Australian Government

Fisheries Research and Development Corporation

FINAL REPORT ON AUSTRALIAN FISHERIES STATISTICS

abare project number 2001/227

Final report to the Fisheries Research and Development Corporation

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abare

The Fisheries Research and Development Corporation plans, invests in and manages fisheries research and development throughout Australia. It is a statutory authority within the portfolio of the federal Minister for Agriculture, Fisheries and Forestry, jointly funded by the Australian Government and the fishing industry.

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summary

Outcomes achieved to date:

- Reliable and timely economic data provided, to ensure well informed investment, management and policy decisions by the Commonwealth, fishing industry and the public in general.
- Accurate information provided to stakeholders on the values associated with the fisheries sector.
- Accurate and cost effective estimation of gross value of production provided to assist current research funding arrangements
- Baseline information provided that is fundamental to establishing the importance of individual fisheries and trends with fisheries.

ABARE has been publishing, on an annual basis, detailed production and trade data in *Australian Fisheries Statistics* since 1991 — to meet the needs of the fishing industry, fisheries managers, policy makers and researchers. The research undertaken in this project (2001/227) produced data on the volume and value of production from Commonwealth, state and Northern Territory fisheries, and the volume and value of Australian fisheries trade, by destination, source and product, covering the years 1998-99 to 2002-03. These reports also contain industry structure profiles of Commonwealth, state and Northern Territory fisheries.

An important part of this project was the requirement to implement a process of continuous improvement over the life of the project. These improvements were aimed at enhancing the coverage of fisheries, so all commercial fishing activities were included, incorporating industry employment data when available, maintaining the relevance of the data presented in both the production tables, by improving fishery divisions and important species categories, and in the trade tables by rationalising the information presented. Processes were also implemented so that the valuation of commercial fishing was undertaken in a consistent framework.

Australian fisheries statistics

Background

The absence of reported national fishery information led to ABARE researching and publishing the first *Australian Fisheries Statistics* in 1992. This project (2001/227) was undertaken to maintain the collection of commercial fishing industry production, value of production and trade data. *Australian Fisheries Statistics* continues to be the only collated and published source of information on commercial industry catches. It is used for a wide range of purposes, including determination of Australian Government and industry financial contributions to fisheries research funding, industries levies and for addressing a wide range of information needs of both governments and industry.

As estimates of the gross value of production reported in *Australian Fisheries Statistics* form the basis for research levies for each fishery, it is important for the system to be independent from those involved in the management and marketing processes to ensure the neutrality and integrity of the estimates.

Need

The development of statistics on Australian fisheries production and gross value of production (GVP) is required to meet a wide range of demands.

First: The existence of these data in a readily accessible form provides the basis for a range of activities, including the setting of research and management priorities by fisheries managers, industry and funding agencies. The Australian Government, through ABARE, contributes to a number of international databases, including databases managed by the Food and Agriculture Organisation of the United Nations (FAO) and the Organisation for Economic Cooperation and Development (OECD). Information at the international level can be important in international negotiations on issues such as transboundary fisheries, in analysing trade opportunities and threats and is essential for participating in forums such as the Asia Pacific Economic Cooperation (APEC) forum and the World Trade Organisation (WTO).

Second: The gross value of production (GVP) estimates for specific fisheries are used for determining the Australian Government and industry financial contributions to the Fisheries Research and Development Corporation (FRDC). It is important that GVP estimates are carried out independently from those involved in the management and marketing processes to ensure the neutrality and integrity of both the estimates and the process.

Third: The data are extensively used by the fishing industry and by providers of services to the fishing industry in making investment decisions and in longer term planning of marketing strategies.

Objectives

1. To maintain and improve the database of production, gross value of production and trade statistics for the Australian fishing industry, including aquaculture.
2. To provide these data in an accessible form.

Methods

The key element of *Australian Fisheries Statistics* is the development of gross value of production estimates for the Commonwealth, state Northern Territory fisheries. National gross value of production is the total value of Australian wild caught and aquaculture product estimated on the basis of prices received by fishers and producers according to the 'beach' or 'farm gate' price after all marketing and transport costs have been deducted. State gross value of production data are collected directly from the relevant state government department.

State and Commonwealth fisheries agencies provide production data used in gross value of production estimation. Responsibility for the accuracy of the data lies with the fisheries agency and for its consistency with the Fisheries Statistics Working Group, a subcommittee of the Standing Committee of Fisheries and Aquaculture. This group addresses problems associated with methods of data collection (generally logbooks), consistency of data processing protocols, standardisation of the species names and issues such as the impact of overlapping fisheries management jurisdictions on catch data.

All production volumes recorded are in landed live weight of the fish production. No account is taken of the bycatch and discarded species.

In general, commercial aquaculture production is provided by state fisheries agencies. Systems similar to those for the wild capture fishery data are used.

Value of product

The price used in gross value of production estimation is based on the estimated 'beach' or 'farm gate' price received by fisheries and aquaculture producers. Values are derived from a range of sources, including directly from fishers and producers, wholesale markets, seafood buyers and processors. For some states, the values are collected by the fisheries agency while for others they depend on information provided by a sample of buyers. The sources and contacts for this process have been constantly updated and, where relevant, expanded.

As most fish is actually sold within a market away from the point of landing or aquaculture farm gate, marketing and transport costs need to be deducted from the price received at the point of sale.

Intermediate product

It often occurs that live product from one fishery or aquaculture operation is transferred for use in another fishery or aquaculture operation. For example, wild caught southern bluefin tuna are taken in the Commonwealth fishery and transferred to cages off Port Lincoln, South Australia.

The issue is whether such intermediate product should be included in the gross value of production estimates. The criterion used in *Australian Fisheries Statistics* is whether live product is transferred to another management jurisdiction. If product is transferred to another jurisdiction, it is included in the GVP estimates for the jurisdiction in which the product was originally produced (in this case the southern bluefin tuna fishery).

Such product is then treated as any other input used by the second producer and no 'correction' is made to the value of product from the second jurisdiction (the tuna farming operation) because the estimates are of gross value of production. If, however, live product is transferred from one operator to another within the same fishery or aquaculture jurisdictions for on-growing (for example, oyster spat), this product is not included in the estimates. However, in developing estimates, totalling the values at the jurisdiction level would result in double counting so the value of the intermediate product is subtracted.

Fish fry, oyster spat and post larval prawns are grown in hatcheries for on-growing. If this product is grown on or transferred to another aquaculture operation in the same state, the value of the hatchery production is included at this stage. It is only if the product is sold interstate or is used for restocking that the value of hatchery product is relevant.

Trade data

Details on fisheries trade are sourced from the Australian Bureau of Statistics on the basis of the harmonised system of tariff codes and ABARE collates the data into categories based on products, destinations etc. These data have been reviewed each year and the trade tables published in *Australian Fisheries Statistics* are constantly revised to expand information on increasingly important trade products.

Results/discussion

See publications of *Australian Fisheries Statistics*, 2001, 2002, 2003 for the results of this project. A new database was created in 2000 that allows more efficient retrieval of information on a species basis. At this stage, five years of data (1998-99 to 2002-03) have been entered into the database.

While the general principle is that the value of production should be the ex vessel or ex farm gate value, there may be difficulties in obtaining such information. In the collections that are not based on obtaining such information directly from fishers or farmers, the large number of marketing channels used in the fisheries sector may cause difficulties in providing representative valuations. Also the distribution of products can change significantly in a short period. Without monitoring, this can lead to errors in the basis for valuation.

There is also an implicit assumption that all fish of the same species have the same value. This is not generally the case. The source of fish (fishery), fishing method and size have an impact. In the absence of standard grades it is not feasible to assess the basis for price changes over time — for example, whether a change in price is caused by market demand and supply or by changes in supply composition, such as larger or higher quality fish.

Benefits

The benefits of this project are widespread and have a substantial public good component. While in general the benefits are nonmarket in nature, there are significant components of realisable benefits, including as an input to decision making for fisheries management and investment decisions, research allocation decisions and similar issues.

The publication of *Australian Fisheries Statistics* also provides benefits to the fishing industry. These benefits include the provision of freely available consolidated information on their industry, both in size and value terms, for use in investment decisions and longer term planning in marketing strategies.

In 2002 *Australian Fisheries Statistics* was made available for free download from ABARE's website (www.abareconomics.com). In 2003-04 there were 1149 downloads of *Australian Fisheries Statistics 2002* and 1179 downloads of *Australian Fisheries Statistics 2003*.

Further development

The objective of the *Australian Fisheries Statistics* project was to establish a framework for a low cost publication that covered fisheries production and trade. While ABARE collates and publishes the data, it is a collaborative effort, involving a number of different organisations at the Commonwealth, state and territory, and individual company level.

The publication includes only summary information on commercial production, value of production, industry structure and trade; however, it does provide the basis for monitoring longer term changes in fisheries.

A requirement for statistical collections is that there have to be a minimum number of operators within a category before it can be published. This can be a problem for fisheries or aquaculture sectors where there are a small number of operators.

In the aquaculture sector the number of operators may vary, particularly in the developing stage of the industry. It may be that data are available for publication for one year but because the number of operators fell below the threshold the following year the data cannot be published. In this situation it is difficult to assess the direction in which an industry/sector may be headed since the remaining producers may have increased production.

Another issue for consideration is that year base chosen for reporting in *Australian Fisheries Statistics*. While the choice of year base does not affect the actual collection of data, since data collections are based on a much smaller timeframe (daily, monthly), there has been criticism that a financial year does not concur with a fishing seasons. While this may

be the case for some fisheries, for others the use of a financial year does reflect a fishing season. Also information may be available for specific fisheries/species from other sources — for example, stock assessment reports.

The harmonised system and the statistical identification framework as currently implemented in Australia prevent identification of trade in most individual species. For example, shark fin exports are not identified separately by the Australian Bureau of Statistics. In addition, the ABS periodically reviews the statistical codes used with a view to amalgamating codes, or in some instances creating additional.

Presentation of information on the structure of the industry is made difficult because the differences in the base for management varies widely throughout Australia. In some jurisdictions the individual fisher is the base, in others it is the boat. Also, operators are often licensed for multiple fisheries so there are major problems in establishing the overlaps in assessing employment, boat numbers etc.

Continued improvements to the Australian Fisheries Statistics publication will be introduced each year, both in the production and trade tables. These will include continued updating of Commonwealth, state and Northern Territory fisheries, species produced (both wild caught and aquaculture) and species groupings. Trade tables will continue to be updated with relevant species and countries. In addition, more detailed information on employment in the fishing industry will be reported, as will information on recreational fishing.

Planned outcomes

Planned outcomes of the project included:

- Commonwealth, fishing industry and the public in general use the data for input into investment, management and policy decisions.
- Stakeholders obtain accurate information on the values associated with the fisheries sector.
- Research funding arrangements obtain accurate and cost effective estimation of gross value of production of Australian fisheries.
- Importance of individual fisheries and trends within fisheries established from data.

Production of data in the *Australian Fisheries Statistics* publication achieved the planned outcomes of the project.

Conclusion

The project achieved the aforementioned planned outcomes and objectives with the release of *Australian Fisheries Statistics* 2001, 2002, 2003.

The publication was also made available for free download from the ABARE website in 2002 (www.abareconomics.com). In 2003-04 there were 1149 downloads of *Australian Fisheries Statistics 2002* and 1179 downloads of *Australian Fisheries Statistics 2003*.

references and information sources

Information sources

Australian Bureau of Statistics

Australian Fisheries Management Authority

Department of Fisheries Western Australia

Marine and Freshwater Resources Institute

Melbourne Wholesale Fish Market

New South Fish Marketing Authority

New South Wales Department of Primary Industries – Fisheries

Northern Territory Department of Primary Industry and Resource Development – Fisheries

Queensland Fisheries Service

Queensland Department of Primary Industry

South Australian Research and Development Institute

Tasmanian Department of Primary Industries, Water and Environment – Fisheries

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appendixes

1. Intellectual property

Not applicable

2. Staff involved in the project

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