

FISHING FOR A PURPOSE:

NEW ZEALAND'S OBJECTIVES-BASED FISHERIES PLANS

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ABSTRACT

New Zealand manages commercial access and allocation through the market-based Quota Management System (QMS). However, the QMS alone is currently insufficient to address several fisheries issues. New Zealand is now developing Objectives-Based Fisheries Management (OBFM) to complement the QMS along two dimensions. First, to improve fisheries *outcomes*, such as reduced environmental impact, improved yields from stocks (or a better match between research effort and catch limits). Second, to improve management *processes*, such as increasing and broadening stakeholder participation, increasing the credibility and transparency of decisions, and better integrating management processes (for example, between government and industry research, or between management and compliance planning).

Fisheries Plans, led by the Ministry of Fisheries (the Ministry), draw together stakeholders to develop specific management objectives. This group then uses a risk management approach to determine management actions. Plans contain objectives, services to be delivered, responsibilities for implementation, performance measures and a monitoring and review plan.

OBFM Fisheries Plans are being developed in three fisheries, before extending the approach across all fisheries. This paper tracks their development, and examines their limitations and benefits. Comparisons are drawn with similar initiatives in other jurisdictions. Options for organizing future plans are discussed. The work program for developing other fisheries plans is outlined.

The views expressed in this paper are not necessarily shared by the New Zealand Ministry of Fisheries.

Keywords: New Zealand, objectives, ITQ, co-management, stakeholder

INTRODUCTION

New Zealand's extensive use of market-based Individual Transferable Quota (ITQ) to manage commercial fisheries is well-known. To date, 92 species or species groupings have been introduced into the Quota Management System (QMS), divided into 592 separate administrative stocks. A Total Allowable Commercial Catch (TACC) has been set for all 592 stocks, with the majority also having an allowance for recreational, customary and other sources of mortality. The QMS is administered under the Fisheries Act 1996 (the Act), which contains all the rules, considerations, obligations and procedures to ensure its smooth and equitable implementation. The Act is frequently revised to adapt to changing circumstances or to introduce new directions. Finally, the Act empowers regulations to be set to support the ITQ system – and at last count, over 5,000 regulations direct and constrain how, when and where fishing can occur.

New Zealand has a single goal for its fisheries: “Maximise the value New Zealanders obtain through the sustainable use of fisheries resources and protection of the aquatic environment”[1]. This high-level goal

is supported by three ‘outcomes’, or desired results across fisheries. These are: the health of the aquatic environment is protected; people are able to realise the best value from the sustainable and efficient use of fisheries resources; and credible fisheries management [1].

New Zealand has flirted with management planning instruments before: first as ‘fisheries management plans’ under repealed legislation, and more recently under the ‘stock strategy’ initiative that stalled in early 2005. Under the stock strategy approach, the government would have re-examined its management measures, such as regulations, research and other services, (collectively referred to in New Zealand parlance as ‘services’), and limited its involvement to that required to meet the objective of ‘provid[ing] for the utilisation of fisheries resources while ensuring sustainability’, as prescribed by the Act. Given the likelihood that this approach would deliver less than full value, stakeholders could then propose fisheries plans with stakeholder-delivered management and services. Through the middle part of 2005, the Ministry determined that it would be better to manage each fishery under a single plan, developed and delivered by both government and stakeholders. To date, only one stakeholder plan has received approval from the Minister (in April 2006), although several others are in various stages of development.

The FAO Code of Conduct for Responsible Fisheries suggests that long-term management objectives be translated into management actions, formulated as a fishery management plan or other management framework [2]. Arguably, New Zealand already has a comprehensive management framework, comprised of the Act, a well-developed QMS, and a variety of supporting regulations, codes of practices, memoranda of understanding and national plans of action. In addition, fisheries plans have been allowed but unused (with one exception) under the Act since 1999. So why did the Minister of Fisheries, acting on advice from the Ministry, announce in October 2005 that New Zealand was to embark on an ambitious plan to employ Objectives-Based Fisheries Management Plans (fisheries plans), as the “key to unlocking ‘best value’” [3]? The plans the Minister announced six years after the implementation of the Act were to be led by the Ministry, with the close involvement of stakeholders, and were to cover all of New Zealand’s major fisheries. A discussion of the background to the decision is required.

CONTEXT FOR FISHERIES PLANS

If an open access (commons) fishery leads to undesirable effects such as rent dissipation and stock collapse, then the commons can be regulated, or alternatively, the commons can be replaced by a property system [4]. If regulated, an external authority such as a fisheries administration introduces rules and controls (usually called a command-and-control system) in an attempt to deliver public and private benefits. If made into property, either private or communal, then rational economic activity is assumed to result in those same benefits. In New Zealand, after 20 years of managing under property rights system supported by an external authority that imposes a variety of rules and controls, experience suggests that each are insufficient on their own, and both are necessary.

Fisheries plans sit between external control and property rights. Commercial ITQ are a highly exclusive, durable, transferable, divisible and flexible right [5]. New Zealand contends that incentives are generally created to promote sustainable exploitation, and that this has worked particularly well for target stocks. That said, the power to regulate offers a faster, more direct, and hands-on approach. Decision-makers have often favoured this route, rather than depending on rational economic behaviour alone, in particular for environmental protection, for bycatch management and to limit stakeholder conflict.

Management by way of fisheries plans accepts that there is a role for government, but one that builds on the rights established by the QMS. It accepts that *both* government and stakeholders can efficiently deliver some services, and moreover that it is appropriate for them to do so. It accepts that ITQ owners have the right to influence the direction of their fishery, but that other stakeholders do as well. It promotes the concept that efficient management is derived from jointly determining what is to be

achieved, how to achieve it, and who is to do what. Deciding how and who manages becomes the output of an analytical process, rather than a result of a particular view that the state or the rights holders *should* do so, as a matter of principle.

Elsewhere, this might be termed co-management, where “government and fishers jointly develop an agreement on the objectives of co-management including the aims, the form and the means” [6]. However, “the term co-management has failed to gain popular currency in New Zealand. Both fishers and fisheries managers deliberately avoid the term” [7]. In part this is because institutionalists “tend to view the state as parasitic on self-managing communities” [8], and in New Zealand, this community would be the quota owners. For the institutionalists, co-management is a failure to fully extend the rights-based system, and a failure to recognise that these communities, if left to operate as intended, would realise superior fisheries management. For example, senior industry participants recently said that the benefits of the rights-based system are being subverted by excessive government control, and that industry needs to be trusted to manage the fishery [9].

On the other side of the spectrum, including many recreational fishing and environmental stakeholders groups, are those who see ‘co-management’ as “being synonymous with the abdication of state responsibility for fisheries management” [7]. Recognising these contrary views, fisheries plans do not devolve substantial authority from the Minister, who will still retain power to approve fisheries plans, and make sustainability decisions (such as setting TACs and TACCs). While delivery of various services should rest with the party best able to deliver them, the institutional response is that this offers no real power to rights holders (although no doubt is an improvement over the current model).

Fisheries plans are therefore a curious mix of four related concepts:

- Decentralisation, in which greater responsibility is transferred from a central Ministry head office to the regional Ministry level that is more closely tied to various geographic areas and stakeholders.
- Devolution, in which management measures are rigorously tested through an analytically-driven process to determine who is best to deliver them.
- Delegation, in which decision making authority is given to stakeholders and other public and private entities but where decisions may be overturned or recalled.
- Co-management, in which responsibility and influence is shared between government and stakeholders, with government playing the balancing and mediating role, ensuring national consistency and adherence to higher-level policy objectives.

DECIDING ON FISHERIES PLANS

The fishery cannot be operated simply on the basis of vague concepts like sustainability [10]. Similarly, the New Zealand goal of ‘maximise value’ is too vague to be directly useful for management purposes. Consequently, a wide gulf of interpretation lies between the purpose of the Act (provide for utilisation while ensuring sustainability) and the specific and prescriptive rules of the Act. The management system that has developed to fill the gap is complex, with a myriad of rules without clear rationale – each of which has a cost to maintain. There is therefore a poor link between what services are provided and the reason why they are provided (there are clear exceptions; stock research has clear science objectives such as estimating sustainable yield, but even these are not as well linked to *management* objectives as they should be). Stakeholders have limited opportunity to participate in and influence the decision-making process; the Ministry often engages in extensive consultation, but usually after a proposal is well

developed. Last, although the Minister is legally obliged to consider various issues and stakeholders when making a decision, the way in which those considerations are applied is not transparent.

Fisheries plans are simple. They explicitly state what the Ministry and stakeholders want from a fishery, how to get there, and how they will be monitored to confirm that they are operating properly. They should tie together strategy (the way to reach management objectives) with operational decisions (how management is going to occur). According to the FAO, a plan “identifies the partners in the fishery and their respective roles, details the agreed objectives for the fishery and specifies the management rules and regulations which apply to it and provides other details about the fishery which are relevant to the task of the management authority” [11].

Fisheries plans have three main attributes:

1. they make explicit the objectives and services (rules, regulations, actions, etc.) to be applied to manage a fishery. The standards that government expects management to respect are laid out. The roles and functions of each group (government and stakeholders) are clarified;
2. they detail how performance will be monitored, assessed and corrected; and
3. they provide a formal opportunity for stakeholders to have input at the earliest stage of development, rather than seeking views on developed proposals.

INTERNATIONAL EXPERIENCE

Objectives-based management has been applied elsewhere. A Google search for the term reveals its application to a range of disciplines as diverse as fisheries, library cataloguing, juvenile detention centre management and military planning [12]. Within the discipline of fisheries and/or oceans management, a recent survey of ecosystem-based management found 23 initiatives, of which 9 had developed objectives and/or indicators, but none had been fully implemented [13]. Both Canada and Australia have fisheries management planning processes under way that offer many similarities to New Zealand’s project.

Canada

In 1996, Fisheries and Oceans Canada (DFO) launched the Integrated Fisheries Management Planning (IFMP) framework to encourage meaningful participation by stakeholders in the management of the fisheries, and to co-ordinate the activities of DFO’s various branches. In 2001, a refinement was introduced (Objectives Based Fisheries Management or OBFM) to expand the involvement, role and accountabilities of resource users in fisheries management, and to spread the implementation of the precautionary approach, risk management, and performance management. OBFM would define conservation limits, establish objectives and develop fisheries management strategies and controls [14,15]. A team approach within DFO would improve integration across all relevant areas of the department. Stakeholder participation would increase their influence on decision making, ensure their objectives were considered, and allow delivery of some control measures by resource users.

Canada initiated six pilot OBFM plans in 2001. The principal approach taken by each was similar [14-16]. First, conservation limits (bottom lines) were established in a science-driven process; these included rigid reference points that would, with high probability, protect the target species and elements of the ecosystem from harm that is serious or difficult to reverse. Second, objectives were set, beginning with high-level conceptual objectives down to measurable biological, economic and social objectives with target reference points. Third, key challenges and threats affecting the likelihood of compliance with the conservation limits and achievement of the objectives were identified, and strategies developed to

overcome and mitigate the threats. Fourth, an operational plan outlined all the control measures to be applied to the fishery. Last, a performance review outlined how to measure the application and effectiveness of management controls, the achievement of objectives, and compliance with conservation limits.

Australia

In Australia, responsibility for Commonwealth fisheries is vested in the Australian Fisheries Management Authority (AFMA). Under the Fisheries Management Act 1991, management plans are generally required for all fisheries [17]. As in Canada, a management plan sets out the objectives, the measures to be taken to meet the objectives, and performance criteria to assess those measures [18]. Unlike in Canada, Australian management plans are legislative documents [4].

Although decision-making authority remains with the AFMA board, a co-operative management approach is taken, and plans are prepared in consultation with fishery participants in the fishery [17,18,19]. Management Advisory Committees (MACs) are established as the forum to discuss fisheries issues, problems and solutions [17,19]. They provide advice on “fishery objectives, strategies, reference points, risk profiles and management arrangements for achieving fishery-specific goals” [20]. The effect of the management plans and the MACs, coupled with other fisheries reforms of the early 1990s, has been a change in the traditional regulation-based management approach to one of partnership and greater shared responsibility. Although authority still formally rests with the AFMA board, in practice fishers have a considerable influence over management [4].

THE FIRST NEW ZEALAND FISHERIES PLANS

Following the Minister’s October 2005 announcement about fisheries plans, the Ministry embarked on developing three ‘proof-of-concept’ fisheries (analogous to Canada’s six pilot OBFM plans). Although smaller in scale than the fisheries plans are expected to be when fully rolled-out, the proof-of-concept fisheries would confront some of the common challenges likely to be encountered. Each is a relatively discrete fishery, with a relatively limited number of stakeholders with whom the Ministry had already developed a working relationship.

Fisheries selected

The sub-Antarctic Southern Blue Whiting (SBW) fishery is a high volume-low per unit raw product value fishery, with annual catches between 30,000 and 40,000 tonnes. Relatively high value is added during at-sea processing for the export market. The majority of the catch is taken by fewer than 20 large chartered foreign factory processing vessels, which typically target SBW over a 6 week spawning period when aggregations provide sufficiently high catch rates. Major issues in this fishery are the cost of research, the delivery of that research, the level of acceptable risk in setting the TACC, and some incidental bycatch of marine mammals and birds.

The Coromandel Scallop fishery is an important shared (commercial, recreational and customary) fishery located close to Auckland, New Zealand’s largest city. Catches fluctuate widely between 20 and 1,500 tonnes (greenweight) due to a variety of ecological and human factors. The commercial catch is taken by ten quota holders, who typically operate small (about 12 metre) vessels towing a dredge. Recreational and customary catch is taken primarily by dive, although the use of small dredges is increasing. Major issues in this fishery are the cost of research, the process for setting a TAC, TACC and non-commercial allowances for such a highly variable stock, and concerns about environmental impact.

The Foveaux Strait Dredge oyster fishery is one of New Zealand's oldest and most iconic fisheries and fish species. It is an important shared fishery (commercial, recreational and customary). The commercial fishery is exclusively dredge, as is the majority of recreational and customary take (with some diving as well). Between 11 and 17 commercial vessels typically 20 metres long are operated by the 16 quota owners. Catches have fluctuated from 88 million oysters down to the current 7.5 million. The parasite *Bonamia* drives this fishery, and therefore current issues focus on understanding and mitigating the effect of *Bonamia*. Other issues include concerns about environmental impact, and the potential for stock enhancement and rotational fishing.

DEVELOPMENT PROCESS FOR THE THREE PLANS

The three teams working on the plans followed the same general process. Multi-stakeholder groups were convened, who then assembled and integrated information relevant to setting objectives and determining management actions. A limited research budget was available to address the key research gap over the benthic impact of fishing. Once complete, goals and objectives were set, and a risk assessment was done to identify the most critical issues that might lead (or contribute) to failure to reach objectives. Services – the full range of actions taken in a fishery, including regulations, rules, research, compliance, etc. – were identified, along with who was to deliver them. Out of that came the operational plan, which is the set of specific tasks set alongside the timeline of the plan's implementation.

The Ministry is providing the Minister with draft plans in July 2006, to provide the Minister with a sense of what fisheries plans will look like, and how the development process has worked. Each of the plans has outstanding issues to resolve, and therefore continue to be worked on by the multi-stakeholder groups. Accordingly, the plans will be refined and completed from July through September 2006, before formal public consultation is warranted. As such, the description below is a mix of what has occurred, and what is currently under development.

The art of setting objectives

As discussed above, the national goal of fisheries ('maximise value ...'), although too vague for direct management application, is applicable to all New Zealand fisheries irrespective of who is involved and the particular issues. Having this degree of national consistency is critical, providing the teams with the long-term aspirational expression of their purpose. The particular interpretation of this goal can vary by fishery, and is articulated through lower-level goals and objectives. This process takes the high-level goals and adds increasing specificity, down to operational objectives and measurable reference points, or 'unpacking' a concept to make an explicit link to management decisions [10].

Four sets of more specific goals were built underneath, to cover the areas of sustainability (of target stocks), environment, utilisation and social/management. These goals themselves required greater definition than, for example, to 'minimise harm to the environment'. This particular goal was further disaggregated into: 'minimise the impact of fishing on the benthic environment', 'minimise the impact of fishing on non-target fish species', 'minimise the impact of fishing on certain non-fish species such as marine mammals and birds', and 'minimise the impact of fishing on dependent species (ecosystem effects)'.

There may well be conflict between these goals. For example, some harm may result from any fishing; some risk to sustainability may always be present; maximising value in the short term may compromise sustainability, etc. Trading off between these goals occurs at the next step down – the setting of operational objectives.

'Ensuring sustainability' is defined in the Act as 'maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations and avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment'. Vague or general words like 'sustainability' lack precision, and are therefore open to interpretation. Because 'sustainability' could mean something different to everyone, the concept needs to be unpacked.

The operational objectives refine the goals, and define them such that they are then useful to drive all management actions in the fisheries. Each new service (intervention, regulation, rule, code, action, or control, etc.) must be linked to an operational objective. Existing services that cannot be linked to an objective should be reviewed for possible removal.

Operational objectives must be simultaneously achievable, although not necessarily achieved on the same time frame – the trade-offs between the goals are made in creating these objectives. Operational objectives can themselves be measurable and time-bound, or this particular aspect of the operational objectives can be left to reference points. Reference points are operational objectives expressed in a way that can be estimated or measured directly, or simulated by modelling. Depending on the preferences of the multi-stakeholder process, a sustainability objective may be to 'Implement a constant mortality harvest strategy that has a minimal risk of recruitment failure. Reference point: ensure that there is a <1% risk of spawning stock biomass declining to 160t in any one year'; or to 'Implement a harvest strategy that ensures that there is <1% risk of the biomass declining below 35% of unfished biomass, with no separate reference point required.'

Irrespective of the choice between these two options, an outside observer must be able to measure or evaluate progress towards meeting that objective. Once these objectives have been determined, the management strategy is developed to achieve the objectives.

Moving from objectives to actions

Objectives are achieved by implementing the management measures (services). The management strategy is the repository of all management measures to be applied to a fishery (subject to the outcome of a prioritisation process, described below).

A risk assessment process identifies the risks to the fishery (the risk of not realising the objectives or failing to meet standards) and the services needed to mitigate that risk. This approach identifies and prioritises the problems and opportunities in a fishery plan.

Standards are being developed by the Ministry concurrently with the fisheries plan process. Once developed, they will inform, direct or constrain fisheries over key areas of public interest (e.g., minimum acceptable biomass levels for fisheries of identified biological characteristics, maximum acceptable disturbance of identified habitats, or the expectations for processes such as consultation). Once standards are consulted on and approved, fisheries plans will make an explicit assessment of performance against those standards. Fisheries plans will detail which of the approved standards are relevant to the fishery (e.g. an inshore dredge fishery will not be assessed against a dolphin standard if there is no interaction). It should then evaluate where the fishery currently sits in relation to those standards. For any standard not met, the management strategy will then incorporate measures that, over time, will lead to meeting those standards.

During the risk assessment phase, more than one suitable management tool to manage risk may be identified. For example, a risk could be managed by either a regulatory or stakeholder-managed intervention. New Zealand is developing a framework to assist in the analysing and assessing of suitable options and facilitating the selection of the optimal management tool.

The framework is based on the New Zealand Ministry for Economic Development regulatory impact statements and business compliance cost statements, adapted to include non-regulatory measures. Broadly, consideration should be given to costs (of implementation, delivery, etc.), benefits (to whom, within what timeframe, etc.), timeframe for implementation, risks, required supporting services, performance management, performance of measure in other areas/jurisdictions, and combination effect (cumulative effect of management options).

The operational plan sets out who does what and when, by year, over the life of the plan. Dependencies are drawn out (e.g. the actions taken in year 2 will depend on the findings of the research in year 1). Included are accountabilities, resources needed, assumptions on funding, and a description of the ongoing functions (if any) of the multi-stakeholder group that worked on the plan.

The plan describes who is going to monitor the implementation of the management measures (are things happening as planned?), progress against the objectives (are objectives achieved?), and appropriateness of objectives (are the objectives leading to what we want?). This falls in place neatly with appropriate objectives and/or reference points, and gives direction for a set of indicators; “without clear objectives and targets to assess performance, indicators have minimal direction and can result in organisational uncertainty and misinterpretation” [21].

WORK AHEAD

Expanding this work to apply to the management of all fisheries and how service priorities are set involves more than replicating the initial set of three plans. As discussed above, standards need to be discussed and set; the underlying infrastructure of information systems, communications, legal support and staff recruitment and training must be addressed; and Ministry staff and stakeholders need to organise into groups to work on plans, and identify how plans will be prioritised for future review. In addition, there are four key design elements to be determined: how services are specified, how fisheries plans integrate with business planning, managing priorities across fisheries plans, and identifying the initial fisheries groupings for development into plans.

Grouping fisheries for development into plans

The Ministry has developed a set of five principles by which fisheries should be grouped:

- Align as far as possible with rights holders, how rights are allocated, how rights holders are organised, and how fisheries are utilised.
- Focus on the largest sensible geographical coverage.
- Encompass a logical grouping of stocks (species, areas, impacts, values, risks, methods) to enable effective fisheries management.
- Facilitate development of plans over time.
- Provide a basis for integrating spatial management considerations over time.

Using these principles, the Ministry has proposed 26 fisheries or fisheries groupings, including one that will subsume the existing SBW plan. These may well undergo modification as implementation begins, but presents a worthwhile starting point.

Specifying services

As mentioned above, services should be linked to an operational objective. However, this is an extremely difficult task, at least at the individual fishery level. Services may be provided for fisheries in general, for a group of fisheries, or for specific fisheries, and may be provided to provide general public benefit or to protect the value of private property rights. For fisheries plans, services are divided into three categories that work together to promote the smooth and fair operation of the fishery:

- **Category 1: Support Services.** Those services that exist because New Zealand has a fisheries management system; eg. Ministerial servicing, legal system, permitting regime, cost recovery, fishing vessel registry, etc. These are background or generic services that support fisheries in New Zealand, and are not described by a fishery plan (they will be described elsewhere, and will be available to each plan). Although they may change over time, they cannot be changed by any one plan. The objectives these services support tend to be general and nationally-focused.
- **Category 2: Capacity and General Services.** Those services applied to an area or group of fisheries to promote the smooth operation of the system and advance management generally, and are not directed to any one fishery; e.g. most policy projects, most compliance resources, the majority of environmental impacts of fishing research, and the reporting regime. Fisheries plans will need only describe the Category 2 services where adaptation might be appropriate to make improvements (e.g. initiate a policy project to evaluate consequences of fine-scale management; alter reporting requirements for a particular fishery; research into bycatch avoidance effectiveness of certain gear, etc.).
- **Category 3: Fishery-specific Services.** Those services done for the particular benefit of an identified fishery; eg. observers, fishery-specific regulations, additional and directed compliance effort, stock assessment research, etc. The fisheries plans must comprehensively address these services.

In the absence of a management strategy (i.e. there are no additional management measures to be applied to the fishery), then only Category 1 and many of Category 2 services will be applied to the fishery. The management strategy describes the additional or incremental Category 2 services, and all Category 3 services. By focusing on Category 3 and the appropriate parts of Category 2, fisheries plans won't each need to make the case for services applied to all. Other processes will examine and improve the support and general services. That said, extracting out and agreeing on a model for describing the Category 3 and some Category 2 services has proven difficult, and will require improvement in the near future.

Integrating fisheries plans with business planning

Considering services in this way represents a new model for business planning. Traditionally, each business group of the Ministry (such as Compliance, Policy, Management, Science, etc.), headed by a national manager, is allocated a budget to plan for the services each of them is expected to deliver in the course of the year. In determining the size of budget allocations, and in planning on how each budget is to be used, managers work towards fulfilling national priorities, co-ordinating their activities. For example, compliance managers attempt to deploy their resources to meet the needs of fisheries managers. Reporting procedures and much of performance management therefore is focused within the particular business group – bluntly put, the most important success factor in the compliance business group is effective compliance, or for the policy business group, the delivery of policy products.

Fisheries plans will turn this traditional model on its side, at least with respect to Category 3 and some Category 2 services. Fisheries plans will determine optimal services, using the expertise from all the

business groups during the planning process. Reporting procedures and performance management should, over time, be re-oriented towards achievement of fisheries objectives. Since New Zealand is at the very early stages of fisheries plans development, having only initiated three plans, the effect on Ministry resource decisions have not been tested.

Managing priorities across fisheries plans

Closely related to the need to use fisheries plans to drive resource decisions is the need to develop a method to allocate insufficient resources to service the needs of all fisheries plans. The management strategies of fisheries plans will contain a ‘wish list’ of services, which will likely exceed the financial and human capacity available, and therefore some form of resource allocation to the areas of highest priorities *between* fisheries plans must be developed. Resource allocation is the series of steps in the planning process where limited resources (staff time and money) are selectively allocated to specific activities (services) according to their ‘merit’ in achieving the overall objective of the Ministry [22].

Such a resource allocation process has yet to be designed. Two possible design models include assigning resources to a ‘fisheries portfolio’ (such as ‘deepwater’, or ‘pelagic’) with fisheries plans within that portfolio competing for resources; alternatively, resources could be nationally prioritised, with a hand-gather shellfish fishery competing for the same resources as a deepwater fishery – and the resource allocation system determining between them where greater value would occur.

Once a resource allocation process is introduced, the risk assessment of each fisheries plan will need to articulate the likely result of failing to provide a service or perform a management measure that requires Crown resources. The management strategy will amount to a ‘bid’ for services; the output of a resource allocation process will lead to the operational plan (the services to be delivered). For the first three plans, no such prioritisation occurred.

EXPECTED DIFFICULTIES

Embarking on objectives-based fisheries plans across all New Zealand fisheries is ambitious. The experience of the first three plans, and an informed peak over the horizon at the fisheries plans to come, permits commentary on difficulties that can be expected. Five are discussed.

First, both stakeholders and government may have investments in the *status quo*, be it through gear investments or staff skills and preferences. This may inhibit the introduction of new services, or removal of existing services, in the move to better meet objectives or manage risk. For example, an examination of a regulation within one of the three plans revealed that gear rules served no objective. However, stakeholders resisted its removal because they considered that it provided a fair playing field (which could also mean that a stakeholder objective not otherwise articulated was revealed). Similarly, Ministry staff may be much more comfortable with some services or performing some functions than with others, and resist change.

Second, capacity of both Ministry and stakeholders will be a constraint. Stakeholders (by and large) are not professional fisheries managers, so Ministry staff will need to take material and views offered by stakeholders, fit these into a framework, and then feed back the results to stakeholders for confirmation. This is a time-consuming process. Ministry staff, traditionally technically able, may need new facilitation and communication skills. With plans across the country, there will be a number of meetings to attend, which may overwhelm the capacity of all but a few stakeholders. That “recreational and customary fishers lack the financial, technical and human resources to effectively participate in co-management” [7] was raised repeatedly during the first three plans, leading to calls from these groups to provide funds to enable participation.

Third, identifying who is a ‘stakeholder’, and hence who may influence the selection of objectives and services will prove difficult. In New Zealand, quota allows for easy identification of some of the commercial stakeholders; however, there are also fishers who lease fishing rights, or who fish under contract. They may consider themselves stakeholders. There are also interested parties among recreational and customary fishers, environmental groups, communities, other government agencies and private citizens. Questions to be resolved include [23]: who is a legitimate stakeholder; in what capacity should stakeholders be represented (e.g. as an accountable representative of a group?); how much involvement is appropriate (should everything be debated through participation?); and how should representation be done (what is needed to build capacity of stakeholders to be effective managers?).

Fourth, fisheries plans are designed to propose innovative solutions, tailoring management to the particular fishery but this may create two additional problems. First, proposals may require a broader a policy discussion. It will be critical to identify issues requiring a national debate or ministerial direction, to ensure that an individual plan doesn’t unwittingly determine policy direction. Second, it will be more difficult to maintain consistency of treatment between plans. The trade-off is between single system services that can be efficiently delivered, and multiple systems that represent a deviation from current single system.

Fifth, despite the advantages offered by fisheries plans, there exist incentives for stakeholders not to participate, or even actively oppose them. By remaining outside an established process, individuals or organisations retain greater freedom to access and attempt to influence the decision-maker directly. This is particularly the case if stakeholders see no benefit in negotiation or mutual understanding, but have instead a particular perspective that is incompatible with other views.

EXPECTED BENEFITS

New Zealand is convinced that managing through objectives-based fisheries plans will improve the management of fisheries, and deliver better value to the country. Despite the difficulties and the work ahead, there are several key benefits that make a persuasive argument to manage in this fashion in the future.

First, innovative solutions are expected. Some of these may test the boundaries of legislation, but will also contribute to the ongoing improvement of the QMS. Second, the ‘elements’ we manage can be addressed on the appropriate level. This means that a pan-fishery issue (such as seabird bycatch) can be explicitly elevated above individual plans, where decisions are made and then implemented in a co-ordinated fashion through the fisheries plans. Similarly, local area issues that are too small to be directly addressed by a plan can be identified and managed as a specific issue or ‘chapter’ within the plan. Third, redundant services can be identified, assessed and removed, providing a ‘clean-up’ of the system. Similarly, services will be directed to meet fisheries management objectives, not simply to maintain the current system. Fourth, fisheries plans offer an analytical framework to assess who is best placed to deliver a service – rather than assuming that government or industry should or ought to do so as a matter of principle. Last, transparency and participation are built into the system, and these have value in their own right.

CONCLUDING REMARKS

New Zealand has just begun collaborative fisheries plans in earnest. The first three plans in development have largely confirmed existing practices, addressed key irritants, smoothed processes, and have set up better longer-term collaboration. With more time, the multi-stakeholder groups working on the plans will propose more innovative solutions to fisheries management problems. As the Ministry works through the policy issues, the benefits can be expected to spread across all fisheries.

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