An Evaluation of the Performance of Australian Fisheries Research

Author on board a trawl survey vessel off the New South Wales south coast in 2001.

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Abstract

For nearly 20 years, Australia's approach to the management of its primary industries has been driven by the principles of Ecologically Sustainable Development (ESD). Even though the use of quality research is fundamental to the application of ESD (NSESD 1991) there has been remarkably little assessment of the effectiveness of the use of such research.

One of Australia's primary industries, the commercial fishing industry, has an annual production value of over $A2 billion with an estimated 100,000 people being dependant directly or indirectly on the industry for their employment (FRDC 2005). Fishing also remains a vital source of nutrition and custom for indigenous communities and an estimated 3.4 million Australians recreationally fish every year (Henry & Lyle 2003).

Despite the economic and social value of fish and fishing and the prominence given to research in fisheries management there is no formal process or widely accepted approach to assess the overall performance of fisheries research, or to measure the extent to which research results have been incorporated into fisheries management. Neither has there been a comprehensive examination of the performance of the national research portfolio and its contribution to fisheries outcomes. This is primarily because there is no generally accepted method for assessing research performance and its contribution to desired outcomes. Benefit Cost Analysis (BCA) has, despite its acknowledged inadequacies, been the only method commonly employed to date.

This study was undertaken to address the lack of knowledge of the performance of the national fisheries research portfolio and to develop a composite measure to evaluate this performance. It covered over 100 completed projects with directly attributable costs alone exceeding $A38 million. It included two separate national surveys of the country's leading fisheries research end-users and fishery experts together with a series of interviews of selected personnel in key fisheries. These were followed by statistical analyses of the appropriate data on 60 fisheries. In combination, these processes enabled quantification of the relationships between the performance of the fishery pre and post project, biophysical and socio-economic characteristics of each fishery, and the opinions of end-users about project performance.

Results obtained in this study showed that the national fisheries research portfolio undertaken over the decade of the 1990s had performed well according to the opinions of end-users.
It was perceived to have had a positive influence on fisheries management and the positive fisheries outcomes that have flowed from this. Between 70% and 86% (depending on the measure) of end-users' opinions regarding fisheries projects completed throughout the 1990s were positive. Therefore, from the perspective of those with relatively short-term interests, such as politicians, Australia's fisheries research portfolio could be concluded to have been most successful. As a result, similar surveys, perhaps together with BCAs, may be all that is required for political or corporate reporting purposes.

On the other hand significant correlation was only found between fishery outcomes and one measure of end-user opinion. Therefore, these opinions and the surveys that quantified them are, in spite of the quality and short-term utility of the data they contain, not particularly reliable predictors of longer-term fishery outcomes.

In contrast, statistically significant relationships were identified between key fisheries outcomes and several fishery characteristics, such as the longevity of the species and the level of scientific knowledge. This confirms that numerous factors not related to research performance also influence fishery outcomes. It also suggests that several may be indicators of the likely success of future projects.

This study has provided answers to many of the questions clouding the evaluation of Australian fisheries research performance. It has related the relatively short-term perceptions of research success to the longer-term reality of fishery outcomes. It has also identified areas of portfolio strength, described areas in need of improvement and identified how the necessary improvements might be achieved. By delivering the first in-depth analysis of the performance of the national fisheries research portfolio it has established a sound basis for ongoing work in this field and provided an historical benchmark of that performance over the last decade of the 20th century.

Certificate of Authorship of Thesis

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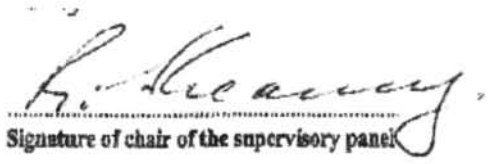

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