

The Management of Transboundary Fishery Resources and Property Rights

by Gordon R.
Munro

Chapter Summary

Gordon Munro tackles one of the knottiest questions in the field of rights-based fishing. As he says, his "paper concerns itself with the... difficult issue of managing transboundary fishery resources, in which state, let alone individual, property rights may be poorly defined." The paper aims to break new ground, in that "the consequence for the management of transboundary fishing resources of establishing fishermen/company based property rights" has never been properly dealt with. Munro attempts to fill this gap by discussing what economic theory would suggest are the problems that need to be solved, and how one might do so. He also looks at the question of whether or not domestic rights-based fishing would, in theory, provide any help to countries trying to establish workable schemes for jurisdiction over transboundary stocks. As he himself recognizes, the discussion at this point must be rather speculative, but he courageously points us in the direction of the research that needs to be done.

The paper begins with a brief history of the legal position of national ownership over offshore fishery resources. Munro reminds us that "[i]t is now established [by the 1982 UN Convention on the Law of the Sea (CLS)] that coastal states have property rights to the fishery resources contained within their Exclusive Economic Zones [extending 200 nautical miles offshore]." This principle established, coastal states, such as Canada, quickly discovered that the stocks stubbornly refused to stay within their EEZ, and hence international management issues arise. Two such issues concern us here. One is the issue of "shared stocks". These are fish stocks shared by two or more coastal states whose EEZs are contiguous. "The [CLS] admonishes... coastal states to cooperate in the management of "shared" fishery resources, but provides... little or no guidance as to how the cooperation is to be effected." The second issue is that of "straddling" stocks, or those that move back and forth between a country's EEZ and the high seas. Here the guidance provided by the UN is even more limited than in the case of shared stocks.

Munro's analysis of the economically sensible response to these issues flows from the realization that several countries having access to the same fish stocks in the absence of clearly defined ownership rules makes each country a player in a highly competitive game where each player's actions will be influenced by the actions of the others. "The new element which is introduced into resource management when the... resource is transboundary is the fact that the resource is subject to exploitation by one, two, or more states which can be expected to interact with one another... It is this inescapable interaction between, or among, states exploiting the resource which necessitates our turning to the theory of games for analytical insight."

The theory of games tells us that non-co-operative management of shared fishery resources is likely to be disastrous, because the logic of the incentives within the system leads to each state's fishermen overexploiting the resource. We are back to the common property problem, even where ownership of the stocks, when they are in one country's waters, is privately held. The predictions of game theorists have been tragically borne out in many fisheries around the world, including in the west coast salmon fishery.

On the other hand, game theory offers a more optimistic prospect where management of the

resource is co-operative. But "co-operation" is easier to say than to achieve. One must find, through bargaining, an outcome in which each party to the negotiations is made at least as well off as they would have been under non-co-operation, and in which no party can make itself better off without harming the other. In this context, Munro underscores the importance of one possible "move" in the game: the making of "side payments". Where different players value the resource (the object of the game) differently, the players who value the resource the most will have an incentive to make payments (in cash or in kind) to players who assign a lower value to the stock. Such payments encourage the latter to withdraw from the fishery or to reduce their take. Nor is this idea purely speculative. As an example, Munro draws our attention to the four country agreement governing the harvesting of fur seals in the Northeast Pacific from 1911-1984, an agreement to which Canada was a party. Under that agreement, the low cost harvesters (Russia and the USA) transferred a percentage of the furs from their hunt to the high cost harvesters (Canada and Japan) in return for the latter two reducing their hunting effort to zero. These side payments produced a stable management system that lasted for over 70 years. The author also draws our attention to the fact that the more recent Pacific Salmon Treaty is in difficulty in large part because no serious attempt has been made to introduce side payments. This helps to make intractable the position of the key Alaska fishing industry.

Straddling stocks present an even more complex set of factors than shared stocks. Of particular concern is the fact that the imprecision of international law means that there will often be at least one party which will believe it can make itself better off by non-co-operation. Side payments are less applicable because of the highly mobile nature of distant water fishing nation fleets, that can move in and out of individual fisheries quickly, and therefore be attracted into new fisheries by the existence of side payments. The new 1995 UN Agreement (arising from the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks) does not make ownership of straddling stocks explicit. By allowing, however, for the creation of regional management organisations, including coastal states and distant water fishing nations, the door is left open for the creation of de facto property rights. There is still much work to be done, however, on both the development of the framework laid out by this Agreement, and on the very complicated game-theoretic analysis of the likely outcomes of negotiations within such a framework. Discussion of the difficulties of managing one Canadian shared stock (salmon) and one Canadian straddling stock (groundfish) underlines the real damage that Canada has suffered when its own ownership of fish stocks has been unclear, ambiguous or unrecognised by other fishing nations.

Then Munro asks whether "...the attempt to implement rights-based management schemes will enhance the prospects for co-operation [between fishing nations]." In the context of shared stock the answer is that there are two beneficial contributions. The first, says Munro, is obvious: if a nation's management scheme dissipates resource rents (as Canada's does), then the incentive to cooperate with other nations in managing the resource will also be dissipated. The second beneficial effect is more speculative, and involves the prospects for side payments. Here the argument is that mutually beneficial trades between private resource owners across the border will be easier to arrange and are likely, in the aggregate, to produce a better outcome than government to government trades of stocks to satisfy the need for side payments. Munro does not endorse this approach, but suggests that it "merits serious thought and consideration".

In the case of straddling stocks, the beneficial effects of a rights-based management scheme await clarification of national ownership of stocks. Once this destabilising uncertainty is

resolved, the same potential benefits accruing to shared stocks would apply here.