

Recreational fishing information systems: 'It's about time, it's about space'

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Background

Implementation of comprehensive recreational fisheries information systems is a new development throughout Australia. The National Recreational Fisheries Working Group, in its draft 'A National Policy for Recreational Fishing' acknowledged the need for a long-term database and provided detailed discussion on the types of information needs which may be prerequisites to the development of recreational fishery management strategies.

In summary, the Working Group concluded that:

'Methods have to be devised to ensure long-term data collection throughout Australia's recreational fisheries. Time series data are crucial for environmentally sound management. To conserve and enhance our fisheries we need to build up an ongoing national information base—a store of knowledge.'

The recent Queensland Government inquiry into recreational fishing (Recommendation 67) concluded that a comprehensive database should be developed to monitor the catches of popular fish species

and to estimate angler effort, as part of an overall programme aimed at sustainability of those species.

In Queensland, a dedicated recreational fisheries programme was commenced about 18 months ago. Over this period substantial amounts of data have been collated and several initiatives implemented to provide information. In particular the major sources of data now available include:

Charter vessel logs	1993–present
Club records	1952–present
Tagging	1965–present
Surveys	Boat ramp, creel, telephone, etc.
Vessel Registrations	1970–present.

Discussions with other fisheries agencies highlighted that each is in a similar situation. That is, they are trying to quickly bring recreational fisheries systems up to the standard of commercial fisheries systems but are being hindered by the inherent problems associated with integrating diverse datasets and the high cost of development. The Standing Committee on Fisheries and Aquaculture (SCFA) Fisheries Statistical Working Group (FSWG) recently concluded that a cooperative

development would be of immense benefit to each agency and save time and resources as against developing individual systems and the costs invariably associated with 're-inventing the wheel'.

The concept

The need for accurate and readily available recreational fishing statistics has been identified as a major priority by the FSWG. At a recent meeting the FSWG concluded that the status of recreational data in Australia was poor. In summary, it could be characterised by the following comments:

- not much of it
- no consistent format
- not continuous
- many data sets lost, forgotten or just unused
- data are generally inaccessible
- time series analysis using multiple data sets is very difficult.

Further, State representatives on the FSWG highlighted several common factors with regard to the development/implementation of recreational fishing programmes in each State. These include:

- each agency is committed to recreational fishing programmes
- although each agency has substantial commercial fisheries information systems, no agency has developed a comprehensive recreational fisheries database
- the cost of establishing a comprehensive relational database for recreational fishing to the standard of the major commercial fisheries databases is substantial and excessive for a single agency

- a cooperative development would be of immense benefit to each agency and save time and resources developing individual systems
- there is strong need for a comprehensive relational database by each agency. Similarly, there is also a strong need for the information to be available at a national level.

Objectives

The major objectives of the concept are:

- To provide the tool to facilitate the 'build up of an ongoing national information base—a store of knowledge', as recommended by the National Recreational Fisheries Working Group.
- To ensure the database meets the standards set by the Fisheries Statistical Working Group.
- To ensure the database can be integrated with commercial catch and effort databases.

It should be stressed that the concept does not imply a central database, each agency has total control. Furthermore, it is not about data collection/analyses.

The need for a coordinated approach to a comprehensive information system

A comprehensive information system would:

- ensure management decisions are based on sound information. In addition, it would provide the structure that would allow recreational fishing data to bridge the now substantial gap in terms of quality, coverage and availability as compared with commercial fisheries data collection

- provide a common structure for the collection, processing, storage and retrieval of recreational fisheries data
- be suitable for use by all fisheries agencies irrespective of their current facilities (i.e. mainframes, mini-computers or PCs) through the incorporation of a custom third party front end (a comprehensive and user friendly interface for users to access the database) (Figure 1)
- provide a 'user friendly' environment for the retrieval and analyses of such data
- adopt national coding and validation conventions as recommended by the FSWG
- ensure the data meet the standards set by the FSWG. This would be a major step forward in adopting the AFC (19th meeting, 21 July 1989) objectives to improve coordination of fisheries data throughout Australia. It also addresses the AFC resolution that each State introduce a strategy to provide for the collection, preparation and publication, in a timely manner, of a long series of validated catch data for all recreational and commercial fisheries and effort data for those species of importance or potential importance
- ensure recreational data would be compatible with major commercial fisheries databases.

Development of a national standard for a recreational fisheries database would provide a common structure for the collection, processing, storage and retrieval of recreational fisheries data. Such a standard would enable common baseline data to be stored by each agency. This would ensure that the minimum catch and effort data are available for each agency to assist with

management of the major recreational fisheries in each State or Territory.

At its November 1993 meeting in Melbourne, FSWG representatives endorsed the proposal that the FSWG would be the most appropriate vehicle for adopting a national approach to this project. The structure recommended for progressing the project is provided in Figure 2.

In summary, the FSWG would provide the forum for progressing development of a national standard and coordination of the major work undertaken by the Developers' Group in consultation with the Client Group.

Benefits

Implementation of the concept would save each agency considerable time and money. It would provide the opportunity for recreational fisheries information systems to reach the standards of commercial fisheries information systems in a very short period and in a cost effective manner. The cost to develop and implement a recreational fisheries information system comparable with commercial fisheries information systems, particularly in the time frame achievable through a national approach, is beyond the resources of any single fisheries management agency.

It is worth noting that the predecessor to the current FSWG recommended a similar concept for commercial fisheries in the late 1960s. Unfortunately, this was never accepted and it has now taken more than twenty years and considerable cost to reach the now acceptable arrangements for national commercial fisheries information.

Development of a common structure and implementation of the final application on each agency's existing hardware and software would be a significant step forward in ensuring that national standards are achieved and maintained.

Another significant advantage of the concept is that its success would not be conditional on immediate, universal adoption. Some agencies will be able to implement such a system immediately while others may take longer. Each agency would have the option of implementing the entire information system or just those components applicable to their individual needs. In addition, the concept provides the opportunity for agencies currently considering substantial upgrades to their existing computer facilities to do so without incurring the substantial costs associated with redeveloping their existing software.

Adoption of the concept would enable agencies to implement a comprehensive information system to take full advantage of the rapidly accumulating data on recreational fishing activities, which is only surpassed by the growth in demand for analyses of those data. The draft National Policy for Recreational Fishing highlighted the need for management decisions based on, amongst other things, sound information covering fishing activity and catches by recreational anglers. There is a recognition that the collection of recreational angler catch and effort information is one of the critical areas in fisheries management requiring urgent attention.

Finally, while there are significant benefits for each individual agency there are also significant advantages at the national level. In particular, each agency would have the opportunity to adopt a system that is of a

national standard without incurring significant costs which characterised the *ad hoc* development of commercial fisheries information systems during the 1980s.

Support

Extensive consultation with both government and non-government bodies has been undertaken and support for the project has been strong. Support has been forthcoming from the following organisations:

- Queensland Fisheries Research Advisory Committee
- Australian Recreational and Sport Fishing Confederation (ARSFC)
 - the 'peak' national recreational fishing body
 - the Australian National Sportfishing Association (a member of ARSFC) has supported the project. In particular, the Queensland branch has already developed a substantial tagging database which is being adopted by Victoria. They have offered their expertise and system to the project
 - The Queensland Sport and Recreational Fishing Council (QSRFC), a member body of ARSFC, has also supported the concept and offered any assistance necessary.
- The FSWG strongly supported the project at its recent meeting (25-26 November 1993)
- Each State fisheries agency has indicated its support.

Summary

A coordinated approach to establishing such a database would provide major bene-

fits to all fisheries agencies. It would provide each agency with a comprehensive and integrated Recreational Fishing Database that is of a national standard in a realistic timeframe. In particular, it would save each agency time and resources developing individual systems and the invariably associated costs.

Three inherent features of this concept have consistently been identified each time it has been openly discussed at workshops and would ensure its success:

1. The concept of utilising the Standing Committee on Fisheries and Aquaculture (SCFA) Fisheries Statistical Working Group (FSWG) to progress the concept at a national level is a significant achievement for coordinated fisheries research and development in Australia.
2. The concept of the Extended Project Team to undertake the task is extremely sensible. Incorporation of a Developers' Group and Client Group within the Extended Project Team will ensure a logical progression. Further, it will ensure that input from each agency will be extremely high.
3. The concept of individual ownership at the conclusion of the project (i.e. each agency receives its own copy of the application) is attractive to all agencies. All agencies favour this approach rather than a centralised database.

Implementation of the concept would undoubtedly save each agency considerable time and money. It would provide the opportunity for recreational fisheries information systems to reach the standards of commercial fisheries information systems in a very short period and in a cost effective manner.

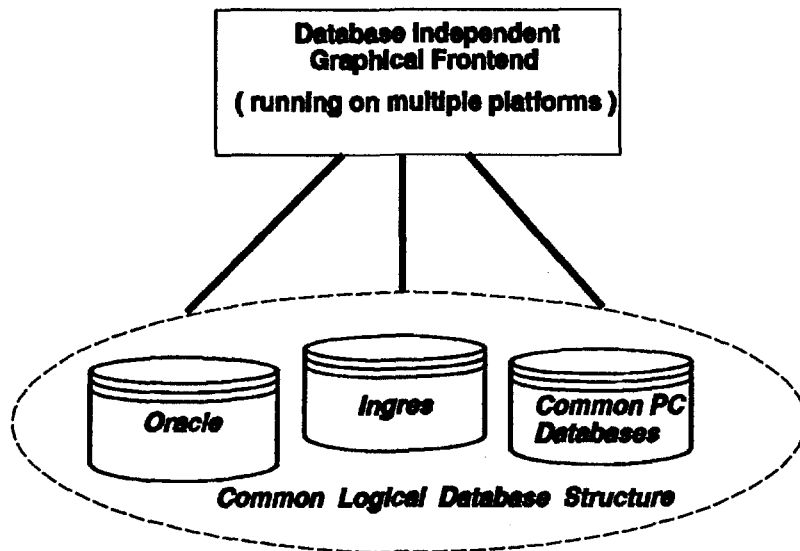


Figure 1. Proposed application structure.

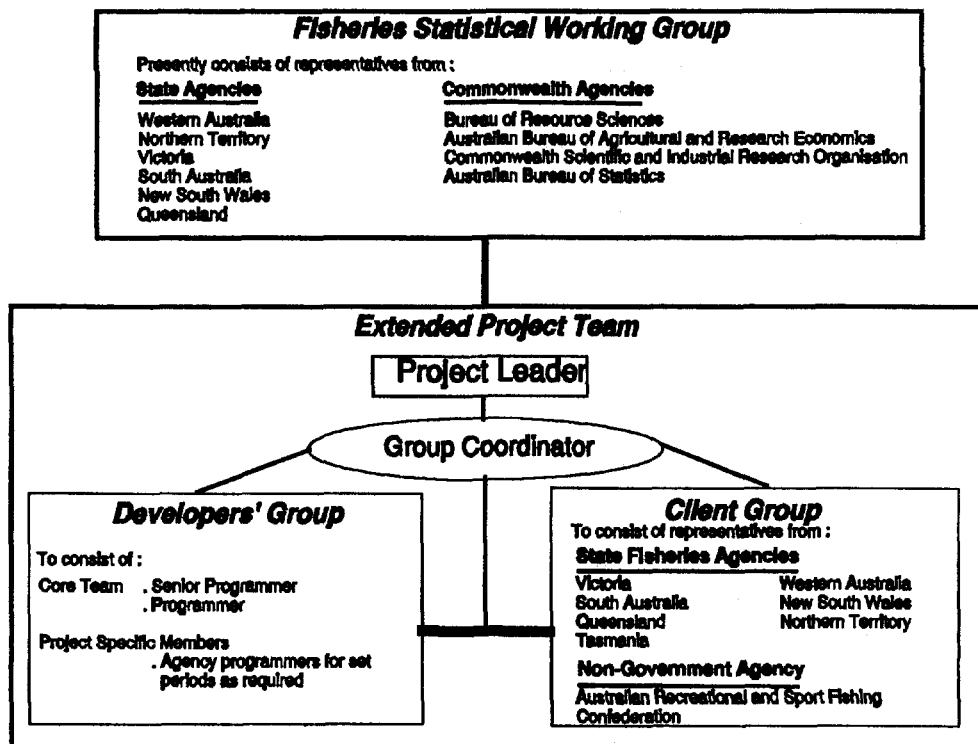


Figure 2. Proposed structure for progressing the project.