Evaluating Performance

Australian Experience in use of the Delphi Technique to evaluate the performance of fisheries management and ‘best use’: Results, Methods and Limitations.

George Kailis IIFET 2016, Aberdeen.
The value of the fishery resource lies in its ability to support public goals and objectives.

The Issue:
How do we know we are supporting public goals and objectives? Who will report? What are we measuring? How much will it cost to measure?
What about complex multiple sectors.

- “Issues and priorities driving fishing and aquaculture resources are complex and dynamic.” Report 20016
Choices and Constraints

- How do we address the challenge (as summarised by the OECD earlier) if we do not assess and report to the public.
- Do existing ‘official’ channels have an impact on the community – self reports
- Difficult and contentious concepts such as ‘best use’
- Need to be efficient in use of resources if any report is to be repeated and not just a once.

- Most experts in Australia are institutionally aligned.
- Research suggests neither government nor industry a trusted source.
- Existing reports cover some sectors, but not all.
- Jurisdictional issues – 6 fisheries jurisdictions with different legal and reporting requirements.
- Limitations of sponsoring body, The Fisheries Research and Development Corporation is a research funder not a management agency.
Delphi Methodology: Background

Description
• A form of consultation with experts
• Origin in development in Cold War of techniques to answer questions such as Soviet military strength
• From its beginning a method aimed at both generating outcomes where difficult questions (now often referred to as ‘wicked problems’)
• Issues of Group dynamics, including expert affiliations, group think and dominance.

Essential Elements:
Step 1: Define and recruit an Expert group
Step 2: Initial contact through a discussion paper
Steps 3-4: Rounds of consultation, each feeding into the next. Minimum 2 rounds, in addition to consultation on Step 2 above.
Step 6: Final Report
The Technique Advantages

• ‘A great strength of the Delphi process is its ability to capture diversity and depth of opinion across complex issues from diverse, variously informed sources. During this project feedback has been sought and where there is common agreement, this has been highlighted in subsequent issues papers and this report.’
  • From Draft 2016 Report

• ‘According to Buckley (1994) one clear use of the Delphi technique is when the issue under investigation does not lend itself to precise analytical techniques, but can benefit greatly from subjective judgments on a collective basis.’ (Grisham, 2009)
Results: Two Projects one in 2006-9 the other 2014-15

Report 1 Published 2009

- Australia’s Fisheries Research and Development Corporation. Committee set up a research project in 2006 into performance of Australia’s Marine Fisheries
- Project carried out by Ewan Colquhoun of Ridge Partners supervised by an Advisory Committee drawn across sectors/disciplines Chaired by George Kailis
- Cost AUD 120,000 (including Committee costs)

Key conclusions:

- The annual economic gap between best and current use was AUD 350-450 million p.a.
- Top priorities for action: strategic approach/flexibility, allocation of rights, ecosystem approach to mgt.
- Joint teams of users-managers-communities are best positioned to recognise where their fishery is on a shared journey to best use and chart the efficient pathway to their achievement in its own time.
Two Projects: Report 2 2016:

Note this Project is in the Final Draft Stage, Permission has been granted to use the Final Draft, but all conclusions are those of the presenter.

Report 2 Final Draft: In Process

- Repeat of the Research using similar methodology but drawing on the last project, a more systemised approach.
- Additional attention to indigenous and recreational use. Again carried out by Ewan Colquhoun of Ridge Partners. An more informal advisory group (including George Kailis).
- Estimated cost AUD 90,000

Key conclusions:

- **The annual economic gap** between best and current use was **AUD 1 billion**. On a like for like basis to 2009 a shift of around -14%
- **Top priorities**: Flexible and Strategic management, clear and documented ‘harvest strategies’ and efficient/transparent allocation of catch shares/rights.
- **Changes**: Community expectations have shifted upwards, marginal improvements in performance.
Figure 18. Fishery Performance Distribution Profile 2014

Fishery Performance Ratings 2014. 58 Fisheries Avg 5.6

- Commercial wild fishery – State and Territory
- Commercial wild fishery - Commonwealth
- Recreational fishery
- Indigenous customary fishery
- Aquaculture fishery
Choices in this Study

Cross Sector Steering Group to assist Investigator / facilitator
As large a panel as possible was assembled : 63 Experts Participated in 2014/15
Participants contributions were confidential and anonymous. Written responses were supplemented with interviews.
No attempt to ‘force’ a consensus. A lack of consensus is a result.
Plan for future: de-identified research file produced for future research.
Some Delphi Criticisms: Response

- *Too dangerous/political:* First report (2009) identified a common, but very politically sensitive issue over jurisdictional problems and impact on outcomes. This is part of the reason a confidential technique was used – valid information on true views
Some Delphi Criticisms: Response

- *Essentially qualitative/subjective:* Selection of experts requires an ‘a priori’ assessment of expertise – limits ‘valid’ statistical analyses. Still represents the views of a large cohort of experts.
- *Not ‘scientific/rigorous’, should commission an expert to review:* To do so introduces the sort of problems the technique attempts to avoid.
Generating a Gap Estimate

Call for action for investment by the community is supported by an estimate of the gap between current and best use.

- Used qualitative assessments plus existing research on ‘Gross Operating surplus’ to generate a gap estimate

One of the most controversial elements

- Methodological – for use of qualitative results in this way
- Political – generates a clear headline number.

2016 Report qualifies that: ‘estimates [including of gap] should be used with caution’ [emphasis in the original]’
Fundamental Limitations of Process and When You should Use it.

• ‘The Delphi technique is not a substitute for other scientific testing, but rather an option for complex and intertwined subjects that cross over disciplinary boundaries.’

Key Outcome in 2016

Development of a ‘compact framework’ and set of ‘tools’ that assist future application.

• 88% Expert support (2016 Report)
• But an expert commented that ‘hard to squeeze every fishery into the one ‘pro-form Framework’
Some Sources

Ridge Partners (2009). Evaluating Australia's Marine Capture Fisheries: Final Report to the FRDC's Resource Working Group. (http://frdc.com.au/research/final-reports/Pages/2006-071-20.aspx) Referred to as the 2009 Report in this paper. As noted the 2016 Report (and the Tools referred to previously) is not yet available. It is expected to be so shortly. You can find copies of the last draft of this process on the web and will be available in the FRDC database eventually (go to www.frdc.com.au and look in final reports.
