

International Fisheries

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(with updates by Iain Murray)

The history of fisheries management in the United States largely is one of mismanagement, depletion, and what scientist Garrett Hardin once described as the “Tragedy of the Commons.”¹ In recent years, however, some progress has been made. A growing appreciation for what underlies most fisheries declines has resulted in some efforts to create positive incentives for marine conservation, most notably in Iceland and New Zealand. In the United States, however, such programs are rare and have even been prohibited in recent years under the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (the nation’s overarching

fisheries management legislation). On December 9, 2006, Congress again reauthorized the act to include compromises, including the authorization of such schemes.²

Fish stocks and other marine resources have suffered immeasurably from management regimes that pit fishers against regulators; the most common response to fishery depletion has been the use of regulations, such as limiting fishing seasons. Such regulations create incentives for harvesters to catch as many fish as they can, often as quickly as they can, even to the detriment of the resource—because if they don’t catch the fish, someone else will.

1. Garrett Hardin, “The Tragedy of the Commons,” *Science* 162, no. 3859 (1968): 1243–48.

2. Juliet Eilperin, “House Approves Overhaul of Rules for Fisheries,” *Washington Post*, December 10, 2006, p. A08.

In contrast, when fishers own a fishery or have some sort of property right to a certain harvest, they have incentives to maintain the long-term health of the fishery and will strive for sustainable harvests, making investments both to protect the resource and often even to enhance it. In New Zealand, for example, where harvesting rights are well defined, fishers have reduced harvests voluntarily, have invested heavily in scientific research, and in the case of the scallop fishery, also have invested in an ambitious reseeded and enhancement program.

The collapse of the once-rich fisheries along the Georges Bank off the coast of New England serves as a dramatic testimony to both the failure of fishery management in the United States and the fatal flaws of regulatory attempts to prevent overfishing. Traditional limits on seasons and fishing gear simply encourage harvesters to figure out ways around the restrictions. Limit the number of fishing days, for example, and fishing efforts will simply intensify during the permitted period. The quota- and subsidy-driven Common Fisheries Policy of the European Union (EU) is another example of failed management systems that purportedly protect resources but in fact deliver perverse incentives. Without any sense of ownership, individuals are not likely to attempt to conserve or enhance marine resources, because the benefits of doing so are diluted throughout the fishery. Fishers have no desire to destroy their own source of livelihood, but as long as the rules of the game reward overharvesting, fish stocks will continue to decline.

Private Ownership

Privately owned marine resources are better protected. One well documented study that

compared public oyster beds in Maryland to privately leased oyster beds in Virginia shows how private management of marine resources is superior to its open-access and government-managed counterparts.³ The study found that leased beds are better managed and far more productive. In places like Alabama, artificial reefs, despite becoming public property as soon as they hit the water, also have demonstrated the potential for private investment in marine conservation (knowing exactly where the reefs are offers enough of a sense ownership to reward investment).

Private rights developed in common also have conserved resources successfully in traditional communities like those of Maine lobster fishers, who have protected lobster grounds by informally marking out territories and limiting fishing access to a well-defined group. Defining their territories allows the members of the group to realize the benefits of stewardship, and studies have shown that conservation is markedly improved within those territories. Nothing would prevent those regimes from remaining or evolving under a system of private ownership of marine resources. From outright fee-simple ownership of oyster beds in Washington to proprietary ownership of artificial reefs in Alabama, marine habitat is being conserved and enhanced privately. Those with an interest in fisheries conservation should recognize the regimes that already exist and give fishers the ability to create new regimes, which would allow them to become stewards of the ocean environment.

3. Richard J. Agnello and Lawrence P. Donnelley, "Property Rights and Efficiency in the Oyster Industry," *Journal of Law and Economics* 18, no. 2 (1975): 521-33.

The Role of Technology

Advanced technologies are often blamed for fisheries depletion, but they could protect and monitor marine resources. Consider that the oceans are similar to the American West in the early 1800s, when enclosing and monitoring land and cattle were unthinkable. But once private property rights were clearly allocated in the West, owners and entrepreneurs rapidly developed branding registries—and later, barbed wire—to effectively define and defend their property. Technologies already exist that could start “fencing” and “branding” marine resources, if only rights to them were clearly defined.

Technologies such as sonar (used to detect the presence of marine life using sound waves), satellites, and unmanned submersibles (used to monitor the whereabouts of specific animals or aggregations of marine life) are increasingly available and adaptable to fisheries management. To date, such technologies often have been used only to increase harvesting capacity, and with their use have come charges of vacuuming the sea. But blame should not be laid on technology. The real problem lies with open access to resources and inadequate regulatory schemes.

Indeed, recent technological developments have seen the introduction of selective gear that can extract particular species from mixed fisheries in an almost surgical fashion, leaving other species untouched. Technology is also solving the issue of undersized fish, allowing them to escape and survive. Such developments are in fact the reverse of vacuuming the sea. However, certain regulations, such as those in the EU’s Common Fisheries Policy, actively discourage—even penalize—the adoption of such technology.

The Role of Subsidies

Production subsidies are commonly used in European and developing countries to encourage fishing and thereby “protect” traditional industries. Such subsidies merely contribute to the overfishing of resources and should be banned or opposed wherever possible. Moreover, the subsidies appear to be the subject of large-scale fraud.⁴

Proponents of subsidies also sometimes justify them by claiming that the political risks of fishery closure scare off private investment in the fishing industry. Reducing political risk by providing a stable, predictable framework for the industry based on genuine, tangible property rights that encourage conservation would satisfy that concern.

Individual Transferable Quotas

In addition to full-fledged property rights schemes, some recent innovations, particularly the Individual Transferable Quota (ITQ) system, are now working toward changing fisher’s motivations. ITQs grant fishers a right to a percentage of a total harvest, so that healthier fish populations translate into rights to catch a greater number of fish and an increase in the value of that ITQ. Under an ITQ system, the rights are

4. See, for example, various reports from Oceana, such as, “In 2005 and 2006, Oceana documented numerous boats in the Mediterranean using illegal driftnets. Many of these boats were the recipients of subsidies from Italy and the European Union (EU) to convert to legal nets—a program that has given out more than \$200 million Euro (\$240 million)—yet were still using the illegal gear.” See Oceana, “Pirates and Plunder: Fisheries Subsidies Support Illegal or Rogue Fishing,” Oceana, Washington, DC, http://www.oceana.org/fileadmin/oceana/uploads/dirty_fishing/cut_the_bait/2007_Subs_outreach_kit/Pirates_and_Plunder_FINAL.pdf.

transferable, so owners can realize the gains from any improvements in the fishery, thereby encouraging owners to invest time, effort, and capital into research and stewardship. ITQs are not well suited to every fishery, and they do not translate directly into private ownership of actual fish or fish habitats (which would create even stronger stewardship incentives), but they definitely are a step in the right direction.

ITQs have proved effective in other countries and in the United States, and they can be an important acknowledgment of the power of private stewards to protect the environment. However, ITQs are only limited property rights. Legislative limitations on ownership and transferability will devalue rights and discourage conservation and stewardship because the motivation for those activities is to increase the value of the quota. Devalued quotas will mean that harvesters will have little interest in working to improve the fishery's health and productivity. Restrictions imposed by lawmakers could also lead ITQs to resemble "taxi cab medallions" more closely than private rights, which creates an interest in limiting competition and a vested interest in maintaining the status quo.

New Zealand and Iceland have the most extensive ITQ programs by far, and both programs have been in existence for more than 10 years. In both countries, fisheries management has improved dramatically, as have a number of fish stocks managed by ITQs. Problems persist, such as political wrangling and reallocation of quotas to recreational anglers, but the overall improvement has been remarkable. ITQs are not a panacea and will be ill suited in some cases, but they should not be dismissed entirely.

ITQs may well be unsuitable in areas where mixed fisheries predominate. The system creates

problems with bycatch discarding and encourages the practice of throwing back smaller and lower-value fish of targeted species in the hopes of catching larger ones—*high grading*, as it is known. Therefore, there may be areas where a system based on tradable days at sea, together with "incentive day" rewards for good practices (such as using better technology and not sending out ships with insufficient crew) and bycatch limits, would be preferable.⁵ However, the central principle remains that of creating an ownership stake in a resource so as to encourage growth in the value of the underlying resource.

Recommendations

Several recommendations can be made:

- Lawmakers should make sure that there are no explicit restrictions on the rights-based management tools available to fishery managers. If fishing interests can agree on a system of private or quasi-private rights to manage the marine resources they depend on for a living, managers should have the leeway to grant those rights.
- Lawmakers should implement policies that employ private property rights. Open access to valuable resources is an appealing concept but a proven failure. Access to all will leave a valuable resource for none. Under a system of property rights, everyone will still have an opportunity to fish, but with strong incentives to conserve fisheries and other marine resources.
- International negotiations should seek to reduce or eliminate subsidies that promote

5. See, for example, Owen Paterson, "Consultation on a National Policy on Fisheries Management in U.K. Waters," Conservative Party Green Paper, January 2005, <http://www.conservatives.com/pdf/fishinggreenpaper.pdf>.

overfishing by providing a stable, predictable framework that will encourage private investment in fisheries without the perverse incentives subsidies provide.

Reconciliation of competing commercial, recreational, and environmental concerns and prevention of further degradation of the marine environment require some form of private ownership rights. The exact specification of rights, which may take the form of anything from transferable fishing quotas to extensions of programs that allow for leasing of the sea for aquaculture or offshore oil exploration, is not important. What is important is that we start moving away from the “Tragedy of the Commons” toward stewardship.

Key Contacts

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Recommended Readings

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Updated 2008.