

Resolving Overfishing

by Michael De Alessi

Overfishing remains one of the more serious environmental problems in North America and around the world. Overfishing is a textbook example of “the tragedy of the commons,” a situation where the lack of property rights rewards catching as much as possible, as quickly as possible, ahead of one’s competitors, and regardless of the effect on future stocks. Under such a system, commercial fishermen have little choice but to deplete the seas because any fish they leave behind will simply be caught by someone else, rather than left to grow and reproduce for another year. Regulations aimed at preventing overfishing have often only made things worse because they fail to address the tragedy of the commons.

Economists have long understood that allocating property rights to natural resources solves this problem. For the fisheries, allocating such property rights takes the form of something called “tradable harvest rights,” which assign a percentage of a scientifically determined total catch to individual fishermen or fishing associations. When it is clear who can catch what, there is no longer a race to fish.

The economic and fishery-specific benefits of property rights and tradable quota programs have been demonstrated throughout the world, and in *Managing Fish*, a recent Fraser Institute survey of

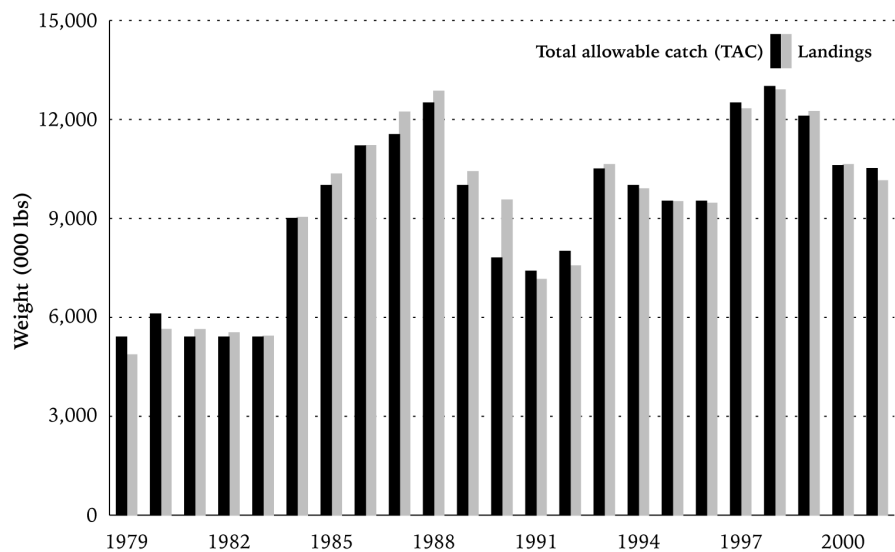
ten BC fisheries (Jones, 2003). For example, one form of a tradable quota system, called an IVQ, or Individual Vessel Quota, has been in place for BC halibut since 1991, and, as figures 1 to 3 show, has “improved conservation, economic viability, and working conditions” (Jones, 2003, p. 49).

In the United States, the US Commission on Ocean Policy released a draft report in April after almost three years of work. The report’s findings, which should sound very familiar to Canadians, bring a welcome focus to the mismanagement of the coasts and oceans. Their recommendations, however, while

exhaustive, are also muddled, and miss the opportunity to find an underlying principle for marine management. The Oceans Commission recognized that tradable quotas could improve the management of some fisheries, but failed to see the bigger picture: that the property rights approach could transcend individual fisheries to address other problems, such as the protection of more general ecological health.

For example, many environmental groups strongly support the creation of a system of marine reserves where commercial fishing would be prohibited. Numerous studies have shown that at least within the boundaries of marine reserves, marine life is more plentiful and diverse, and so marine reserves certainly offer great promise. In 2002, The Canada National Marine Conservation Area Act was passed, intended to “establish a system of marine conservation

Figure 1: Halibut—Total Allowable Catch Compared to Actual Catch, 1979–2001



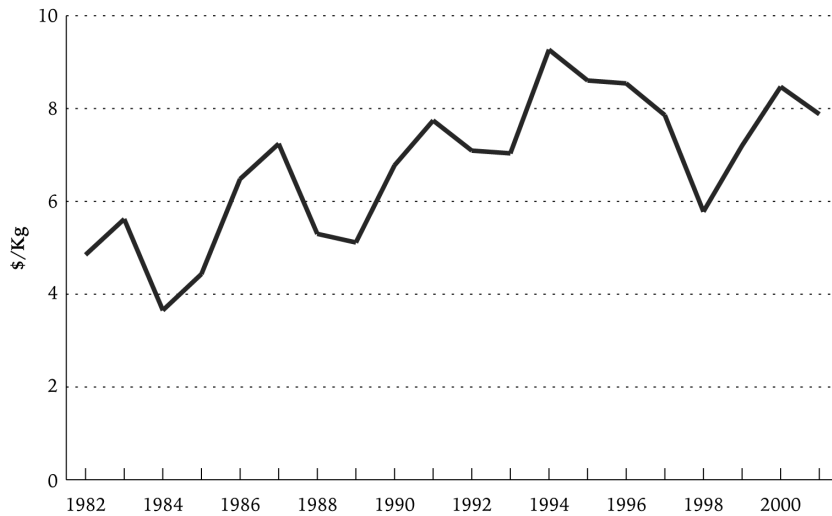
Notes: Limited entry was introduced in 1979, individual quotas in 1991. All weight in dressed, rather than round, weight.

Sources: International Pacific Halibut Commission; 2000 TAC: <http://www.iphc.washington.edu/halcom/newsrel/2000/nr20000417.htm>; 2000 Catch: www.iphc.washington.edu/halcom/commerc/fishery00.htm. (From *Managing Fish*, fig. 4.1, p. 43.)

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Figure 2: Halibut—real price, 1982–2001 (adjusted for inflation)



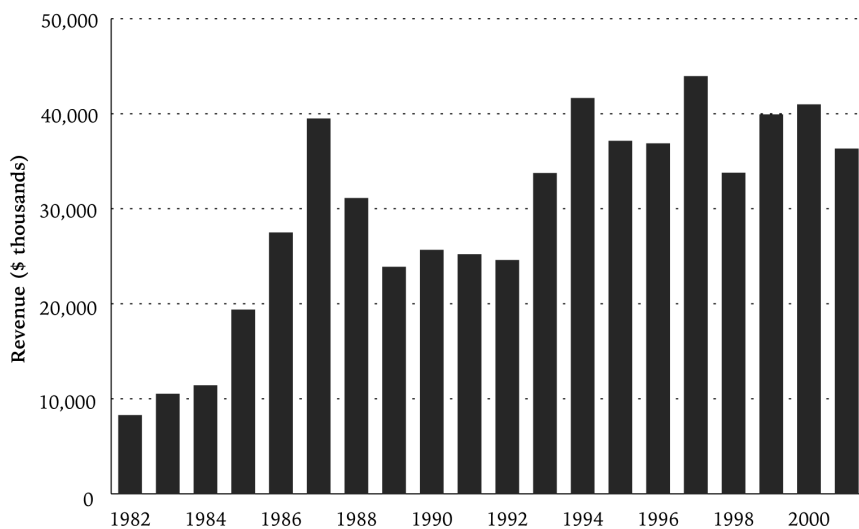
Note: Limited entry was introduced in 1979, individual quotas in 1991.

Source: 2000 Halibut Integrated Fishery Management Plan, page 6; 2000 Price: estimate from International Pacific Halibut Commission. (From *Managing Fish*, fig. 4.4, p. 46.)

areas that are representative of the Atlantic, Arctic, and Pacific Oceans and the Great Lakes and are of sufficient extent and such configuration as to

maintain healthy marine ecosystems." Parks Canada has the task of setting up the expanded National Marine Conservation Areas (Department of Justice,

Figure 3: Halibut—Real Revenue for the Fishery, 1982–2001 (adjusted for inflation)



Note: Limited entry was introduced in 1979, individual quotas in 1991.

Source: DFO-Pacific 2000g: 6; 2000 revenue: estimate from International Pacific Halibut Commission; 2001 revenue: BC Ministry of Agriculture, Food, and Fisheries 2002. (From *Managing Fish*, fig. 4.5, p. 47.)

Canada, 2002). Just how effective marine reserves are, however, depends on a complex set of interactions between biological, economic, and institutional factors (Sanchirico *et al.*, 2002).

Jim Bohnsack, one of the leading marine reserve scientists at the US National Marine Fisheries Service, has described reserves as “civilizing the oceans” by “putting fences in the oceans” (quoted in Belsie, 1998). He’s definitely on to something—good fences do make good neighbours—but the picture is incomplete as long as it remains unclear who has the right to fish, and where. In other words, marine reserves alone don’t address the reasons why fish are over-harvested in the first place.

Marine reserves will only be as effective as the respect given to their boundaries, and without the support of the fishing community, it is hard to imagine a successful marine reserve program. One measure of that support is profitability, because the more commercial fishermen face financial hardships, the more likely they are to skirt regulations, including restrictions on where they can and can’t fish.

In other parts of the world, where the rights to harvest fish are more secure, it is the fishermen themselves who press for conservation measures and who often even create their own marine reserves. In New Zealand, rights to fish are the equivalent of certifiable property rights. Their system has led to the growth of innovative quota-owning management groups that invest heavily in fisheries science and enhancement. The management groups also tend to fish conservatively, leaving fish to repopulate the seas, because they recognize that healthy oceans are a valuable asset.

The cooperative effort in New Zealand contrasts starkly with environmental

efforts in North America. In California, for example, one species of rockfish, the bocaccio, may be a candidate for endangered species listing. But when officials in California began a state-wide closure of the bocaccio fishery, fishermen were outraged. A *Los Angeles Times* article about the fishery closures last summer quoted one Central fisherman who declared: “There’s plenty of fish out there... The problem is, there’s even more regulators” (Johnson, 2003). When the system of fishing rights was created in New Zealand, on the other hand, fishermen immediately criticized the government for actually setting some catch limits *too high*.

Once the boundaries of marine reserves and fishing areas are well established, all ocean advocates, whether commercial or recreational fishermen, or environmental advocates, are far more likely to find cooperative solutions—and oceans and fisheries are far more likely to be healthy.

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