

Resource allocation—a management perspective

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There has been a long held ideal by countries such as North America and Australia, that all fish resources are owned in common by the community, and that access particularly for fishing should be free and open to all who wish to participate.

Within Western Australia and Australia, it has long been recognised by administrators, fisheries biologists and the occasional economist, that these ideals of open access, in pure form, allow fishing pressure to increase to such an extent that fish stocks become depleted and economic returns from using the resource are dissipated.

This observation has been used to justify government intervention in the implementation of management arrangements for commercial fisheries, recreational fisheries and even traditional user group access.

I think we are all familiar with aspects of commercial and recreational fisheries management, including limited entry fisheries, use of quotas, various forms of input controls and so on. In the recreational fishing area we are also familiar with the concepts of bag limits, licensing, size limits and possession limits, measures which can also be used to control access or share resources within groups.

To this potpourri we can add demands for marine parks, aquatic ecotourism, passive use of fish stocks, and space and therefore access for aquaculture purposes.

Government intervention is primarily aimed at the implementation of management strategies which balance the needs of various users of fish stocks with the end objective of ensuring that fish stocks are sustained and used efficiently.

It is fair to say that much of what has occurred in the past within Australia on resource sharing has not been performed with a great deal of competency.

This I think is due to a lack of vision and a piecemeal approach to management based on minimising the political 'whinge' between user groups, and a stock-based management orientation focussed primarily on managing commercial fisheries.

The resulting management of resource sharing has been characterised by corrective measures being unsystematic in nature, minor in scope, piecemeal with internal inconsistencies, influenced by short term political considerations, unfair to some vested interest groups and seldom effective for long.

Whilst such a view is perhaps a little unkind it is a realistic picture of 'what exists' today due to a lack of a cohesive policy framework for decision making on 'resource sharing' and therefore access rights.

The key policy questions to be answered on resource sharing include the following:

- What legal access rights do commercial, recreational, traditional and other user groups have to the resource?
- If a variety of user groups have rights to the resource, are these equal or do some groups have priority?
- What decision criteria should be used to allocate fish stocks to competing users?
- What management strategies or process of consideration should be used to achieve the desired allocation?
- How does one effect a reallocation with quota or input based managed fisheries?
- Is an economic rationalist approach to decision making the appropriate model for decision making?
- Should fisheries managers themselves be divested of the resource allocation role and if so to whom?

1. Access rights

Most of the commercial fishing sector throughout Australia does not have unrevokable rights of access to fish stocks. In the main, access rights are of a statutory nature with duration limited to the life of a fisheries management plan as a 'privileged right' or to some other specified time period.

Where limited entry management plans are effectively in place, licences have acquired a value (in WA licence values for essentially input managed fisheries are in excess

of \$2 billion). Even under quota arrangements change can be effected by varying the unit entitlement. The only guaranteed right of commercial fishing access that I am aware of is that provided for in the recently introduced NSW fisheries legislation. Even the magnitude of that right is subject to review, although without extinguishment.

Through such management arrangements commercial fishers have succeeded in gaining at least quasi property rights by statute. They are however, limited in their ability to claim compensation under common law where resource use changes are effected by management plan changes.

Recreational fishers, at least in the Australian context, have virtually no legally defined rights to resources other than the freedom of access. Licensing either directly or through sale of tags provides the only primary means of allocation. These elements of allocation will become more important in the future.

2. Priority of use

Little thought is being given to this question. Issues of access have largely been dealt with on the basis of political priority and are driven by political/economic solutions to what are largely perceived as local issues. In the most sophisticated form, marine parks are being proposed as a means for solving the multi-purpose facets of human activity for recreation extending beyond fishing into other forms of water recreation, including ecotourism.

The cynics in the system would argue that marine park formulation has very little to do with conservation but more to do with the establishment of a platform on which to base ecotourism investment or realign quasi property rights to 'passive' users.

In relation to the commercial/recreational resource sharing debate, apart from an approach of incrementalism in decision making, there is little real substance to the present framework of decision making.

New Zealand, which is seen by some as the great leader in the allocation of access rights, has essentially ignored the management of recreational fisheries to the advantage of commercial fisheries. In New South Wales, at best the system proposed could be described as one of promise for the future.

Within Western Australia, all that has happened has been the management of the present: slow but long term adjustments through incrementalism, the acquisition of territory through marine parks, some licence buy backs and adjustments in share by default.

Whether a more planned approach will result in a better outcome is yet to be determined.

3. Decision criteria for allocation/ the economic solution

As much as the pundits may wish, there are no simple criteria. One cannot walk away from the history of development and the 'existence' of what is. To do so is being unrealistic and smacks of idealism.

The economists have developed a number of approaches towards providing answers on resource sharing issues. These include:

Cost benefit analysis—this provides a comparison of the economic costs and benefits of different sharing options. In recreational fisheries, benefits are usually measured as expenditure on catching, and opportunity costs provide some measure of what others would have been prepared to spend.

Multiplier or input output analysis attempts to assess the impact of various resource sharing options on the economy of a State, region or community.

It considers how options will affect employment, spending and incomes. It recognises that other people and industries outside of the fishery are also financially affected by sharing options.

It looks at how employment, expenditure and earnings of the fishers affect employment, outputs and income of the community.

This approach also uses precalculated indices.

Difficulties arising with both cost-benefit and input-output analyses include:

- They don't encourage 'win-win' solutions.
- They assume willingness to pay or spend is the best measure of community attitudes on resource sharing, and
- Implicitly more power to obtain common property resources is given to those active in the market and with dollars to spend.

The *marginal value approach* looks at the amount competing users would pay to catch the next fish. It recognises that, for recreational fishers, the first fish caught is more valued and that they would be willing to pay less for each subsequent fish caught.

Under this approach resource shares are decided by the point where the marginal values for competing users fall to the same level.

The problems with this method are:

- (i) Different fishers have different time perspectives.

- (ii) Commercial fishers are more species-orientated; recreational fishers are often 'bag'-orientated.
- (iii) The methodology doesn't handle more than two competing users well. Sometimes it will allocate no share to some competitors for shares.

The *free market model* assumes free market forces will decide the best allocation of common property resources such as fish stocks. Government's role is therefore to ensure market forces work. Competing users would compete in the market for shares. To be effective this requires the allocation of resources to all users and let the market do its job—a recipe equally headed for disaster.

The problem with this approach is:

- Only those with financial power can play in the market.
- It assumes players are able to have equal financial power: it doesn't allow for some having more financial resources than others.
- The action of players in the market may not be rational and may not always reflect their long run values and preferences; they may just react to the market and the actions of other players.

The *total value approach* tries to cater for what is for the 'public good.' Unlike the other models it also tries to take account of the needs of future generations.

It considers the net present value to the community of the resource and its potential earnings.

Methods to value the resource include:

- existence value: the value in knowing the resource exists

- option value: the value of retaining the option of using the resource later
- bequest value: the value in leaving the resource to future generations
- replacement value: the estimated costs to restore the resource to its existing state if it was lost (assuming restoration is possible).

These approaches try to take account of moral and ethical considerations. These 'contingent' values are determined by surveys.

The reality however is that governments often make resource sharing decisions by considering the net present value of votes. Governments look at the value of a popular decision now, compared with a decision that would prove popular later.

Costs include lost votes and benefits include retained or gained votes, especially in terms of marginal seats. The dilemma for governments is that votes later may not be to their advantage.

So where to from here?

The truth is we cannot afford the real costs of analyses and have real difficulty in obtaining all the data needed to make informed decisions on resource allocation. This is not to say we should not try. As a minimum, fisheries managers need to be better positioned to provide government with economic and social impact advice on resource sharing issues.

For some fisheries, a disciplined economic analysis should help to improve understanding, to provide the basis for judgements and to establish 'rules of thumb'. For others, fisheries economic analysis cannot proceed but judgements need to be made

using the array of available information whether inside the management agency or alternately held by the community.

In the end resource allocation judgements will need to be based on a combination of political and economic, social and resource use issues. The real underlying problem is then the appropriate acceptable balance of these issues.

4. Management strategies for achieving allocation or reallocation

To be honest much of the allocation has already happened.

One of the major difficulties for fisheries managers is that for most of Australia's fish stocks, little is really understood about recreational fishing impacts. For example, not enough is known about their economic value or potential worth as an export earner from international fishing tourism. Similarly little is known of the total recreational catch of most species.

Reallocation of fish resources is also not easy noting there is an increasing body of law supporting the view that commercial fishing access is a quasi property right.

Changes in commercial fisheries management which give effect to shifts in resource use are increasingly open to claims of compensation. Such claims, when one looks at the level of investment by commercial fishers, are not unreasonable and should not be lightly dismissed.

The solution partially rests in having legislation which allows both the voluntary acquisition of commercial fishing rights (e.g. quotas, limited entry licences or units of effort) as well as compulsory acquisition

schemes. Payment of adequate compensation to fishers who leave the industry by voluntary or involuntary means is politically sensible. The difficulty is deciding how much to pay and if a value should be put on a fisher's lifestyle.

Within Western Australia legislation is being introduced to strengthen compulsory acquisition powers and to expand the funding base. This ultimately will allow harbours to be built, mining developments, marine parks, and expanded recreational fishing opportunities to proceed albeit at some expense, with commercial fishers being appropriately compensated without the prospect of legal action.

In other words change can proceed with orderly adjustments.

These powers also have the advantage of providing a means for economic readjustment within specific industry sectors. They provide for both immediate and longer term measures, and they work for both input and output controlled fisheries.

To be effective, these strategies depend on the development of trust and effective consultative arrangements between and within various user groups.

Another approach which also has the potential for reducing user conflict is that of geographic and time separation of fishing activities. This is being practised substantially by all Australian fisheries agencies. However, a greater focus on the future and planning for change in use would enhance the application of this solution.

5. A proposed model for resource sharing decision making

Ultimately, in developing an approach for decision making on resource sharing, the question should be asked as to whether fisheries managers should be primarily responsible for recommending such decisions to government.

In posing this question, I think it is fair to say the fisheries manager's prime responsibility is to manage fish stocks within the context of government fisheries objectives.

It is also true to say that, whilst Fisheries administrators have had to address resource allocation issues in the past, it has occurred often through default and largely incremental decision making. Some fisheries administrators have possibly also undertaken the task better than others.

The community today is also taking a greater interest in decision making and is wanting to have more say on the future use of marine resources. The demand for participation is being driven by commercial interests in aquaculture, tourism development, some local government councils, Aboriginal communities, recreational fishing, commercial fishing, and of late the conservation movement.

The complexity of issues involved in adjusting resource allocations usually means that the measurement of benefits and the case for change are at best undeveloped and difficult to establish. By their very nature such issues differ depending on the situation.

As the pressures on Australian marine resources and marine areas increase, the political weight of resource allocation decisions and their associated complexities could

distract fisheries managers away from their main responsibility, i.e. stock management.

The time has come to establish an independent body, at least in Western Australia, that can assess the case for adjustment in resource allocations. It should be expert based with some community representation and perhaps fisheries agency representation. Alternatively, it could consist of an expert in administrative law and community representatives who could call on expert advice as needed.

Such a policy group could formulate advice to government on issues of resource allocation that are referred to it. In considering issues before it, a public hearing process and draft report submission process ought to be part of the procedural requirements. In this way, the entire community has an important input into the process and any findings are subject to public scrutiny.

In providing such a mechanism for determining resource allocations there would also be a need to specify 'thresholds' for referral of issues. Ministers should not allow every issue with the potential to have some impact on resource sharing to be referred to such a group. To do so would be far too expensive and time consuming. Only major strategic issues of resource allocation or reallocation should be considered by such a group.

This proposed approach is not an attempt to divest the governments or the Fisheries Agencies of their responsibilities in fisheries management. Rather, it is a way of ensuring that those in the community with an interest in, or claim on the resource, have an opportunity to have an objective hearing.

A case for 'change' will always be related to the costs of such change (particularly if

compensation of commercial fishers is involved) and the mechanism proposed above has the potential to remove 'politics' as the major instrument of change. It will also assist in policy decision making on resource sharing, as the process becomes accountable and is undertaken for the correct reasons.

This proposal, together with the details of legislation already specified, could provide an effective evolutionary process for government and fisheries agencies to deal much more effectively with the evolving issues of resource sharing.