Access/Sharing Workshop – Constructed Scenario

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Abstract

Resource Management and resource sharing issues are intimately connected. Through discussion of a constructed scenario workshop participants were encouraged to share different perspectives on the management challenges of the interaction between resource management, resource access and sectoral resource sharing issues. A key issue expressed by participants was the need to clearly define the objectives for management of a fishery. Discussions also explored the use of market-based mechanisms to guide a dynamic system allowing transfers between sectors.

Keywords: scenario, workshop, resource access, resource sharing, market based

Introduction

Gatherings such as IIFET 2002 allow for only limited formal interaction between participants in the form of question and answer sessions after paper presentations. As an alternative format a constructed scenario was presented to participants in Special Session 2 on Access/Sharing to develop broader interaction and discussion. The constructed scenario allows for all participants to bring forward ideas and comment on a set of common facts in the context of a moderated discussion. The format was not designed to generate a consensus but to develop a range of options based on the different perspectives of the participants. There were a few instances that there was a strong common ground in relation to the responses of the participants and these are commented on below.

What is a Constructed Scenario? Why use one? Who attended?

The constructed scenario is a simplified fictitious fishery, exploring changes to this fishery over time. The use of the constructed scenario allows discussion on a common basis by participants. The use of a simplified version of the complex factors surrounding fishery management also allows for concentration on specific issues relevant to the workshop. There is a risk that the scenario designed by the facilitator will be lacking in reality and difficult for participants to relate to. This risk was minimised by basing the scenario on a 'real world' fishery. In this manner the scenario can be seen as grounded in a real world context.

In IFET 2002 the participants in the workshop were principally from Anglo-American countries representing a mix of managers, academics and some industry participants. The comments of participants reflected their differing perspectives.

Format of Workshop

At the commencement of the workshop all participants received a one-page general background for reference throughout the session (Appendix A). This described the state of the fishery in 1994. The workshop then proceeded in two stages. First the workshop discussed the impact of changes to the fishery in 1995 (Appendix B). Once discussion was finished on Appendix B, the changes that occurred up to 2000 were introduced by the facilitator (Appendix C) and there was further moderated discussion.

Discussion – First Stage of the Scenario (1995).

In this instance the facts presented related principally to issues of commercial over-exploitation, with a lesser focus on the recreational sector and recreational catches. Specific issues discussed were; the need for research, what changes to commercial fishing rights should be made, who should pay for increased management and the involvement of other sectors in changes relating to the commercial sector.

There was general acceptance that the usual response when faced with questions related to over-exploitation was to move to a higher intensity of management and research. In guiding what action is appropriate a threshold key task, if not the key task, was to determine the management objectives are for the fishery. These objectives may or may not value economic maximisation as a prime goal. It was acknowledged that there are many possible ways of managing a fishery, and the adoption of specific management techniques methods will influence the type of fishery that results.

In assessing the likely impact of the introduction of a new fishery technique the workshop participants put a high value on reviewing the technique's impact comparable fisheries wherever possible. In addition short-term trials of the new technique in the fishery under review would also be appropriate. It was pointed out that an assessment of the impact of new fishing techniques needs to be undertaken in conjunction with consideration of other possible changes affecting the fishery. In this context the scenario indicated that increases in market prices meant commercial effort was likely to increase in any event.

Finally there was discussion of cost benefit analyses of changes in management, as well as discussion as to who should pay for the cost of change. There was general agreement that if there were increases in resource value relating to the adoption of market-focused management changes then the beneficiaries should contribute to the costs of management. On the other hand there was also recognition that the transaction costs involved in measuring, attributing and recovering management costs may be such that this is impracticable.

Report as to discussion –Second Step of the Scenario (2000).

Key issues raised by the facilitator for discussion related to the management of the recreational sector and the further economic development of the commercial sector. A strong view expressed by some participants was that research underpinning the allocation of catch shares should cover both economic and sociological factors.

Long-term solutions require a cap on overall effort, measuring the contributions of each sector to effective fishing effort and the allocation of catch shares. The participants suggested in the case of the scenario the adoption of a combined total allowable catch (TAC) target with explicit shares allocated to the commercial (TACC) and recreational (TACR) sectors. The participants generally agreed that a desirable outcome would be separate but compatible plans as to how each sector would keep within its catch limit.

Although the total allowable catch was a key biological issue participants also recognised that the interests and objectives of commercial and recreational fishers could be quite diverse. In relation to the commercial sector there was recognition that certainty relating to resource access was an important issue. Lack of certainty could lead to excessive economic losses through diversion of efforts to lobbying as well as creating perverse incentives to fish in an unsustainable manner.

In relation to the recreational sector it was generally assumed that the overall fishing experience was highly valued by recreational fishers. In this regard it was important to undertake qualitative research as to what the recreational fishers actually want in relation to their fishing experience. Some participants expressed a concern that the involvement of representational bodies could easily bias qualitative research. In the case of peak representational bodies these may be influenced by broader policy concerns unrelated to the specific fishery under review.

There was limited discussion on how to decide on the means by which the initial allocations to each sector would be made. In particular the difficult issue of equity in relation to making initial allocations was not discussed in detail at the workshop. It was recognised that a range of techniques have been developed by professional economists for the purpose of estimating economically optimal allocations can assist in this process.

In the final phase of the workshop the facilitator directed the discussion towards the development of a dynamic system that allowed for shifts back and forward between sectors. A dynamic system would accommodate changes that occur over time in the relative values of different uses of marine resources. In relation to the scenario initial allocations that may have been seen as optimal in 1995 would have

been out of date and sub-optimal by the year 2000. Issues relating to the problem of enabling dynamic responses to changes in markets and society were raised in an earlier presentation in the same session (on the South Australian Rock Lobster Fishery). A dynamic mechanism would not require continual administrative adjustment with the concomitant risks of inappropriate political intervention. There was discussion as to how the market could be brought into what otherwise could become a political exercise.

Mechanisms suggested were:

- An independent body to arrange for transfers.
- Variable licences fees, progressive increasing dependent on the amount caught.
- Referenda of recreational fishers as to willingness to pay higher licence fees to buy out commercial effort.
- Allow trading between sectors, but only within a season and then shares revert to each sector.
- Periodic reviews of catch shares with the state providing a mechanism for transfer of one sector to the other for a set period (say 5 years).
- Convert part of catch limits to tags and allow their purchase to be contested (auctioned) between sectors (and possibly within sectors).
- Encourage independent recreational management groups who could buy or lease rights and distribute to their members.

There was a general consensus that market based mechanisms could have an important role in facilitating dynamic allocations in an economically efficient manner. It was also acknowledged, however, that political and social objectives for most fisheries made it unlikely that a 'pure' market based system would be adopted. In relation to the specific scenario under consideration a solution was proposed to have a 'floating share' of say 20% of the catch available to the highest bidder for that year. The income from the auction of those rights could be used in a variety of ways, for example to compensate the original rights holders or defray management expenses.

Conclusion

Participants at the session expressed their satisfaction at being able to engage at a deeper level in the workshop. The discussion on the constructed scenario allowed for a range of ideas to be raised and for an effective debate to take place in a constructive atmosphere. The workshop and constructed scenario should be seen as a valuable addition to more standard forms of interaction at an academic conference, supplementing rather than replacing traditional presentational methods.

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Appendix A

Background Handout - Description of the Fishery (1994)

Physical environment

Coddrill sound is a protected marine embayment off the coast of Western Australia. It is approximately 20 kilometres in length and at it widest 8 kilometres in breadth. The centre part of the sound is in excess of 20 metres in depth, but most of the Sound is relatively shallow, around 4-12 metres in depth. Coddrill Sound is bordered on one side by a nature reserve, and on the other by urban and industrial development including a significant port. There are around 300,000 people in the urban areas adjacent to Coddrill Sound and this number is expected to increase significantly in the next twenty years.

Target Species

The target species the subject of the fishery is the blue swimmer crab (Portunus pelagicus). This common species is distributed along the Western Australian coastline, but there are relatively few protected inshore waters where significant concentrations of crabs are accessible to fishers. The overall stock is presumed to be in a state where there is healthy recruitment. This is in part due to a minimum size rule, whereby the minimum size for retention is well above the size of maturity. Notwithstanding the generally healthy condition of the stock on a statewide basis there is potential for local depletion.

Commercial Fishery

As of 1994 when the first component of this scenario begins the commercial sector consisted of 16 licensees. The principal control on the amount of tangle nets per vessel has been capped, but the cap cannot be considered to be the only limiting factor as there was significant latent effort. The means of capture was by tangle nets from relatively small vessels (approx 13 metres). Although a number of the fishers specialised on crabs in Coddrill Sound, most only fished on an occasional basis. The commercial catch in 1994 was estimated at around 100 tonnes.

Recreational Fishery

The recreational sector is limited to capture by the use of drop nets. There is a maximum of 10 drop nets per vessel allowed, and a bag limit of 24 crabs per vessel per day. There is no limit on the number of recreational vessels and no licence required. The catch of the recreational sector is unknown. In the early 1980's it was estimated as being possibly as high as 150 tonnes with up to 75,000 participants. More recent 'guesstimates' suggest the recreational catch is significantly smaller than the commercial catch. There is significant potential for recreational effort to increase due to a combination of anticipated population increases and an expected increase in the popularity of recreation boating due partly to an ageing population.

Appendix B

First Scenario 1995

Background

In 1994 commercial crab fishers trialed using traps instead of tangle nets. Trapping proved to be a popular method. Benefits included less incidental catch **and better condition of crabs** retained. The latter proved to be an important point as the development of improved handling and the introduction of onshore holding tanks now meant that live crabs could be stored and exported - **at a significantly higher price** than the fishers had received before. What had hitherto been a marginal economic venture now held the prospect of being a valuable, albeit small, fishery. It was unlikely that the fishery would be profitable enough to support 16 full licensees specialising in this fishery alone.

The move to pots also provides the possibility of **improving the quality of the rights** held of commercial fishers by allowing the trading of individual pot entitlements between licensees. It is anticipated that this would lead to a **one-off increase** in the value of the licences.

The changes to the fishery have heightened tensions between full- time and occasional commercial fishers, as well as between those commercial fishers that have fully transferable licences and those whose licences are not transferable.

The recreational sector is generally indifferent to the change, the use of traps is considered an environmentally preferable means of catching crabs. They would like **a greater say in management**, but the issue is seen as principally an internal on for the commercial sector.

The management agency is keen to allow the conversion from tangle netting to traps, given the advantages of the trap method. The agency is aware of significant **latent effort** already exists in the commercial sector fishery already and is concerned about the perception of the change by recreational fishers. Australia.

Appendix C
Second Scenario 2000

Further Developments

Commercial Sector

The management agency allowed the conversion of tangle net to pots in what was, in retrospect, an excessively generous formula. The combination of better prices and more effective catching methods has seen the **commercial catch more than double** to around 210 tonnes.

There has been a re-organisation within the commercial sector. It was agreed that transferable licences should attract a more generous conversion factor, but the non-**transferable licences have been converted to transferable licences** with a commensurate increase in value**.** This has seen a consolidation of ownership into 12 licences. Commercial fishers still believe that around 8 licences would be appropriate and are interested in a **buy-out** of 4 licences, but would like some **government assistance** to do so. There is still some latent effort in the fleet, as some licences are held on conjunction with other fishing entitlements and are not available for use all year round.

Recreational sector

Improved research has lead to a **better definition of the recreational catch** that is now estimated at a relatively low 20 tonnes. It is possible there has been some **crowding out of recreational catch**. Although the combined commercial and recreational catch is less than a 300 tonnes 'guesstimate' by researchers as the maximum potential catch recreational fishers believe that the **catch-ability** of crabs has been affected by the higher commercial take. According to recreational **anecdotal evidence** the take per fisher has declined even though it is acknowledged that the total recreational catch has been stable. There are a number of recreational marina developments proposed that could have the effect of significantly increasing recreational access to the fisher which has been somewhat constrained by limited boat launching facilities. A **local politician** has taken up the call 'Recreational Fishers First', and is pressuring the management agency and responsible Minister for a reduction in the commercial take.