

# Thalassorama

## Cost-Recovery as a Fisheries Management Tool

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### Introduction

Although written fifteen years ago with respect to Canada's west coast fisheries, the following quote from Pearse (1982) is applicable today for many fisheries world-wide.

We begin with a paradox. We have some of the world's most valuable fish resources, they are capable of yielding great economic and social benefits; yet many commercial fishermen and fishing companies are near bankruptcy, sport fishermen and Indians are preoccupied with declining opportunities to fish, and the fisheries are a heavy burden on Canadian taxpayers.

Recent fisheries management failures, such as the northern cod fishery on the east coast of Canada (Gordon and Munro 1996) and the South East Fishery in Australia (South East Fishery Adjustment Working Group 1996) highlight the extent to which many government fisheries management agencies continue to fail to meet almost any reasonable set of management objectives.

Not surprisingly, in tandem with the growing list of management failures, there are numerous suggestions on how to improve management effectiveness, including the need to introduce comanagement (Jentoft 1989); incorporate risk and uncertainty in decision making (Hilborn *et al.* 1993); identify operationally meaningful management objectives (Barber and Taylor 1990); allocate strong property rights to resource users (Crowley 1996); integrate industry, biological, economic, and social advice (Lane and Stephenson 1995); move from single stock to ecosystem management (Christie 1993); and employ the precautionary approach (FAO 1994).

Our objective is not to comment on proposed solutions to fisheries management failure. Instead, we contend that the current widespread use of taxpayer-funded public sector institutions to deliver fisheries management services limits the likelihood of successfully implementing any solution. Our opinion is that full cost-recovery of fisheries management services, by motivating fishers to demand cost effective management and stronger property rights, represents a powerful stimulus to the evolution of more effective institutional and operational arrangements. Such arrangements are likely to feature an increasing provision of fisheries management services by the private sector.<sup>1</sup>

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<sup>1</sup> The increasing privatization of government services, even in 'sensitive' areas such as welfare delivery, has been noted in the *Economist* (1997a, 1997b).

However, the political momentum for implementing cost-recovery of fisheries management services is unlikely to be generated internally by fisheries authorities. Fisheries bureaucrats, researchers, and industry have a vested interest in maintaining the current management framework. Indeed, vigorous opposition to cost-recovery can be expected from each of these parties, especially the fishing industry, which will complain often most justifiably, that it is being asked to pay for a bloated bureaucracy which has failed to deliver tangible economic or conservation benefits.

Our opinion is that the pressure to introduce cost-recovery must come from government finance or treasury departments. The need to reduce government budget deficits or other fiscal imperatives might be expected to provide the motivation for such action.

The remainder of this article briefly examines a number of issues related to cost-recovery. We first outline why we think cost-recovery is important to the development of effective fisheries management, and we provide some observations on the effects of cost-recovery in relation to federally managed fisheries in Australia. This is followed by an overview of how cost-recovery is handled in Australia and Canada, and some lessons that can be drawn from these experiences. Finally, conclusions are presented.

### **Why Cost-Recovery is Important**

In the absence of direct cost-recovery from service recipients, few incentives exist for fisheries bureaucracies to adopt cost effective approaches to fisheries management. As a monopoly provider of services, a fisheries management agency is able to decide on the type and amount of services provided, subject to the constraints of the political system within which it exists. The tendency of bureaucracies operating under these conditions to maintain budgets greater than those under competitive conditions is outlined by Tullock (1965) and Niskanen (1971).

As noted in Haynes and Brown (1985), such behavior may be evident in fisheries management agencies which show “a tendency ... to undertake activities which are technically desirable from its point of view but which may be economically unjustifiable. Such activities may range from collection of information on the pattern and amount of fishing to a level of surveillance of fishing activities beyond that necessary for reasonable enforcement of the management regime.” In such cases, benefits will be appropriated by the administrative authority at the expense of those who pay for the service—whether they are taxpayers, fishermen or others (Haynes *et al.* 1986).

Nor is it only managers of the resource who benefit. An authority with monopoly power will demand more “services” from support organizations operating in related fields (Tullock 1965; Niskanen 1971). For example, research organizations can be expected to be called upon for more and more input, with a consequent increase in the size of their budgets.

Introducing cost-recovery from the fishing industry will mitigate these government inefficiencies. Being required to pay for a government service which was formerly provided “free” normally provokes a number of reactions in the person being billed: one of which is to take a much greater interest in the quality of the service supplied. In this sense, fishermen confronted with a bill for fisheries management services are no different from consumers of nongovernment services. They will demand value for money. They will also want their views on whether services are appropriate and effective taken into account in the government decision making process. This is particularly true for fishermen if, as is often the case, industry benefits from fisheries management services are scarce or not readily identifiable.

### *Implementation Problems*

Notwithstanding the potential benefits of cost-recovery, opposition can be expected from both fisheries bureaucracies and the fishing industry. Fisheries bureaucracies will normally resist implementing cost-recovery, knowing that the inevitable and vigorous fishing industry scrutiny of management budgets will lead to greater accountability and a consequent and substantial erosion of management agency discretion in decision making. Trenchant appeals by fisheries bureaucrats to the potential pitfalls of “client capture” often accompany these more valid concerns.

Also, despite the fact that effective management of any organization requires an understanding of the costs associated with different activities, it is our experience that few fisheries management agencies know, in any meaningful detail, the research, enforcement, and other management costs associated with each fishery under its authority. The introduction of cost-recovery on a fishery-by-fishery basis would require management institutions to detail these costs. To do so, the agency may have to totally overhaul its accounting and financial reporting systems, and reorganize its internal structures to provide an adequate degree of transparency and accountability to service users. It is little wonder that fisheries management authorities have shown limited enthusiasm for cost-recovery.

Fishing industry opposition to cost-recovery is also certain for the reasons outlined above. This reluctance will be strongly reinforced if the resources being used by fisheries bureaucracies to address fisheries management problems are revealed as excessive.

This commonality of self interest between bureaucrats and fishers is likely to hinder the introduction of a well designed cost-recovery program unless strong pressure is brought to bear from “external” government agencies.

### *Preliminary Observations on the Effects of Cost-Recovery in Australia*

Cost-recovery was first introduced into federally managed fisheries in 1985 in Australia by the Australian Fisheries Service, an arm of the Department of Primary Industries. This was in response to a government-wide initiative to introduce user charges for government services.

The introduction of cost-recovery marked a turning point in Australian federal fisheries management from which many important developments in fisheries management institutions and operations can be traced. As might be expected, there was strong industry opposition to the introduction of cost-recovery, followed by equally strong dissatisfaction with the subsequent management performance of the Australian Fisheries Service. This led in 1988 to an independent review of federal fisheries management arrangements which recommended the replacement of the departmental structure with a statutory body (Peat *et al.* 1988). Consistent with this recommendation, in 1992, a statutory authority, the Australian Fisheries Management Authority (AFMA), was established to manage federal fisheries.

Immediately prior to the establishment of AFMA, a government inquiry was held on cost-recovery for fisheries management. In evidence to the inquiry, many fishermen “criticized the cost-recovery program, saying that they wanted management, were prepared to pay for management, but were not getting management. They complained about inefficiency in the provision of services such as logbook processing, high costs, and over-servicing. They said that although they had to pay for the services, they had little say over the way they were provided and some participants said that they could arrange to have services like surveillance and logbook collection and processing provided independently at lower cost” (Industry Commission 1992).

Although it is yet early since the formation of AFMA, several observations can be made on the effects of cost-recovery. First, an open and transparent budgetary process has been established in which the fishing industry, through its participation in fishery Management Advisory Committees (MACs), plays a central role in advising the AFMA Board on the appropriate types, amounts, and costs of various services to be provided. A related observation is that an increasing number of services are being supplied by the private sector. These include data entry, some quota monitoring activities, the administration and chairing of MACs, and research evaluation.

Casual perusal of AFMA's annual budgets suggest that reductions in expenditures have been achieved, with outlays and staff numbers falling by 7% (in nominal terms) and 18%, respectively over the 1992–96 period. However, without a detailed analysis of functions and outlays it is not possible to state categorically that efficiency gains have been achieved.<sup>2</sup>

Although these observations on the effects of cost-recovery in Australia are generally supportive of the theoretical arguments in favor of cost-recovery, a central question, but one which cannot be addressed in this brief article, is whether cost-recovery and the resultant changes in institutional structure, have resulted in more effective fisheries management. It is simply too early to tell. However, it is our opinion that early indicators are positive. In particular, the evolution of management advisory committees in each major fishery (with independent chairpersons, majority industry membership, and only one management representative), and the growing involvement of industry in the stock assessment process are reflective of a more open and transparent decision making process which is starting to deliver desirable management outcomes.<sup>3</sup>

For example, a recently completed stock assessment for school sharks (*Galeorhinus galeus*) indicated that catches need to be cut in half. Previous assessments also raised concerns with respect to the sustainability of harvest levels; however in the earlier stock assessment process, industry did not play an active role. Industry argued that these assessments were flawed and did not correlate with their view of the health of the stock. The current assessment process, in which two of the industry members of Southern Shark Fishery Management Advisory Committee (SharkMAC) were heavily involved, has played a significant role in reducing conflict and producing an assessment that has been accepted by SharkMAC and the industry at large—providing AFMA with increased scope to implement industry restructuring proposals.

Another observation on AFMA which is indicative of more effective long-term management, is that the authority is highly focused on the provision to fishers of stronger access rights. Historically, access rights, of whatever variety (limited licenses, gear units, ITQs, *etc.*) have been usually provided through the medium of annually renewable fishing permits. These provided fishers with little security of tenure. Also, substantial changes to permit conditions could be made with minimal industry consultation.

AFMA has sought to improve the quality of fisher's rights by improving their definition through the assignment of ITQs or transferable gear units, and by increasing their security by providing the rights under statutory management plans. The rights have become "bankable" assets, with third party interests (such as those of mortgage holders) being recorded in a statutory register. The consultative process

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<sup>2</sup> It is also worth noting that in a 1996 client satisfaction study undertaken for AFMA by Roy Morgan Research Centre Pty Limited, 73% of respondents were satisfied or very satisfied with the service provided by AFMA.

<sup>3</sup> See Exel and Kaufmann (in press) for more information on the evolution of institutional arrangements in Commonwealth fisheries in Australia.

required of the authority in order to amend statutory rights is comprehensive. A proposed amendment to AFMA's legislation (likely to become law later this year) essentially provides for the automatic "roll over" of rights from one management plan to the next, if, for some reason, a management plan is terminated. As noted in the introduction, the provision of strong property rights is often held to be a prerequisite for successful fisheries management.

## **Different Approaches to Recovering Management Costs**

This section provides a brief overview and comparison of cost-recovery regimes in place in Canada and Australia. Australia and Canada have followed two different approaches to charging the commercial harvesting sector. Australia has implemented an explicit cost-recovery policy for all Commonwealth-managed fisheries. The Canadian system is not formally based on either cost-recovery or rent-recovery, but is best described as simply a revenue generating initiative. The contrast between the Canadian and Australian approaches offers important lessons.

### *Canada*

On 18 December 1995, the Minister of the Department of Fisheries and Oceans (DFO) announced a new license fee schedule for commercial fishing on the Atlantic and Pacific coasts (Government of Canada 1995). The new fee schedule was forecast to generate an additional \$43 million in revenue.

The new fee system distinguishes between two categories of licenses: competitive fisheries and individual quotas/enterprise allocations. In competitive fisheries, all license holders (in a particular license category) pay a fee based on the average value of landings of license-holders in that license category. The fee schedule involves a flat fee of \$30 or \$100, plus increments based on the average landed value over the 1990–93 period. In quota fisheries, license holders pay a fee equal to 5% of the average landed price over 1990–93 multiplied by the tonnage of their quota holdings. For example, a license holder with 500 ton of quota, with an average landed price per ton of \$1,000, would pay \$25,000 ( $5\% \times \$1,000 \times 500 \text{ t}$ ).

It is not correct to describe the Canadian fee initiative as cost-recovery. In fact, there is no clear rationale underlying the Canadian approach. The Regulatory Impact Analysis Statement (Department of Fisheries and Oceans 1995) that was required to implement fee changes, states that two alternatives for calculating fees were considered: resource rents and cost-recovery. In the Impact Statement, both cost-recovery and resource rent charges were "ruled out" as possible rationales for calculating increased fees.

Having ruled out cost-recovery or rent-recovery, the Impact Statement then goes on to argue that, "The introduction of the new license fees involves a partial shift of the costs of fisheries management from the Canadian taxpayer to the fishing industry." This statement indicates that the fee increases were in fact a cost-recovery initiative. However the same Impact Statement also states that, "The new structure of license fees is based on the principle that it is reasonable to expect that those who benefit from access to a public resource managed at public expense should pay a fee that reflects the value (*i.e.*, earning potential) of the privilege." This suggests that the new fees were motivated by rent-recovery considerations.

A number of statements in the Impact Statement suggest a less than clear understanding of the difference between resource rent and cost-recovery, and this may in turn explain the above conflicting statements. For example, in ruling out cost-recov-

ery as an approach to revenue generation, the Impact Statement argues that, “many fisheries management measures which confer benefits to license-holders are essentially costless (e.g., limited entry policies) and fees based on costs would not capture these benefits.” According to this statement, one of the difficulties with cost-recovery is that it is not effective at extracting resource rent.

The above quote is all the more difficult to understand when viewed through another quote from the Impact Statement, “A pure rental approach was ruled out for two reasons: first, the lack of exclusive rights in the competitive fisheries generally leaves fisheries with below normal profits and, hence, no base for levying a royalty fee ...” In other words, the previous paragraph states that cost-recovery is ineffective in capturing rent in “limited entry fisheries,” while rent-recovery has been ruled out in these fisheries because there is no rent.

Finally, consider the following quote from the Impact Statement, “ability to pay is generally weakest in the competitive fisheries which also have the highest management costs ...” To paraphrase the Impact Statement’s argument so far, the problem with cost-recovery is that it would not capture resource rent in effort-controlled fisheries that earn “below normal profits,” and that are both costless to manage and also have the highest management costs.

Essentially, the Canadian approach is aimed at partial cost-recovery of total management costs across all fisheries, as opposed cost-recovery of management costs on a fishery-by-fishery basis. Under the Canadian approach some fisheries could implicitly be paying resource rent (if fees are greater than management costs), while other fisheries may only be contributing a small portion of their management cost. Cross-subsidization across fisheries is possible, as is taxation (if fees are greater than both management costs and resource rent in any particular fishery).

It is unlikely that the Canadian approach of charging an “access fee” based on the “privilege” of being allowed to fish will result in either increased transparency or accountability.<sup>4</sup> As will be argued later, fisheries management agencies have neither the expertise nor vested interest in distinguishing between cost-recovery, rent-recovery and taxation in the aggregate, let alone on a fishery-by-fishery basis. The pressure must come from the outside, and national finance or treasury departments have a responsibility and role to play in this regard.

### *Australia*

In Australia, each state or territory manages fisheries resources from the low water mark to 3 nautical miles offshore, and the Commonwealth government assumes jurisdiction from 3 nautical miles offshore to the 200 mile limit of the EEZ. However, a number of “Offshore Constitutional Settlement” arrangements have been entered into that allow for the management of specific fisheries by a single jurisdiction. A number of state governments, including South Australia and Western Australia, have implemented, or are in the process of implementing, cost-recovery. However, this section is limited to a discussion of the cost-recovery regime implemented by AFMA for the federal Australian government.

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<sup>4</sup> This is not to say that no cost-recovery is preferable to flawed cost-recovery. The Canadian approach of implementing a charge for the “privilege” of fishing has likely set the stage for confrontation and the subsequent development of a more appropriate cost-recovery policy at a later point in time. Recent developments in New Zealand may offer Canadian fisheries managers a glimpse of the future. In New Zealand, cost-recovery was introduced in 1994–95 following the disbandment of the resource rental policy. The current cost-recovery system is in a state of flux. In particular, the policy has led to a state of civil disobedience, with inshore Finfish operators refusing to pay management levies, and with large corporate operators taking the government to court.

One of AFMA's statutory objectives is to recover the costs of management from users of its services. A task force was established in 1993 to review cost-recovery in AFMA managed fisheries. Members of the task force included the Department of Finance, the Department of Primary Industries and Energy, the Australian Bureau of Agricultural and Resource Economics, and AFMA. Industry was given observer status on the task force.

The task force developed a framework which provided detailed guidance on which costs are recoverable from the fishing industry and which should be borne by government. A two-stage procedure was used to assess which group should pay. Stage one involved the attribution of each of AFMA's activities to either a specific user group (commercial fishers, foreign fishers, or recreational fishers) or to the community at large. In stage two, the following factors were considered in deciding whether the costs attributable to a particular user group should be recovered: the extent of user group benefit from the activity, consistency with government cost-recovery policy in other sectors, the existence of extenuating socioeconomic considerations, the existence of government policy which impacts on the cost recoverability for a particular activity, and the cost effectiveness of recovering the costs of any particular activity (Department of Primary Industries and Energy 1994).

The main outcome of the review was that the costs associated with the management of commercial domestic fisheries, with few exceptions, were deemed fully recoverable from the fishing industry. Costs associated with the management of collapsed, exploratory, and developmental fisheries may only be partially recovered while the costs of surveillance and enforcement are split equally between government and industry. Around 25% of the costs of fisheries research are paid by the fishing industry. At present, the costs attributable to noncommercial users, such as recreational fishers and indigenous fishers, are borne by government. In 1995-96, the fishing industry paid approximately 75% of AFMA's budget for the management of domestic, commercial fisheries.

The individual fishery budgets are divided between licensed fishers on equity grounds decided by the relevant MAC. Normally, costs are apportioned between fishers on the basis of their quota or gear unit holdings in the fishery. For example, a fisher holding 100 ton of tuna quota would pay double the management costs of someone holding 50 ton of quota.

Cost-recovery policy in Australia is different from the Canadian revenue-generating exercise briefly described above in at least two important ways. First, the Australian model is explicitly based on recovering management costs, as opposed to the mixed rationale of both rent- and cost-recovery implicitly employed in the Canadian model. Second, AFMA identifies, in detail, management costs on a fishery-by-fishery basis. Preliminary management budgets are provided by AFMA to the various fishery management advisory committees (MACs) for scrutiny and advice. In practice, MAC agreement on the budget is required before levies are collected from fishers.

### **A Lesson From the Canadian and Australian Approaches: The Role of Finance/Treasury Departments**

If cost-recovery is to play an important role in increasing transparency and accountability in the fisheries management decision making process, it is important that the policy framework is properly designed. Fisheries management agencies have neither the expertise, nor more importantly, the vested interest to design such a policy framework.

The Australian experience, in which the cost-recovery policy framework was developed outside the fisheries management agency and with significant input from

the Department of Finance, provides evidence to support this view—especially when compared to the Canadian model. However, finance/treasury agencies must do more than just set cost-recovery guidelines, it is important that the guidelines are followed.

The Canadian Treasury Board Secretariat (1994) produced a document entitled, *Cost-recovery and User Fees*. This document defines cost-recovery as “Recovery of expenses in providing a particular good, service, or use of facility;” user fees are “Charges to identifiable individuals or groups in exchange for some direct benefit;” and, taxation as a “Mandatory charge to individuals and organizations without reference to any special benefits conferred.” The Treasury Board document also states that “Revenue from taxes—as well as net revenues from charges for rights or privileges—should be available for redistribution to Government priorities while cost-recovery should be available to offset the cost of delivering the programs in question.” Finally, the document argues that the basis for charging with respect to cost-recovery, user fees and tax are respectively, “Up to full but cannot exceed full cost,” Market Rates or value of the benefits,” and “No Relationship.”

The “access fees” being charged by the Canadian Department of Fisheries and Oceans (DFO) do not appear to be consistent with Treasury Board guidelines. First, DFO has ruled out cost-recovery and resource rentals as a basis for its charges, therefore it is not clear how the DFO charging basis relates to the Treasury Board document or any other conceptual framework. Second, any particular Canadian fishery that pays access fees above management costs is either paying a user fee (resource rentals) or is being taxed, with the revenue being used to cross-subsidize other DFO activities, as opposed to being directed to the Consolidated Revenue Account. This would be contrary to Treasury Board guidelines.

Therefore, while we see cost-recovery as a potentially useful fisheries management tool, we think it is important that finance/treasury departments play a significant “hands on” role in ensuring proper implementation.<sup>5</sup>

## Conclusions

Pearce’s quote in the introduction is as relevant today as it was in 1982. As a general observation, fisheries management institutions world-wide have failed to conserve fisheries resources and deliver economic benefits from resource usage. This failure has come at significant financial cost to taxpayers—both in terms of management costs and income support payments that often follow a fisheries collapse, as was the case with northern cod.

In response to such failures, many important changes to fisheries management practices have been suggested, such as the need to: allocate strong property rights to fishers; incorporate risk and uncertainty in decision making; better integrate biology, economic, and management disciplines; increase user group participation; and identify operational management objectives. However, these changes are likely to be of marginal benefit if public sector institutions continue to be the delivery mechanism for management services. Profound institutional change is required.

We would like to conclude with a brief consideration of the following quote from Hilborn (1992), “Finally, the problems of formal stock assessment and decision analysis are unimportant unless fishing effort can be controlled. All the most sophisticated biological, economic and statistical products are wasted if we do not

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<sup>5</sup> Of course, there is no guarantee that central agencies will necessarily insist on a rational approach to cost-recovery. However, once even a flawed approach is implemented, pressures from industry and in turn opposition political parties may help to force the introduction of a more responsible approach.



learn how to manage the fishing fleets. This is the true challenge for the future of fisheries management.”

While agreeing with the thrust of Hilborn’s statement, one important qualification is warranted. We see little likelihood that public sector fisheries management institutions will ever “learn how to manage the fishing fleets.” The true challenge for the future of fisheries management is to find ways to reduce significantly the role of public sector institutions, and in turn political imperatives, in the provision of management services. A properly designed cost-recovery policy is a potentially useful vehicle to drive this change.

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