
Fisheries Resources Research Fund

Annual Report 1999-2000

Published by: Agriculture, Fisheries and Forestry – Australia

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This Annual Report was produced through collaboration between staff of the Fisheries and Aquaculture Branch of AFFA.

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ABOUT THIS REPORT

This report covers the Fisheries Resources Research Fund's (FRRF) operations during the financial year 1999-2000. It describes the type of projects that were approved for funding during this period as well as funding by organisation. It also lists the projects that were completed during 1999-2000.

FRRF's funding base is provided through an annual appropriation. The level of appropriation of funds provided since 1991-92 when FRRF was established, as well as the level of funding and distribution of funds by service providers is also shown.

In the 1999-2000 financial year, FRRF funded twenty-eight projects and researchers completed twelve projects in the same period. During the financial year, a number of projects were funded as ongoing across several years.

The FRRF Strategic Plan 2000-2002 was introduced during the latter half of the financial year 1999-2000. The Strategic Plan, which complies with the Commonwealth Government's accrual-based "outcomes and outputs" budget framework, provides a transparent framework for planning, funding and managing the FRRF. The Strategic Plan identifies two programs, *Fishing Industry Development* and *Resources Sustainability*, under which applications were assessed during the latter half of 1999-2000. Previously, applications were assessed under a three-program approach. The Strategic Plan's two-program approach still reflects the original intent of supporting 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.

While this annual report does not have a supporting annual operating plan, some performance information is provided on the effectiveness of FRRF research through completed reports in achieving FRRF's objectives.

Legislative Requirement

There is no legislative requirement for the presentation of FRRF annual reports or annual operating plans. However, annual reports have been 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 assessments on the status of various fish stocks and of fisheries management priorities. The fund was also intended to support limited management related research categorized 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 state 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 three-year 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) approved 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 the management – related component of research. That allocation recognizes AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

In the 1999-2000 Budget, funds of \$2,405,000 were made available for FRRF allocation. An additional \$1 million was allocated for the 1999-2000 financial year; however, this was withheld as part of the Commonwealth Government's budgetary restraint measures. Funds were carried over to the 1999-2000 year for project commitments approved in late 1998-99 but not due for finalisation until 1999-2000. Total funds disbursed in 1999-2000 were \$3,039,382.

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), 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 First Assistant Secretary, Fisheries and Forestry Industry Development Division, 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 agreed 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 generally following 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 FRRF Advisory Committee.

FRRF Project Assessment during 1999 - 2000

This annual report provides details of two components of project assessment reporting. The first component is the existing three-program approach, which was used for application assessment during the first half of the 1999-2000 financial year. During the latter half of the financial year, the second component, the FRRF Strategic Plan 2000-2002, was introduced. The Strategic Plan, which complies with the Commonwealth Government's accrual-based "outcomes and outputs" budget framework, provides a transparent framework for planning, funding and managing the FRRF. The Strategic Plan identifies two programs, *Fishing Industry Development* and *Resources Sustainability*, under which applications were assessed during the latter half of 1999-2000. The Strategic Plan's two-program approach still reflects the original intent of supporting 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

FRRF Program Assessment: 1 July – 31 December 1999

As in previous years, from 1 July 1999 to 31 December 1999, FRRF funding was considered under three Programs:

- a rolling three year Program of Independent Assessment
- a Program of Assessment Development; and
- a Program of Policy Development.

1) Program of Independent Assessment

Purpose

To provide independent time series information and advice required to meet both domestic and international public accountability requirements relevant to the performance of Commonwealth fisheries. This program of Independent Assessment should include advice on

- the status of Commonwealth fisheries stocks and related resources
- the condition of the Commonwealth fishing industry
- the effectiveness of the policy framework for Commonwealth fisheries management
- the impact of policy and management decisions

Program description

To fulfil the purpose described above, rolling programs of fishery assessments have been developed. These assessments provide information on economic and financial; biological and attitudinal indicators at an individual fishery level.

Descriptive information is provided annually for each fishery along with assessments of performance against AFMA's management plan performance indicators and other key indicators. Individual fishery assessments will be based on available assessments and the Australian Bureau of Agricultural and Resource Economics (ABARE) surveys. In-depth case studies covering the full range of assessment indicators will also be conducted on each fishery over a three year period. Details of the content of each case study will be negotiated between Fisheries and Aquaculture Branch and the relevant providers with advice from the FRRF Advisory Committee and AFMA.

2) Assessment Development Program

Purpose

To improve the quality, accuracy and cost-effectiveness of the Independent Assessment Program.

Program description

This element will allow the commissioning of ad hoc projects to support and/or improve the assessments to be provided under the Independent Assessment program.

Projects commissioned under this element include those designed to improve the efficiency, accuracy or cost-effectiveness of Independent Assessment program or to redress identified deficiencies. For example:

- developing an appropriate priority setting process for assessments of individual fisheries based on individual fishery and overall priorities and the likely benefit/costs of assessments;
- developing or refining integrated models or assessment mechanisms;
- improving the robustness of data and existing information sources (for example, catch per unit effort data);
- audit and review studies of the quality of research and priority setting processes and outputs (these may also be built into Independent Assessment projects);
- developing and trialing an attitude survey; and
- developing and/or trialing innovative assessment techniques (for example, assessing wider ecosystem impacts of fishing activities and/or on the commercial resource).

3) Policy Development program

Purpose

To provide research to Fisheries and Aquaculture Branch in public policy development relevant to Commonwealth fisheries management and assessment.

Program description

Projects will be commissioned under this element to provide analytical input to the policy development process as it relates to Commonwealth fisheries management and performance.

Examples of projects, which could be commissioned under this element, include:

- analyses of economic, biological and social impacts of various management regimes;
- assessing options for maximising efficient and sustainable use of fisheries resources;
- impacts of foreign fishing in the Australian Exclusive Economic Zone (EEZ);
- sponsoring regional and international conferences and consultation that provide direction and outcomes to Australian industry and government sectors;
- regional economic and social impact studies - for example impacts of policy and/or management changes or impacts of changing international trade or market factors
- potential impact of aquaculture and mariculture on the wild capture sector;
- potential implication of aquaculture and mariculture development;
- resource allocation issues;
- external environmental impacts, for example land-based marine pollution, on commercial fisheries resources; and
- opportunities for new marine products

Projects relating to the assessment of AFMA's organisational performance against its legislated objectives and functions could also be eligible for funding under this element.

FRRF Program Assessment: 1 January 2000 – 30 June 2000 (incorporating the 2000-2002 Strategic Plan)

During the 1990s, as a result of increasing knowledge, the focus of fisheries management expanded from individual habitats to an ecosystem-wide focus. As a consequence, FRRF's role accordingly became broader and more important in providing research, assessment and review for Commonwealth Government management of fisheries.

To help reassess FRRF's directions since the 1994 Review and to address the changed focus of fisheries management, AFFA convened a FRRF priorities planning workshop in December 1999 involving participants from a broad range of stakeholders in fisheries research and development. The deliberations from the workshop were used as the basis for development of a 2000-2002 strategic plan for FRRF and the plan is based on the output-outcome accrual budgeting framework that will result in a change of structure in the interest of improving accountability. Projects from 1 January 2000, were therefore considered under the 2000-2002 Strategic Plan.

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

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

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 sub-programs:

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 organizations.

PART B: PROJECTS APPROVED FOR FUNDING IN 1999-2000

During the financial year 1999-2000, 28 projects were approved for funding totalling \$2,993,822. Table 1 below shows projects approved and funded under the 1999-2000 Assessment Program and Table 2 shows the projects approved and funded under the 2000-2002 Strategic Plan.

Table 1: Projects approved for funding in 1999-2000 under the 1999-2000 Assessment Program

Project ID	Project Title	Organisation	Funding	Start	Scheduled Final
Independent Assessment Program					
99/7244	Survey of <i>Holothuria scabra</i> (sandfish) on Warrior Reef, Torres Strait	QFMA	\$10,361	Jan 2000	May 2000
99/7567	Monitoring the economic performance of the Australian fishing industry	ABARE	\$260,458	Nov 1999	Feb 2001
	Total		\$270,819		
Assessment Development Program					
No Projects funded under program					
Policy Development Program					
00/1060	Towards national management systems for aquatic pest incursions: AFFA (FAB) contribution to the National Task Force	AFFA – Fisheries and Aquaculture Branch	\$51,775	Sept 1999	Dec 1999
99/7580	Monitoring Chinese Taipei fishing activities and activities of southern bluefin tuna in the Indian Ocean during 1999-2000	CSIRO	\$46,629	Sept 1999	August 2001
	Total		\$98,404		

Table 2: Projects approved for funding in 1999-2000 under the 2000-2002 Strategic Plan

Project ID	Project Title	Organisation	Funding	Start	Scheduled Final
Fishing Industry Development Program					
00/10707	Development of a strategic business	AFFA –	\$73,307	May	October

	plan for the propagation of southern bluefin tuna	Fisheries and Aquaculture Branch		2000	2000
00/10828	Fisheries subsidies: the Australian experience	ABARE	\$77,753	April 2000	June 2001
	Total		\$151,060		
Resources Sustainability Program					
00/10708	Development of a new Commonwealth fisheries policy statement	AFFA – Fisheries and Aquaculture Branch	\$155,500	April 2000	June 2001
00/10710	Conservation and optimum utilisation of southern bluefin tuna	AFFA – Fisheries and Aquaculture Branch	\$163,850	March 2000	March 2001
00/10705	National competition policy review of fisheries legislation	AFFA – Fisheries and Aquaculture Branch	\$50,000	March 2000	June 2001
00/1136	Develop, in cooperation with Food and Agricultural Organisation, an International Plan of Action to combat illegal, unreported and unregulated (IUU) fishing	AFFA – Fisheries and Aquaculture Branch	\$170,779	April 2000	March 2001
00/10832	Incorporating the recreational sector into fisheries management	ABARE	\$60,626	April 2000	Sept 2001
00/10830	Cost recovery from foreign fishing vessels	ABARE	\$21,377	June 2000	June 2001
00/897	A new approach to fishing power analysis and its application to the Northern Prawn Fishery	AFMA	\$116,836	Aug 2000	Sept 2002
00/982	Ecological indicators for fishery management: non-target species, habitats and food-chains	AFMA/CSIRO	\$171,382	June 2000	Sept 2003
00/10843	Preparation of a field guide to sharks and rays caught by Australian fisheries	AFMA/CSIRO	\$30,000	July 2000	June 2001
00/807	Assessment of shark finning in Australian commercial fisheries	BRS	\$85,700	Feb 2000	March 2001
00/10827	Status of Australian fisheries	BRS	\$311,645	July	Sept 2001

				2000	
00/10833	Scientific support for the development of international policy for Commonwealth fisheries	BRS	\$232,200	July 2000	March 2001
00/10834	Marine fisheries of south east Australia – process to support regional marine planning	BRS	\$198,147	July 2000	Sept 2001
00/10835	Implementation of a national fisheries production database	BRS	\$53,054	July 2000	Sept 2001
00/10836	Support for standing committee on fisheries and aquaculture – ecologically sustainable development initiative	BRS	\$27,731	March 2000	Sept 2000
00/11303	Estimates of the volume and value of exported product for Australian seafood species	BRS	\$38,374	March 2000	August 2001
00/10837	Impact of fish aggregating devices on tuna and billfish fisheries	BRS	\$122,812	July 2000	July 2001
00/10839	Collation of available information on demersal fish resources of the Southern Indian and Southern Oceans	BRS	\$84,525	July 2000	July 2001
00/10840	Provide a vehicle for information flow (with limited access)	BRS	\$27,481	July 2000	June 2001
00/10841	Social and economic links between coastal communities and adjacent marine resource use	BRS	\$199,389	August 2000	Sept 2001
00/983	Monitoring the longline catch of southern bluefin tuna landed in Indonesia: 1999-2000	CSIRO	\$92,831	April 2000	October 2000
00/10842	Approaches for mitigating bycatch in Commonwealth waters	University of Wollongong	\$59,300	July 2000	June 2001
	Total		\$2,473,539		
	Total Cost of FRRF Projects funded for 1999-2000		\$2,993,822		

PROJECTS FUNDED IN 1999-2000 BY ORGANISATION

FISHERIES and AQUACULTURE BRANCH, AFFA

00/10708 Development of a new Commonwealth Fisheries Policy Statement

Objectives

Document the performance of Commonwealth fisheries over the last decade by reference to factors such as resource sustainability, accountability and responsiveness, highlighting strengths and weaknesses.

Identify current and future pressures on fisheries and other drivers for change.

Analyse how the Commonwealth fisheries system can best adapt to and thrive as a result of emerging influences.

00/10710 Conservation and optimum utilisation of southern bluefin tuna

Objectives

Define optimum utilisation and conservation both generically and with respect to the Commission for the Conservation of Southern Bluefin Tuna

Develop a framework (quantitative and qualitative), which can apply the results of research to areas of concern in tuna management.

00/1060 Towards National Management Systems for Aquatic Pest Incursions: AFFA Contribution to the National Task Force

Objectives

Drive and provide input to the establishment, composition, role and work program of the Task Force.

Undertake analysis and policy/program development for (i) short term response arrangement within existing legislative frameworks and resource budget and (ii) a longer term response framework and strategy.

00/10705 National Competition Policy Review of Fisheries Legislation

Objectives

Examine all major pieces of Commonwealth fisheries legislation to identify the extent to which they are consistent with the requirements of National Competition Policy.

Make recommendations as to whether the retention of the restrictions can be justified by their value to the Australian community as a whole and the absence of any alternative mechanism.

00/10707 Development of a Strategic Business Plan for the Propagation of Southern Bluefin Tuna

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 5-10 years.

00/11136 Develop, in cooperation with Food and Agricultural Organisation (FAO), an International Plan of Action (IPOA) to Combat Illegal, Unreported and Unregulated (IUU) Fishing

Objectives

Participate with FAO, in collaboration with the International Maritime Organisation, to measure and review the incidence/impact of IUU fishing both globally and surrounding the Australian fishing zone.

Host and participate in, an international workshop in Australia to develop initial options and strategies towards a global framework to combat IUU fishing.

Participate in FAO technical consultations on finalising global plan of action to combat IUU fishing

ABARE

99/7567 Monitoring the Economic Performance of the Australian Fishing Industry

Objectives

Provide to both the Commonwealth and industry an assessment of economic performance in the Eastern Tuna Fishery, Bass Strait Scallop, Southern Shark and South East Trawl Fisheries and the Southern Squid Jig Fishery

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

Provide measures of technical, allocative and scale efficiency for an Australian fishery.

00/10832 Incorporating Recreational Sector into Fisheries Management

Objectives

Examine the options for managing recreational catch of highly migratory species in Commonwealth managed fisheries.

00/10828 Fisheries Subsidies: the Australian Experience

Objectives

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

00/10830 Cost Recovery from Foreign Fishing Vessels

Objectives

To estimate the economic benefits to Australia for access of foreign fishing vessels to the Australian fishing zone.

BRS

00/807 Assessment of Shark Finning in Australian Commercial Fisheries

Objectives

Examine the extent of shark finning in Australian waters by collating available information and identifying how finning threatens shark populations relative to other threatening practices

Describe the regulatory arrangements under which shark finning occurs and understand how regulation provides either an incentive or disincentive to continue the practice.

Review the various international mechanisms used to manage the practice and provide a guide to possible options.

00/10827 Status of Australian Fisheries

Objectives

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

00/10833 Scientific support for the Development of International Policy for Commonwealth Fisheries 2000

Objectives

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

Ensure that Australia's contributions to management initiatives in regional fisheries are based on sound scientific advice.

Disseminate information on regional fishery developments and stock assessments so that they are 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.

00/10834 Marine fisheries of South East Australia: A Process to Support Regional Marine Planning

Objectives

Produce detailed thematic maps delimiting the area and intensity of operations of fisheries and other activities in the south-eastern EEZ. Analyse and illustrate annual trends in these fisheries in terms of effort and production.

Summarise basic ABS economic and social statistics by port.

Develop comprehensive indices of usage intensity within a spatial framework.

Develop preliminary, spatially explicit, dollar values associated with fishing activities across the SE EEZ.

00/10835 Implementation of a National Fisheries Production Database

Objectives

Develop 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 World Wide Web.

Provide users of the database with information on distribution, biology, fisheries and annual export volume since 1988 for each species where the information is available.

Explore with ABARE, AFMA and the States/territories, the feasibility of establishing an ongoing integrated national system for the collation and dissemination (web access) of production (catch) by species data with a finer spatial and temporal resolution.

00/10836 Support for Standing Committee for Fisheries and Aquaculture Initiative on Ecologically Sustainable Development

Objectives

Describe how common terms are used in the sustainable development context and suggest a terminology for the SCFA ESD project that will maximise communication within the project and with the community at large.

To critically review national and international experience with the assessment of ESD performance in fisheries and other sectors.

00/11303 Estimation of the Value and Volume of Exported Product for Australian Seafood Species

Objectives

Determine the full range of seafood species exported in Australia within the last three years.

Determine the feasibility of estimating total annual value of exports for fish and invertebrate species and if possible, produce reliable estimates of annual volume and value of exports for species that form a predetermined major proportion of exports. As well, identify fisheries or fishery management units that contribute product to the species analysed.

00/10837 Impact of Fish Aggregating Devices (FADs) on Tuna and Billfish Fisheries

Objectives

Document information on the extent of FAD fishing and link this information to the efficiency and potential impact of high seas tuna fisheries (and identify potential links to tuna fisheries in the AFZ).

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 Ocean.

Establish a unified view, for presentation at international fora, with other countries involved with FAD research in order to facilitate control of FAD fishing.

00/10839 Collation of Available Information on Demersal Fish Resources of the Southern Indian and Southern Oceans.

Objectives

Collate available information on major (non-shelf) demersal fish resources of the Southern Indian and Southern Oceans.

Map known and possible distributions of such resources as well as delineating known and possible straddling stocks.

00/10840 Provide Vehicle for Information Flows (with limited access).

Objectives

In collaboration with AFFA's Fisheries and Aquaculture Branch, evaluate the input from participants at the Northern Fisheries Issues 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 and develop the technology for communication.

00/10841 Social and Economic links between Selected Coastal Communities and Adjacent Marine Resource Use.

Objectives

Provide social, demographic and economic profiles of communities adjacent to the south east region of Australia's EEZ based on existing data, in the form of text, graphs and maps.

Provide detailed case studies of at least two coastal communities in the south east region, identifying the links between these two communities and the full range of uses of the adjacent marine resource.

Provide assessments of different approaches to developing social and economic profiles for the purpose of identifying links between communities, industry activity and resources.

QFMA

99/7244 Survey of *Holothuria Scabra* (Sandfish) on Warrior Reef, Torres Strait

Objectives

Survey of stock abundance of sandfish (*H. scabra*) on Warrior Reef.

Determine burrowing rates in relation to time of day and tidal patterns.

Determine size at sexual maturity and spawning times.

Recommend management options for year 2000 and beyond, and future research priorities.

AFMA

00/897 A New Approach to Fishing Power Analysis and its Application in the Northern Prawn Fishery

Objectives

Improve present knowledge on engine power performance, effective fishing time and catch efficiency.

Validate the prawn trawl performance model against engineering performance information.

Produce a comprehensive effort effectiveness model that combines engineering concepts and statistical methodology from data collected and analysing data on catch, effort, vessel configuration and technology on board from 1974 to present.

Improve estimates of changes in fishing power in the Northern Prawn Fishery by making them more reliable and justifiable.

Reassess the status of the stocks in the light of changes in estimates of fishing power.

In consultation with management bodies, investigate possible management strategies to control fishing effort and its effects on sustainability and the industry.

00/982 Ecological Indicators for Fishery Management: Non-Target Species, Habitats and Food Chains

Objectives

Review the current use of ecological indicators in fisheries management.

Identify robust ecological indicators and reference points for fisheries management.

00/10843 Preparation of a Field Guide to Sharks and Rays caught by Australian Fisheries

Objectives

Produce a cost effective, user-friendly field guide for the sharks and rays caught by Australian fisheries which is easy to use by fishermen, waterproof and sufficiently rugged for use in the field and compliments the 1994 publication 'Sharks and rays of Australia'.

CSIRO

00/983 Monitoring the longline catch of southern bluefin tuna (SBT) landed in Indonesia: 1999-2000

Objectives

Monitor and report on 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.

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

99/7580 Monitoring Chinese Taipei fishing activities and catches of southern bluefin tuna in the Indian Ocean during 1999-2000

Objectives

Estimate the catch and catch rates of SBT and other tuna species by Taiwanese longliners in the Indian and Atlantic Oceans

Provide intelligence and data on seabird bycatch by the Taiwanese longline fleet and document mitigation measures taken to minimise seabird bycatch

University of Wollongong

00/10842 Approaches for Mitigating Bycatch in Commonwealth Waters

Objectives

Review and analyse policy and operational approaches for mitigating bycatch pursued overseas, especially in the US.

Identify those schemes, which have successfully mitigated bycatch, including elements such as industry cooperation, and how the costs of mitigation have been attributed between parties.

Based upon the overseas experience, recommend approaches that may be adopted by AFFA, AFMA and EA to meet the requirement of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

PART C: COMPLETED REPORTS IN 1999-2000

During the financial year 2000-2001, 12 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 important 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 1999-2000 is provided below.

1. *Monitoring the Economic Performance of the Australian Fishing Industry: 1999*

Project cost and Service Provider: \$186,192, ABARE.

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

Result: A final report, *Monitoring the Economic Performance of the Australian Fishing Industry: 1999*, was published. The 1999 Survey includes survey results from the South East Trawl Fishery, the South East Non-Trawl Fishery, Northern Prawn Fishery and the Torres Strait Fishery. Since 1992, the Surveys have provided information on the financial performance of boats operating in each fishery surveyed. In 1999, the Survey was extended to include estimates of the economic performance of each surveyed fishery

The inclusion of economic performance data in the 1999 (and subsequent) Survey Reports has, for the first time, 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.

The net economic return information provided in ABARE's survey report since 1999 has provided a focus for discussions regarding the costs and benefits of fisheries management. This has been useful in the context of the Review of Commonwealth Fisheries Policy.

2. *Assessment of the Environmental, Social and Economic Impacts of Alternative Marine Resource Uses*

Project cost and Service Provider: \$120,000 ABARE.

Objective: Develop a methodology to integrate economic, social and conservation uses of marine resources so as to provide a policy framework for allocation of these resources.

Result: A final report, called *Managing Ocean Resources, a risk management perspective*, was published. This report provided useful input towards the development of the National System of Marine Protected Areas, and more broadly, in assisting the work towards achieving the objectives of *Australian Oceans Policy*.

3. *Trends in Seafood Supply and Demand in the Asia-Pacific Region: Implications for Australia and the Asia Pacific Economic Cooperation (APEC) Agenda*

Project cost and Service Provider: \$120,641, ABARE.

Objective: Provide an examination of trends in seafood supply and demand in the Asia-Pacific region and identified implications for Australia and the APEC Fisheries Agenda.

Result: A final report, *Trends in Seafood Supply and Demand in the Asia-Pacific Region: Implications for Australia and the Asia Pacific Economic Cooperation (APEC) Agenda*. The results of the analysis in the report provided useful input for Australia in the debate on the agenda of tariff reform in the APEC region.

4. *Status of Australian Fisheries: 1998: and ancillary report- Fleet Dynamics and Interpretation of Industry-Dependent Catch Rates in the South East Fishery, Trawl Sector*

Project cost and Service Provider: \$323,400, BRS

Objective: Provide a means of monitoring whether management strategies are succeeding in sustaining the resources upon which each fishery is based, through the *Fishery Status Reports*.

Result: The report provided a detailed examination of each Commonwealth-managed fishery, examining current issues and presenting recent fishery assessment information. An outline of Australia's State/Territory-managed fisheries – collectively more valuable than those managed by the Commonwealth – and their status was also provided.

The report is a compilation of data collected from each individual fishery's assessment group and is presented in a form readily accessible for government policy makers and fisheries managers as well as industry and the community. As well, annual fishery by fishery reports on status provide the basis for a comparison of the essential time series of assessments needed to fully assess trends in fisheries and hence the appropriateness of, or need for, management action.

Fishery Status Report 1998: Ancillary Report.

Result: The ancillary report provides an in-depth assessment of the South East Fishery (SEF), Trawl Sector. It examines the dynamics and nature of trawl fishing operations in the SEF, and methods for improving the interpretation and use of catch rates as indices of stock abundance. The report was an important reference for AFMA's South East Fishery Assessment Group (SEFAG) and is an important factor in building industry's confidence in SEFAG assessments because it specifically seeks to incorporate information on how the fishery operates, thereby taking into account fishers' experiences and practices.

5. *Assessment of Black Marlin and Blue Marlin in the Australian Fishing Zone: Report of the Black and Blue Marlin Working Group.*

Project cost and Service Provider: \$124,295, BRS.

Objective: Provide an analysis of the estimated numbers of black marlin and blue marlin, and the impact on the species by charter and recreational fishing in the Australian fishing zone (AFZ).

Result: The completed report found that recreational catches of black and blue marlin were a very small fraction of the total commercial catches when the ocean-wide distributions of the species were taken into account.

In meeting its stated objective of assessing the potential impact of recreational and charter boat fishing activities in the AFZ, the report found no evidence of unsustainable fishing.

The report met a request by the Government requiring an analysis of the impact of recreational and charter boat fishing activities on blue and black marlin in the AFZ

6. *Determining the geographical extent of trawling impacts in the South East Fishery*

Project cost and Service Provider: \$19,226, BRS

Objective: Describe and map the locations of trawl areas in the South East fishery and examine the levels of fishing over these areas since 1986.

Result: A final report, *Determining the geographical extent of trawling impacts in the South East Fishery*, was published. The report provides maps of the locations of the trawl areas in the South East fishery and examines the levels of fishing over these areas since 1986. The report was highly useful in helping to assess AFMA's management performance in the South East fishery.

7. *International Conference on Role of Observer Programs in Fisheries Management, Wastage and Bycatch Issues*

Project cost and Service Provider: \$70,220, BRS

Objective: Plan and chair an international conference leading up to distributing and publish the proceedings and selected papers.

Result: The proceedings of the conference was published and provided a useful summary of the work and outcomes of the conference as well as making a positive contribution to the development of effective approaches to fisheries monitoring both in Australia and globally.

8. *Scientific support for the Development of International Policy for Commonwealth Fisheries: 1998.*

Project cost and Service Provider: \$72,900, 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 of Australian 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. One such element of scientific support was the preparation of a report: *Development and Evaluation of Management Strategies for the Southern Bluefin Tuna Fishery*.

Reports were also provided on regional fishery developments and stock assessments, which could be integrated in management policies for Commonwealth fisheries.

9. Monitoring the longline catch of southern bluefin tuna (SBT) landed in Indonesia: 1998-1999.

Project cost and Service Provider: \$69,890, CSIRO

Objective: Monitor the Indonesian longline fishery operating out of Benoa, Bali, including species composition of landings and changes in fishing effort and targeting as well as monitoring changes in the spawning population of SBT including size and age distribution, and temporal patterns of abundance of the spawning grounds.

Result: A final report, *Monitoring the longline catch of southern bluefin tuna (SBT) landed in Indonesia: 1998-1999* was published. .

The report provides an analysis of data collected during the monitoring of the longline catch of southern bluefin tuna landed in Indonesia during 1998-99.

The results were vital for several 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 Indonesia and data for assessing the status of the SBT parental stock.

10. Examining Taiwanese fishing activities and catches of southern bluefin tuna (SBT) in the Indian and Atlantic Ocean during 1998-1999: 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: \$37,882, 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 measures taken to minimise seabird bycatch.

Result: A final report, *Examining Taiwanese fishing activities and catches of southern bluefin tuna (SBT) in the Indian and Atlantic Ocean during 1998-1999: 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 a basis in understanding 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

11. Survey of *Holothuria Scabra* (Sandfish) on Warrior Reef, Torres Strait.

Project cost and Service Provider: \$10,361, Queensland Fisheries Service

Objective: Provide details of:

- a survey of stock abundance of sandfish (*H. scabra*) on Warrior Reef,
- the burrowing rates in relation to time of day and tidal patterns; and
- the size of sandfish at sexual maturity and spawning times.

Result: A report, *Survey of Holothuria Scabra (Sandfish) on Warrior Reef, Torres Strait* was published. The report provided recommendations on management options for year 2000 and beyond, and future research priorities.

12. Assimilating Information Emerging Technologies into Policy Making for Aquatic Animal Health and Aquaculture: Genetically Modified Organism Epidemiology.

Project cost and Service Provider: \$231,357, National Offices of Animal, Plant Health and Food Safety, AFFA.

Objective: Provide specialist and technical input to ensure:

- The continued favourable health status of Australia's aquatic animals and to facilitate the safe movement of aquatic animals and their products into Australia and between its States and Territories;
- The continued sustainable development of aquaculture; and
- The provision of expertise and training in emergency management for aquatic animal health and aquatic pests.

Result: Through the provision of quarterly reports, specialist and technical input was provided which enabled informed policy decisions on a range of aquaculture and aquatic animal health issues.

PART D: FISHERIES RESOURCES RESEARCH FUND; FINANCIAL EXPENDITURE

The following table provides a summary of FRRF expenditure, by service provider for the period 1991-92 to 1999-2000. Note, from 1995-96, \$1 million has been transferred annually to AFMA for the management-related component of research. This allocation recognises AFMA's obligation to arrange appropriate research in economically non-viable fisheries.

Table 3: FRRF disbursements: 1991-92 to 1999-2000

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
AFMA	nil	nil	\$318,218
ABARE	\$511,273	\$784,270	\$420,214
BRS	\$1,062,213	\$901,751	\$1,381,058
OTHER	\$305,236	\$884,077	\$874,332
TOTAL	\$1,878,722	\$2,570,098	\$2,993,822

Attachment A

Fisheries Resources Research Fund Projects: 1998-99

The FRRF was established in the financial year 1991-92 as part of a reorganisation 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 1998-99. Details of projects funded from 1991-92 to 1997-98 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 1998-99

	Project title	Agency	Funds disbursed
Independent Assessment Program 1998-99			
1	Monitoring the economic performance of the Australian fishing industry	ABARE	\$186,192
2	Economic assessment of fisheries, identification and assessments of data requirements	ABARE	\$101,573
3	Characteristics of the South East Fishery quota market	ABARE	\$77,647
4	Status of Australian fisheries 1999	BRS	\$265,770
5	Examining Taiwanese fishing activities and catches of southern bluefin tuna (SBT)	CSIRO Division of Marine Research	\$37,882
6	Monitoring the longline catch of SBT landed in Indonesia	CSIRO Division of Marine Research	\$69,890
7	Assessment of the relative abundance of black and blue marlin in the AFZ and the impact of recreational fishing	BRS	\$124,295
	Total Independent Assessment		\$863,249
Assessment development program 1998-99			
8	Effects of fishing on non-target species	BRS	\$155,751

9	Ecosystem modeling of the Arafura and Timor Seas	BRS	\$65,637
10	\$1.5 billion: the potential for Australian aquaculture	ABARE	\$275,718
Total Assessment Development			\$497,106
Policy Development Program 1998-99			
11	Conference on the management of straddling and highly migratory fish stocks and the United nations	ABARE	\$8,000
12	Flexible seasonal restrictions in the Northern Prawn Fishery	ABARE	\$85,521
13	Risks and reward: developing efficient property rights regimes for exploratory and developmental fisheries	ABARE	\$49,619
14	SBT research/industry/management workshop	CSIRO	\$18,392
15	Scientific support for the development of international policy for Commonwealth fisheries 1999	BRS	\$41,400
16	Individual Transferable Quotas (ITQs) in the South East Fishery: a social science analysis	BRS	\$28,800
17	Social profiling township resource cluster (TRC) in the South East Fishery	BRS	\$60,000
18	2020 Vision on aquaculture in Australia	BRS	\$160,098
19	Promoting Australia's aquaculture interests in regional fora	FAB	\$83,228
20	Illegal, unregulated and unreported (IUU) fishing: developing policy and elements for an international plan of action	FAB	\$204,550
21	Workshop on aquaculture beyond 2000: changing direction	FAB	\$120,000
22	Economic, environment and trade instruments and their impacts upon Australian fisheries: policy and management	Uni of Tasmania	\$71,100
23	Australia and international fisheries management issues: future directions	Uni of Tasmania	\$138,692
24	A national aquaculture development strategy for indigenous communities in Australia	Fisheries WA	\$130,343

25	Use of property rights in fisheries management (FishRights '99 Conference)	Fisheries WA	\$10,000
	Total Policy Development		1,209,743
	Total FRRF Disbursements		2,570,098