



## Recent Peer-reviewed Articles and Book Chapters Discussing Fisheries Management and Market-based Incentives

### Journal Articles

**Costello, C., S.D. Gaines, J. Lynham. 2008. Can catch shares prevent fisheries collapse? *Science* Vol. 321, pp 1678 - 1681**

**Abstract:** Recent reports suggest that most of the world's commercial fisheries could collapse within decades. Although poor fisheries governance is often implicated, evaluation of solutions remains rare. Bioeconomic theory and case studies suggest that rights-based catch shares can provide individual incentives for sustainable harvest that is less prone to collapse. To test whether catch-share fishery reforms achieve these hypothetical benefits, we have compiled a global database of fisheries institutions and catch statistics in 11,135 fisheries from 1950 to 2003. Implementation of catch shares halts, and even reverses, the global trend toward widespread collapse. Institutional change has the potential for greatly altering the future of global fisheries.

**Brady, M. and S. Waldo. 2008. Fixing problems in fisheries—integrating ITQs, CBM and MPAs in management. *Marine Policy* Article in Press.**

**Abstract:** We aim to show how some of the important interdisciplinary fixes or solutions to diverse problems observed in fisheries can complement each other. This can be achieved through methodical allocation of the rights pertaining to fisheries and simultaneous implementation of policy instruments to correct for market failures and equity concerns. We emphasize via a roadmap that there are some general principles that should be invoked when choosing between alternative structures of rights. Our examples from Sweden provide evidence of the flexibility of fishing rights and how they can be adapted to integrate fixes from different disciplines into practical fisheries management.

**Wilén, J. E. 2006. Why fisheries management fails: treating symptoms rather than the cause. *Bulletin of Marine Science* Vol. 78, pp 529-546**

**Abstract:** Most fisheries management controls fishing mortality directly with top-down measures like time and area closures and gear restrictions. Decisions about these measures take place in adversarial, politically charged arenas. Scientists criticize conventional methods, mostly arguing for more draconian applications of the same tools. Economists also criticize them, but because they believe such methods focus on the symptom rather than the cause of problems. From the perspective of economists, the race to fish, the drive to increase fishing power, and the perversion of the politics of the management process are all driven by the insecurity of access faced by fishermen under most systems. Economists believe that fishermen's incentives are distorted by insecure harvest privileges, leading them to compete wastefully with each other and with managers for fish. Alternatives they recommend include "rights-based" harvest privileges. Although the shortcomings of these institutions have been argued about for over two decades, enough evidence has accumulated for a focus on consequences rather than speculation. Virtually all such experience shows that rights-based management institutions alter incentives in ways favorable to conservation and stewardship. An important inducement for behavioral changes is the wealth that is capitalized into the values of permits in rights-based systems.

**Hilborn, R., J.M. Orensanz, and A. Parma. 2005. Institutions, incentives, and the future of fisheries. *Phil. Trans. R. Soc. B* Vol. 360, pp 47-57.**

**Abstract:** Fisheries around the world are managed with a broad range of institutional structures. Some of these have been quite disastrous, whereas others have proven both biologically and economically successful. Unsuccessful systems have generally involved either open access, attempts at top-down control with poor ability to monitor and implement regulations, or reliance on consensus. Successful systems range from local cooperatives to strong governmental control, to various forms of property rights, but usually involve institutional systems that provide incentives to individual operators that lead to behavior consistent with conservation.

**Carlsson, L. and F. Berkes. 2005. Co-management: concepts and methodological implications. *Journal of Environmental Management* Vol. 75, pp 65-76.**

**Abstract:** Co-management, or the joint management of the commons, is often formulated in terms of some arrangement of power sharing between the State and a community of resource users. In reality, there often are multiple local interests and multiple government agencies at play, and co-management can hardly be understood as the interaction of a unitary State and a homogeneous community. An approach focusing on the legal aspects of co-management, and emphasizing the formal structure of arrangements (how governance is configured) runs the risk of neglecting the functional side of co-management. An alternative approach is to start from the assumption that co-management is a continuous problem-solving process, rather than a fixed state, involving extensive deliberation, negotiation and joint learning within problem-solving networks. This presumption implies that co-management research should preferably focus on how different management tasks are organized and distributed concentrating on the function, rather than the structure, of the system. Such an approach has the effect of highlighting that power sharing is the result, and not the starting point, of the process. This kind of research approach might employ the steps of (1) defining the social-ecological system under focus; (2) mapping the essential management tasks and problems to be solved; (3) clarifying the participants in the problem-solving processes; (4) analyzing linkages in the system, in particular across levels of organization and across geographical space; (5) evaluating capacity-building needs for enhancing the skills and capabilities of people and institutions at various levels; and (6) prescribing ways to improve policy making and problem-solving.

**Fujita, R. and K. Bonzon. 2005. Rights-based fisheries management: an environmentalist perspective. *Reviews in Fish Biology and Fisheries* Vol. 15, pp 309-312**

**Abstract:** Fisheries management regimes take many forms, but most fail to designate shares of the catch. This failure creates strong incentives for individuals to maximize their share without regard to long-term sustainability, because the benefits of conservation actions do not accrue to individuals. The competition to maximize catch usually entails excessive capital investments in fishing vessels and gear and intense fishing pressure, resulting in overfishing, high bycatch rates, and the use of large, efficient types of gear that can harm habitat. Managers respond by increasing regulations, but this often exacerbates perverse incentives. In addition, many fisheries could be producing more value than the current system permits, i.e. large quantities of fish are landed during short seasons, forcing fishermen to sell for low prices. Conservation and economic problems facing fisheries can be addressed in an integrated way, by designating access privileges (specifying shares of the catch) to individuals, harvest cooperatives, fishing sectors, communities, or other appropriate entities. Designated Access Privilege (DAP) systems demonstrably end the competition to maximize catch and often result in better conservation and financial performance. The cost of implementing these systems can be relatively high and has been a barrier to better management. However, this doesn't have to be so. Fisheries could accept investments from a variety of sources and use a portion of the increased financial performance to repay recoverable grants and loans. The key to protecting fish stocks, habitats, and the communities that depend on them will be to implement DAPs that are appropriate for each fishery or community, making investments in sustainability, and creating financing mechanisms that are themselves sustainable, drawing on the increased value that DAP fisheries can produce.

**Heal G. and Schlenker W. 2008. News & Views, Economics: Sustainable Fisheries. *Nature* Vol 455, pp 1044-1045.**

**Abstract:** Fishermen's aims of increasing their catch seem at odds with preserving fish stocks by limiting catch. A study of more than 11,000 fisheries shows that 'individual tradable quotas' can reconcile these goals.

**Book chapters**

**Fujita, R., K. Bonzon, J. Wilen, A. Solow, R. Arnason, J. Cannon, and S. Polasky. 2004. Rationality or Chaos? Global fisheries at a crossroads. In: *Defying Ocean's End: An Agenda for Action*. Glover, L., and S. Earle, Eds. Island Press, Washington, D.C. pp. 139-150**

**National Research Council. 1999. Executive summary. In: *Sharing the Fish: Toward a National Policy on Individual Fish Quotas*. National Academy Press, Washington, D.C. pp. 1-12.**

**Brown, R.C. 1998. Community-based cooperative management: renewed interest in an old paradigm. In: *Reinventing fisheries management*. Pitcher, T.J., P.J.B. Hart, and D. Pauly, Eds. Kluwer Academic Publishing, Dordrecht, The Netherlands. pp. 185-194**

**Sutton, M. 1998. Harnessing market forces and consumer power in favor of sustainable fisheries. In: *Reinventing fisheries management*. Pitcher, T.J., P.J.B. Hart, and D. Pauly, Eds. Kluwer Academic Publishing, Dordrecht, The Netherlands. pp. 125-134**