700		Jul 03
F&A	Sharkplan – NPOA ⁶	50,490		Dec 02
F&A	Aquaculture Yearbook – Sponsorship	2,745	May 02	May 02
F&A	Prawn/Barramundi Conference – Sponsorship	1,100	May 02	May 02
F&A	Administration Costs (non-project)	140,132	July 01	Jun 02
F&A	Indigenous Aquaculture Workshop	4,545	June 02	Jun 02
FRDC	Oysters – QX ⁷ Disease (with NSW Fisheries)	40,000	June 00	Jun 03
IOC ⁸	HOMA ⁹ – Westpac V – Sponsorship	5,000	May 02	May 02
ISIS Consulting	Market Survey	36,675	Nov 01	Jan 02

² Food and Agriculture Organization of the United Nations.

³ Asia Pacific Economic Cooperation

⁴ Fisheries, Economics Research and Management Pty Ltd

⁵ Illegal, unreported and unregulated fishing

⁶ National Plan of Action

⁷ *Marteilia sydneyi*

⁸ Intergovernmental Oceanographic Commission

⁹ Heads of Marine Agencies

University of Wollongong	Legislative Powers: Review of Commonwealth, State/Northern Territory Legal Powers to Prevent and Manage Marine Pest Incursions	45,500	Dec 01	Jun 02
University of Wollongong	Observer Programs in Commercial Fisheries: a global review and lessons for Australian fisheries	27,273	Dec 01	Sep 02
	Total Expenditure 2001-02	2,038,979		

PART C: PROJECTS COMPLETED IN 2001-02

Overview

During 2001-02, a total of 27 FRRF projects, worth a total of \$2,653,999, 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 F&A's strategic plan, it is worth noting that there is a time lag before inputs resulting from completed projects provide significant outputs and subsequent outcomes. 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, i.e. 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*.

A summary of projects completed during 2001-2002 is provided below:

1. **Development of a Strategic Business Plan for the Propagation of Southern Bluefin Tuna (SBT)**

Project cost and Service Provider: \$73,307, AFFA, Fisheries and Aquaculture.

Objectives: Prepare a business and research strategy that will provide the basis for future agreement and cooperation between Commonwealth and State governments, and the tuna industry for undertaking research and development of SBT propagation and stock enhancement over the next five to ten years.

Result: A report, *A strategic plan for the propagation of Southern Bluefin Tuna (Thunnus maccoyii)*, was published. The report's two main conclusions were: (i) stock enhancement and farming SBT from hatchery fingerlings is technically feasible and likely to be economically successful; and (ii) there needs to be an valuation of the best technical strategy for releasing hatchery fingerlings for stock enhancement, and a technical evaluation of the ways to rear fingerlings to market on commercial farms.

A presentation of the report's Strategic Plan was made to key tuna industry and government stakeholders in July 2001. While acknowledging the quality of the report, many of the stakeholders did not believe they could adopt the report's recommendations for funding the R&D plan. However, some aspects of the plan and its recommendations have been implemented by the Cooperative Research Centre (CRC) for Sustainable Finfish Aquaculture and to a lesser extent, by the FRDC SBT Sub-program.

2. **Conservation and Optimum Utilisation of southern bluefin tuna (SBT)**

Project cost and Service Provider: \$183,850, ABARE.

Objectives: (i) Define optimum utilisation and conservation both generically and with respect to the Commission for the Conservation of Southern Bluefin Tuna (CCSBT); and (ii) develop a framework (quantitative and qualitative), which can apply the results of the first objective to a number of related utilisation and conservation issues.

Result: A report, *Conservation and Optimum Utilisation of Southern Bluefin Tuna*, was published. The report provided an analysis of a number of questions tested against bioeconomic modelling. The long-term benefit of the research will allow the development of a framework with the capacity to resolve contentious issues in relation to SBT, as well as providing information for improved management of SBT through the CCSBT.

3. **Development of a new Commonwealth Fisheries Policy Statement**

Project cost and Service Provider: \$155,500, AFFA, Fisheries and Aquaculture.

Objectives: (i) Document the performance of Commonwealth fisheries over the past decade by reference to factors such as resource sustainability, accountability and responsiveness, highlighting strengths and weaknesses during this time; (ii) identify the current and future pressures on fisheries and other drivers for change; and (iii) analyse how the Commonwealth fisheries system can best adapt to, and thrive, as a result of emerging influences.

Result: A report, *Review of Commonwealth Fisheries Policy*, was produced. The report was used in the development of the Federal Government's new Commonwealth Fisheries Policy.

4. **Monitoring the Economic Performance of the Australian Fishing Industry: 2001**

Project cost and Service Provider: \$273,464, 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: 2001*, was published. The 2001 survey includes results from the Northern Prawn, Torres Strait Prawn, Southern and Western Tuna and Billfish and the South East Trawl fisheries. Information on the economic and financial performance of the fisheries was collected for the financial years 1998-99 and 1999-00.

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.

5. **Fisheries Subsidies: The Australian Experience**

Project cost and Service Provider: \$77,753, ABARE.

Objective: Develop a framework for analysing the impact of fisheries subsidies and apply it to a number of Australian case studies.

Result: A final report, *Fisheries subsidies*, was published. Australian government participants at international discussions on fisheries subsidies will benefit from the report through enhanced understanding of the issues. Also, the report will provide a sound basis from which to consider the domestic issue of fisheries subsidies.

6. **Incorporating the Recreational Sector into the Management of Australia's Commonwealth Fisheries**

Project cost and Service Provider: \$60,626, ABARE

Objective: Explore the impacts and practicalities of various management tools for recreational fishing and provide options for managing recreational catch of highly migratory species in internationally managed fisheries.

Result: A final report, *Incorporating the recreational sector into the management of Australia's Commonwealth fisheries*, was published. Outputs from the report, along with the results of the National Recreational and Indigenous Fishing Survey, will provide AFFA with information necessary for assessing the economic impacts of alternative management options for recreational fishing. The report focused on economic considerations influencing when and how to manage the recreational sector. In many cases, it is expected that this criteria will also address environmental concerns regarding sustainable stock levels. Broader environmental issues are likely to be best dealt with on a case-by-case basis.

It is also expected that benefits from the report will flow to commercial and recreational fishers of stocks targeted for improved recreational fishing management.

7. **A Stochastic Production Frontier Analysis of the Australian Northern Prawn Fishery**

Project cost and Service Provider: \$30,384, ABARE.

Objectives: (i) Describe the production technology and relative efficiency of firms participating in the Northern Prawn Fishery; (ii) provide key information on the relative importance of inputs in the production of banana and tiger prawns; and (iii) examine the utility of this approach for application to other Commonwealth fisheries.

Result: A report, *A Stochastic Production Frontier Analysis of the Australian Northern Prawn Fishery*, was produced. The results of the report's analysis were an essential input to ABARE's analysis of the economic impact of the *Northern Prawn Fishery Amendment Management Plan 1999*. The data analysis within the report should help in determining the impact of alternative management options on the efficiency of the Northern Prawn Fishery fleet and the fishery as a whole.

8. Port Access Fees for Foreign Fishing Vessels

Project cost and Service Provider: \$21,377, ABARE.

Objectives: (i) Estimate the economic benefits to Australia allowing foreign fishing vessels to use Australian port facilities; and (ii) provide advice on the appropriate level of fees for access to Australian ports by foreign fishing vessels.

Result: A report, *Port access fees for foreign fishing vessels*, was produced. Because of lack of available hard reliable data, the report stated that a number of assumptions had to be made in its assessment of the economic data and, as such, the report is of limited value. The report does provide a useful description of options regarding access fees.

9. Economic Impact of the Northern Prawn Fishery Amendment Management Plan

Project cost and Service Provider: \$85,475, ABARE.

Objective: Assess the economic impact of the *Northern Prawn Fishery Amendment Management Plan 1999* on the Northern Prawn Fishery fleet.

Result: A report, *Economic Impact of the Northern Prawn Fishery Amendment Management Plan*, was produced. The report fulfilled requirements by the Senate Rural and Regional Affairs and Transport Committee inquiry into the *Northern Prawn Fishery Amendment Management Plan 1999* that research be conducted to ascertain the future economic impact of the Plan on the operators in the fishery, through time and operator subgroup.

10. Monitoring the Economic Impact of New Management Arrangements in the Northern Prawn Fishery

Project cost and Service Provider: \$49,117, ABARE.

Objective: The single objective of this proposal is to monitor the economic impact of the *Northern Prawn Fishery Amendment Management Plan 1999* on shore and offshore based activities.

Result: A report, *Monitoring the Economic Impact of New Management Arrangements in the Northern Prawn Fishery*, was produced. This report fulfilled the requirements by the Senate Rural and Regional Affairs and Transport Committee inquiry into the *Northern Prawn Fishery Amendment Management Plan 1999* that AFMA "...Monitor the impact of the amendment management plan on shore based activity as well as offshore based activity, noting that if the impact is sufficiently severe, it may be necessary for the Commonwealth to provide strategic adjustment assistance".

The report enabled industry, management and the Commonwealth Government to benefit from a greater understanding of the impacts of the Plan. Output from the research also assisted in determining whether strategic adjustment assistance is required and how any assistance should be targeted.

11. **Economic Assessment of Fisheries: Identification and Assessment of Data Requirements**

Project cost and Service Provider: \$101,573, ABARE.

Objectives: (i) Identify and analyse the usefulness of existing data sources for State and Commonwealth fisheries for the assessment of net economic returns to society from the fisheries resource in the south east region of Australia's exclusive economic zone (EEZ), in order to provide key input to the regional marine planning process. Estimates of economic returns to fisheries resources should be provided where sufficient data are available; (ii) where data gaps exist, identify the data required to allow accurate assessments of net economic returns to fisheries resources in the south east region of Australia's EEZ to be made; and (iii) identify multiple licence holdings across Commonwealth fisheries in the south east region of the EEZ and assess the potential for, and economic implications of, effort redirection. Analyse, qualitatively, the potential for effort redirection between the Commonwealth and State fisheries in the south east region of the EEZ.

Result: A report, *Economic value of commercial fishing in Australia's south east*, was produced. The report will be a valuable aid in providing input to the regional marine planning process. As well, the report provided a good synthesis on AFMA's performance in managing selected south east region fisheries.

12. **Characteristics of the South East Fishery Quota Market**

Project cost and Service Provider: \$77,647, ABARE.

Objectives: (i) Outline factors relevant to the effective operations of the quota market in the south east fishery and economic incentives relevant to participation in the market; (ii) Provide information and analysis on volume and frequency of lease and permanent quota trade, concentration of quota holdings and operator level catch vs total allowable catch (TAC) patterns; and (iii) analyse, using an econometric model, factors influencing the volume of quota trade.

Result: A report, *Factors Influencing the Volume of Lease Trades in Individual Transferable Quota Markets: The South East Trawl Fishery*, was produced. The report's theoretical discussion and the econometric results have provided a significant first step in determining whether individual transferable quotas (ITQs) have enhanced efficiency in the South East Fishery.

13. **Social and Economic Links between Selected Coastal Communities and Adjacent Marine Resource Use**

Project cost and Service Provider: \$223,389, BRS.

Objectives: Provide: (i) social, demographic and economic profiles of communities adjacent to the south east region of Australia's EEZ based on existing data; (ii) detailed case studies of at least two coastal communities in the south east region, identifying the links between these communities and the full range of uses of the adjacent marine resource; and (iii) assessments of different approaches to developing social and economic profiles for the purpose of identifying links between communities, industry

activity and resources. This assessment will discuss the advantages and disadvantages, and relative costs of the different approaches.

Result: A report, *Marine Matters; Social Contributions of Marine Uses to Communities in the South East Region of Australia*, was produced. The results of this work have provided valuable input to the regional marine planning process. As well, the profiles developed by researchers would enable scenarios to be developed around potential changes to marine resource access and the likely social, economic and demographic flow-on effects.

14. Third International Billfish Symposium

Project cost and Service Provider: \$15,000, The Billfish Foundation.

Objective: Through sponsorship of the Third International Billfish Symposium held in Cairns, August 2001, provide a forum to develop possible management strategies and arrangements for these species.

Result: The proceedings outlining the outcomes of the symposium were published.

15. Australian Seafood Industry National Conference: Seafood Directions

Project cost and service provider: \$15,000, Queensland Seafood Industry Association.

Objective: Through the sponsorship of the Australian Seafood Industry National Conference held in Brisbane, November 2001, provide a forum to develop policy direction for the seafood industry, as well as establishing an international policy context for Australian fisheries.

Result: The proceedings outlining the outcomes of the conference were published. Attendance by AFFA delegates provided valuable opportunities to discuss with other delegates the Commonwealth's position on aspects of seafood safety.

16. World Recreational Fishing Conference, Darwin, May 2002

Project cost and service provider: \$20,000, Amateur Fishermen's Association of the Northern Territory.

Objective: Provide a forum to develop policy directions for recreational fishing and develop where possible, an international code of practice.

Result: Proceedings to be published in the final quarter of 2002.

17. **Assessment of options for dealing with illegal foreign fishers**

Project cost and service provider: \$47,727, Fisheries Economics, Research and Management Pty Ltd (FERM).

Objectives: (i) Examine current arrangements for the apprehension and detention of illegal foreign fishers operating off northern Australia; (ii) 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; (iii) review 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; and (iv) report to the Steering Group on a range of alternative options to the current model of detaining illegal Indonesian fishers.

Result: A report, *Assessment of options for dealing with illegal foreign fishers*, was produced. The report provided a review and analysis of nine options for maximising the deterrence factor for illegal fishing. Also, advantages and disadvantages relating to most of the options were provided in the analysis. Although the report remains very much a scoping paper, the range of options will allow AFFA to evaluate the options in terms of balancing a range of concerns, i.e. be politically acceptable, be given support from community groups and that the compliance program be cost effective.

18. **Baseline Stock Assessment of Target Species of Fish and Invertebrates for the Cocos (Keeling) Islands**

Project cost and service provider: \$21,270, Cocos (Keeling) Islands Administration.

Objective: Develop a basis for the management and future monitoring of a fragile isolated marine system through a baseline survey of the marine environments, and stock size estimates of marine resources of the South Cocos (Keeling) Atoll.

Result: A report, *Baseline Survey of the Marine Environments and Stock Size Estimates of Marine Resources of the South Cocos (Keeling) Atoll (0-15M), Eastern Indian Ocean*, was published. The results provide a baseline for future ongoing monitoring programs of Cocos (Keeling) Island's marine life. The data contained in the report will be valued in a cooperative context by future research initiatives and inform exploratory commercial fishing enterprises.

19. **A Vision for Aquaculture in Australia**

Project cost and service provider: \$160,098, BRS.

Objective: Identify the technological developments that will increase the productivity and sustainability of Australia's aquaculture industries, and consider technology in the context of: existing technology; proven, but not yet economic technology; technological developments; suitability/cost/environmental constraints; and overseas technologies. Also, to identify gaps in scientific and technical knowledge, and provide a scientific assessment of the potential for aquaculture in Australia.

Result: A report, *A Vision for Aquaculture in Australia*, was published.

20 & 21. Status of Australian Fisheries 2000 & Status of Australian Fisheries 2001

Project cost and service provider: \$669,897, BRS.

Objective: To assess and report on the status of Commonwealth-managed fish stocks.

Result: A compilation report, *Fishery Status Reports 2000-01*, was published. The report is due for public release in the second half of 2002.

22. Sponsorship of the Fifth Session of the Western Pacific Regional Sub-Commission of the Intergovernmental Oceanographic Commission (WESTPAC V), September 2002

Project cost and service provider: \$5,000, Bureau of Meteorology.

Objective: To provide a forum to develop policy direction in the development of a South East Asian regional component of the Global Ocean Observing System (SEAGOOS) and a Pacific GOOS.

Result: To be held in 2002-03.

23. Sponsorship of the National Aquaculture Yearbook 2003

Project cost and service provider: \$2,745, AFFA, Fisheries and Aquaculture.

Objective: To provide a forum for the dissemination and stimulation of debate within a broad cross section of key stakeholders in the aquaculture industry on developments in Commonwealth aquaculture policy and of future policy directions.

Result: The National Aquaculture Yearbook 2003 to be published in 2002-03.

24. Aquaculture Workshop for Indigenous Communities, Cairns, April 2002

Project cost and service provider: \$5,000, AFFA, Fisheries and Aquaculture.

Objective: Consultations on a draft work plan to implement the national indigenous Aquaculture Strategy.

Result: A revised work plan was developed at the workshop, which was successfully conducted at Cairns in April 2002. The work plan was then presented to Aboriginal and Torres Strait Islander Commission (ATSIC) councilors, and for the consideration of Commonwealth fisheries management agencies.

25. **Sponsorship of the APFA and ABFA 2002 Annual Conference¹⁰**

Project cost and service provider: \$1,100, AFFA, Fisheries and Aquaculture.

Objective: To provide a forum to inform industry of developments in Commonwealth aquaculture policy, and to discuss future policy directions with a broad cross-section of key stakeholders in the prawn and barramundi aquaculture industries.

Result: The conference is due to be held in Sydney in July 2002.

26. **Scientific Support for Emergent International Policy Priorities 2001**

Project cost and service provider: \$232,200, BRS.

Objective: To meet Australia's international obligations in submitting fisheries data to regional fisheries bodies and participating in associated meetings. Promote the development of regional research and monitoring programs in support of ESD of the fisheries. Ensure that Australia's contributions to management initiatives in regional fisheries are based on sound scientific advice. Collect and disseminate information on regional fishery developments and stock assessments so that they are integrated in management policies for Commonwealth fisheries. Provide a link between policy areas in the scientific community, in order to address current and future advice needs of F&A.

Results: BRS staff participated in a number of international meetings, including the CCSBT Stock Assessment Group, New Zealand Fisheries Policy Meeting, AFMA Fishery Assessment Groups, AFMA Management Advisory Committees, and inter-departmental committee meetings. Staff also provided ongoing scientific and technical advice to F&A staff, and provided liaison with government and industry stakeholders.

27. **Legislative Powers: Review of Commonwealth, State/Northern Territory Legal Powers to Prevent and Manage Marine Pest Incursions**

Project cost and service provider: \$45,500, Centre for Maritime Policy, University of Wollongong.

Objective: To clarify legislation and regulation arrangements for the prevention of marine pest incursions, and recommend alterations to the current regime, to ensure that consistent regulatory powers are identified to address marine pest emergencies and control activities.

Result: A report, *The Legal Framework for a Single National Ballast Water Regime*, was published in June 2002.

¹⁰ Australian Prawn Farmer's Association and Australian Barramundi Farmer's Association

PART D: CURRENT PROJECTS AS AT 30 JUNE 2002

At 30 June 2002, a total of 36 FRRF projects, worth \$3,560,052 in funding, were being undertaken. A brief summary of these projects is listed below, in order of research provider.

1. ABARE – Australian Aquaculture: Import Competitiveness and Industry Profiles

Total Funding – \$136,312.

Due Completion Date – 31 January 2003.

Objectives – To assess the import competitiveness of Australian aquaculture, and to provide a detailed stocktake of current prospects for aquaculture species including crustaceans, molluscs, fish and other species.

2. ABARE – Sustainable Ecosystems

Total Funding – \$101,971.

Due Completion Date – 31 January 2003.

Objectives – Provide information about the risks associated with alternative management tools through the development of a modelling approach that incorporates key biological and economic parameters. Assist in the provision of efficient disease management services through developing a model to determine the optimal level of quarantine activity and the best response, in terms of quarantine, containment or eradication measures, to the discovery of a disease of a fishery.

3. ABARE – Performance Monitoring

Total Funding – \$464,860.

Due Completion Date – 31 March 2003.

Objectives – Provide information necessary for the performance of AFMA fishery managers to be assessed against economic efficiency and cost effective management criteria. Outputs include: estimates of the economic performance of fisheries; a framework for analysing performance against economic efficiency; an assessment of techniques for obtaining measures of efficiency; an assessment of the efficiency enhancing effects of ITQs in the South East Fishery; and assessments of performance for individual Commonwealth fisheries.

4. ABARE – Assessing Alternative Management Instruments

Total Funding – \$157,538.

Due Completion Date – 1 June 2003.

Objectives – To provide AFMA fishery managers and policy makers with the economic information necessary to make informed decisions regarding choices between management instruments. Investigate the effectiveness of ITQs as a management tool in fisheries that have seasonal variability in abundance. Improve on current methods used to set and assess the effectiveness of management instruments in multi-species fisheries.

5. ABARE – Factors Effecting the Efficiency of Individual Transferable Quotas (ITQs)

Total Funding – \$29,979.

Due Completion Date – 31 October 2001 (delayed).

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.

6. AFMA–A New Approach to Fishing Power Analysis for the Northern Prawn Fishery

Total Funding – \$116,840 (FRRF share – 50 per cent, jointly funded by AFMA).

Due Completion Date – 31 December 2002.

Objectives – Improve present knowledge on engine power performance, effective fishing time and catch efficiency. Validate the Prawn Trawl Performance Prediction Model. Improve estimates of changes in fishing power in the Northern Prawn Fishery. Reassess the status of the stocks in the light of changes in estimates of fishing power. Investigate possible management strategies to control fishing effort and its effects on sustainability and the industry.

Research conducted for AFMA by the CSIRO, Division of Marine Research.

7. AFMA – Ecological Indicators for Fishery Management: Non-target Species, Habitats and Food Chains

Total Funding – \$171,382 (FRRF share – 33.3 per cent, jointly funded by AFMA and EA).

Due Completion Date – 31 May 2004.

Objectives – To review the current use of ecological indicators in fisheries management. To identify robust ecological indicators and reference points for fisheries management.

Research conducted for AFMA by the CSIRO, Division of Marine Research.

8. BRS – Effects of Fishing on Non-target Species

Total Funding – \$155,751.

Due Completion Date – 31 December 2002.

Objectives – Evaluate additional methods of assessing the effect of fishing on non-target species by examining methods to assess the vulnerability of non-target species, and examine criteria for setting baselines from which to measure changes in vulnerability. Evaluate the applicability, practicality and effectiveness in particular fisheries of alternative monitoring methods for assessing the effect of fishing on non-target species. Report on the progress of individual Commonwealth fisheries in achieving the objectives of the Commonwealth Bycatch Policy.

9. BRS – Bycatch of Sea Turtles in Longline Fisheries

Total Funding – \$64,500.

Due Completion Date – 31 December 2001 (overdue).

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 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).

10. BRS – Striped Marlin Status in Relation to Measures of Ecologically Sustainable Development

Total Funding – \$33,880.

Due Completion Date – 31 January 2003.

Objectives – Summarise information on striped marlin biology. 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 longline activities affecting angler strike rates for 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.

11. BRS – Mapping Standardised Stock Abundance Indices for Use in Fisheries Access, Resource Allocation and Marine Planning and Management Processes

Total Funding – \$88,431

Due Completion Date – 1 August 2002

Objectives – Investigate the significance of oceanographic, geographic and effort variables in developing standardised spatial stock abundance indices using specific regression techniques. Generate maps of stock abundance indices. Investigate the accuracy and precision of the predictive surfaces generated, and assess their potential for use in marine planning, and as a predictive tool for resource allocation.

12. BRS – Estimation of the Volume and Value of Exported Product for Australian Seafood Species

Total Funding – \$38,374.

Due Completion Date – 31 August 2001 (overdue).

Objectives – Determine the full range of seafood species exported from Australia within the past three years. Determine the feasibility of estimating total annual volume and value of exports for fish and invertebrate species. Produce reliable estimates of annual volume and value of exports for species that form a predetermined major proportion of exports.

13. BRS – Implementation of a National Fisheries Production Database

Total Funding – \$53,054.

Due Completion Date – 31 August 2001 (overdue).

Objectives – Produce a comprehensive database of fisheries production by species, jurisdiction and year, available to the fishing industry, the public and State, national and international fisheries agencies through the internet. Provide users with information on distribution, biology, fisheries, and annual export volume since 1988, for each species where the information is available. Explore the feasibility of establishing an ongoing, integrated national system for the collation and dissemination of production by species data with a finer spatial and temporal resolution.

14. BRS - The Use of Potential Biological Removals (PBR) in Australia

Total Funding – \$99,757.

Due Completion Date – 30 May 2002 (overdue).

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.

15. BRS – Impact of Fish Aggregating Devices (FAD) on Tuna and Billfish Fisheries

Total Funding – \$122,812.

Due Completion Date – 30 May 2002 (overdue).

Objectives – Identify and review the information available for fisheries where there is incidental catch associated with FAD fishing. Document information on the extent of FAD fishing and link this information to the efficiency and potential impact of high seas tuna fisheries. Review available research on FAD fishing and develop further links with countries involved in industrial purse seine fisheries and FAD research in both the Indian and Pacific Oceans. Establish a unified view for presentation at international fora, with other countries involved with FAD research in order to facilitate control of FAD fishing. Further international cooperation to ensure sustainability of highly migratory fish stocks, such as bigeye tuna.

16. BRS – Provide a Vehicle for Information Flow (with limited access)

Total Funding – \$27,481.

Due Completion Date – 30 November 2000 (overdue).

Objectives – Evaluate the input from participants at the Northern Australian Fisheries Workshop as to how a limited access bulletin board should operate. Examine various information technology solutions to providing a limited access bulletin board or an alternative means of communication. Develop the technology for communication.

17. BRS – Review of Straddling Fish Stocks between Australia and East Timor

Total Funding – \$58,003.

Due Completion Date – 1 December 2001 (overdue).

Objectives – Identify commercially fished species whose distributions straddle the Australian EEZ and the probable East Timor zone. Review both domestic and relevant international fisheries for these species. Provide advice on the fisheries relevant to discussions on the interaction between the two fisheries zones.

18. BRS – Status of Australian Fisheries 2002-03

Total Funding – \$333,918.

Due Completion Date – 31 January 2003.

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

19. BRS – Analysis of Ballast Water Decision Support System Risk Evaluation Threats

Total Funding – \$99,580.

Due Completion Date – 1 October 2002.

Objectives – The Decision Support System, its data, and the operational requirements of its use, are at an early stage of development. This project will coordinate and review the scientific evidence used to underpin policy decisions relating to ballast water issues.

20. BRS – The Future of Beche-De-Mer and Trochus Fisheries in Australia

Total Funding – \$58,808.

Due Completion Date – 1 October 2002.

Objectives – Assess the potential for establishing and maintaining modern beche-de-mer and trochus fisheries in Australia. Review and assess the feasibility of beche-de-mer and trochus hatchery technology for enhancement of stocks. Assess suitable regions, site characteristics and local community potential for development of beche-de-mer and trochus fisheries based on sustainable harvest methodologies and hatchery enhancement of stocks.

21. BRS – Summary of Data Provision requirements for Regional Fisheries Management Organisations (RFMOs) and UN Fish Stocks Agreement

Total Funding – \$86,259.

Due Completion Date – 31 January 2003.

Objectives – Identify policy directions and future long-term needs for handling of data. Assemble a database of catch, fishing effort, port and onboard biological sampling for species subject to data requests from RFMOs. Document the process of obtaining the raw data, data management considerations, and filtering or processing methods applied. Identify relevant data holdings of State/Northern Territory fisheries management agencies and promote their cooperation in contributing data to RFMO data reports.

22. BRS – Towards Ecosystem-based Fisheries Management – The Nature and Extent of Land-based Marine Pollution and its Impacts on Fisheries Ecosystems

Total Funding – \$32,555.

Due Completion Date – 31 August 2002.

Objectives – Conduct a pilot project to assess the potential impacts of land-based pollution on important wild fisheries and aquaculture resources.

23. BRS – Offshore Constitutional Settlement (OCS) Issues and Potential By-product Species/Reallocation of OCS Species

Total Funding – \$57,310.

Due Completion Date – 1 August 2002.

Objectives – Map the lines of division for each State and the Northern Territory that are identified under the OCS arrangements. Overlay fish stock distributions for each State and the Northern Territory. Identify and review all OCS arrangements to determine whether they are defined by: species/group species; fishing method; species/method; and other.

24. BRS – A National Approach to the Management of Exotic Fish Species in the Aquarium Trade

Total Funding – \$29,712.

Due Completion Date – 1 June 2002 (overdue).

Objectives – Review exotic species currently within the domestic aquarium trade.

25. CRC Reef Research Centre – Development of a Proposal for the Establishment of a Cooperative Regional Research Centre (CRRC) in the APEC Region

Total Funding – \$55,358.

Due Completion Date – 1 August 2002.

Objectives – Develop a project proposal to create a Cooperative Regional Research Centre (CRRC) in the Asian Pacific Economic Cooperation (APEC) region to allow Governments, industry and non-government organisations(NGOs) to invest in research and mechanisms to protect coral reef species and reef areas, support sustainable marine aquaculture and improve coastal water quality.

26. CSIRO – Monitoring the Longline Catch of SBT landed in Indonesia 2000-02

Total Funding – \$160,938.

Due Completion Date – 31 July 2002.

Objectives – Monitor the Indonesian longline fishery operating out of Bena, 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 the Research Institute of Marine Fisheries, Jakarta to record the catch data generated by longline monitoring at Bena, Bali.

27. CSIRO - Monitoring the Longline Catch of SBT landed in Indonesia 2002-03

Total Funding – \$95,573.

Due Completion Date – 31 July 2003.

Objectives – Monitor the Indonesian longline fishery operating out of Benoa – Bali, Muara Baru – West Java, and Cilacap – Central Java, including species composition of landings, and the measurement of length and weight of a representative sub-sample of the key species caught. Monitor changes in the spawning population of SBT including size and age distribution, and temporal patterns of abundance on the spawning ground. Evaluate the accuracy of the Provincial Fisheries Service, Bali data on export tuna to address discrepancy between CSIRO estimates of Indonesian SBT exports and Japanese export statistics. Provide CCSBT with an estimate of the Indonesian SBT catch.

28. CSIRO – Understanding the Nature of SBT Bycatch in the Eastern Tuna and Billfish Fishery (ETBF)

Total Funding – \$141,392.

Due Completion Date – 31 July 2003.

Objectives – Determine the level of SBT by-catch taken by a range of vessels within the ETBF over the June – September period. Describe the extent to which by-catch varies with geographical location, time and targeting practices. Determine the life status of the SBT caught by the ETBF longliners and, in particular, the proportion of the catch that is dead when brought to the vessel. Determine the extent of post-release mortality in SBT after capture by longline and examine whether this varies with life status and set time.

29. CSIRO – Evaluation of Complex Population Models used for the Assessment and Management of Migratory Fish Stocks

Total Funding – \$130,104.

Due Completion Date – 31 July 2003.

Objectives – 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. Provide advice on the appropriateness and implications of these models for application in the provision of stock status advice in an RFMO context on SBT specifically, and tuna in general. 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 CCSBT and other tuna RFMOs.

30. Dominion Consulting Pty Ltd – Investigation of Sectoral Catch in Species in Commonwealth Fisheries

Total Funding – \$27,200.

Due Completion Date – 16 September 2002.

Objectives – Determine the species caught in Commonwealth-managed fisheries by the recreational, charter and traditional fishing sectors. Determine the level of the catch of identified species by each of these sectors. Compare the catches of the recreational, charter and traditional sectors with the commercial catch. Identify and rank the species where resource sharing is highest and where allocation may be required.

31. F&A – Development of a National Plan of Action for the Conservation and Management of Sharks (Sharkplan)

Total Funding – \$50,490.

Due Completion Date – 30 April 2002 (overdue).

Objectives – Develop Sharkplan by addressing the issues raised in the Shark Assessment Report and taking account of a range of initiatives including the development of fisheries management plans, implementation of bycatch action plans, the Standing Committee on Fisheries and Aquaculture ESD process, meeting the requirements of the *Environment Protection and Biodiversity Conservation Act 1999*, and State and Northern Territory legislative and regulatory requirements.

Research conducted for F&A by Mary Lack, Shellack Pty Ltd.

32. F&A – Regional Marine Plans: Fisheries Management Challenges under Australia’s Ocean Policy

Total Funding – \$23,100.

Due Completion Date – 1 July 2003.

Objectives – Identify critical issues in implementation of fisheries management within regional marine plans under Australia’s Oceans Policy.

Research conducted for F&A by Liz Foster, University of Tasmania (under the Strategic Partnerships with Industry – Research and Training Scheme).

33. FRDC – Development of a Disease Zoning Policy for Marteilirosis to Support Sustainable Production, Health Certification and Trade in the Sydney Rock Oyster

Total Funding – \$120,000.

Due Completion Date – 31 December 2004.

Objectives – Implement and field test the zoning policy framework developed under Aquaplan in a practical context and facilitate the development of further zoning policies for other significant diseases of aquatic animals.

Research conducted for F&A by Queensland Museum.

34. FRDC – Preparation of a Field Guide to Sharks and Rays Caught by Australian Fisheries

Total Funding – \$30,000.

Due Completion Date – 31 March 2002 (overdue).

Objectives – Produce a cost-effective, user-friendly field guide for the sharks and rays caught by Australian fisheries.

Research conducted for FRDC by CSIRO, Division of Marine Research.

35. University of Wollongong – Approaches for Mitigating Bycatch in Commonwealth Fisheries

Total Funding – \$65,230.

Due Completion Date – 31 May 2001 (overdue).

Objectives – Review and analyse policy and operational approaches for mitigating bycatch overseas, especially in the United States. Identify schemes that have successfully mitigated bycatch. Recommend approaches that may be adopted by AFFA, AFMA and EA to meet the requirements of the *Environment Protection and Biodiversity Conservation Act 1999*.

36. University of Wollongong – Observer Programs in Commercial Fisheries: A Global Review and Lessons for Australia

Total Funding – \$41,600.

Due Completion Date – 30 June 2002 (overdue).

Objectives – Identify and describe domestic observer programs in use in commercial fisheries in Australia, around the world, and under the auspices of regional fisheries agreements. Evaluate the efficacy of these programs with respect to their operational characteristics including the level of fleet coverage; cost attribution and recovery; evidentiary burdens and legal admissibility; sampling units and the extrapolation of data; and worker safety and welfare. Document and report on the overseas experience with at-sea observation and distil advice for the Australian situation.

PART E: FRRF: HISTORICAL EXPENDITURE

The following table shows a summary of FRRF expenditure, by service provider, for the period 1991-92 to 2001-02. Note that from 1995-96, \$1 million was allocated annually to AFMA for the management-related component of research. This allocation (not shown below) recognises AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

FRRF disbursements for 1991-92 to 2001-02

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	1999-00	2000-01	2001-02
AFMA	nil	nil	\$318,218	\$111,535	\$98,151
ABARE	\$511,273	\$784,270	\$420,214	\$459,412	\$542,903
BRS	\$1,062,213	\$901,751	\$1,381,058	\$940,143	\$762,706
OTHER	\$305,236	\$884,077	\$874,332	\$857,309	\$635,219
TOTAL	\$1,878,722	\$2,570,098	\$2,993,822	\$2,368,399	\$2,038,979