



Insight, part of a Special Feature on [The Privilege to Fish](#)
Public Fisheries

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ABSTRACT. There is almost universal agreement that the most effective solution to open-access natural resource problems lies in some form of ownership. Authors disagree on the secondary question of which ownership form, i.e., private, community, or government, will produce the most efficient or equitable results under particular conditions. There has been little attention paid to the fact that government ownership, that is, regulation, is certain to produce results that all interested subsets of the public will view as inefficient and inequitable. Dissatisfaction flows inevitably from the requirements and realities of democratic decision-making structures and constraints. In other words, a democracy puts more emphasis on fair process and the incorporation of competing values than on achieving any particular objective. Thus, although government ownership might solve open-access natural resource problems such as those that occur in fisheries insofar as it creates a peaceable forum for dispute resolution, it does not lead to what anyone might consider well-managed fisheries. For government ownership and well-managed fisheries to coexist, the most logical solution is to create a subset of government structures, the goals of which are aligned with the preferences of various interest groups such as commercial fishers, recreational fishers, and marine conservationists. This approach, which is used on U.S. public lands, ensures that, within at least some parts of the public domain, groups will view management as having succeeded. Greater interest-group satisfaction should lead to welfare gains because those groups will, for example, feel less need to expend resources participating in costly agency processes.

Key Words: *commons; fisheries; fisheries law; law and policy; United States*

INTRODUCTION

Most scholars agree that solving open-access natural resource problems requires ownership (Gordon 1954, Scott 1955, Hardin 1968, Ostrom 1990, Posner 1998, see also Bromley 2009). Although they diverge on the question of the most effective form of ownership, that is, a private individual or firm, a community of resource users, or a government, the basic premise that a single entity must control use of and access to the entire pool of resources over an indefinite time horizon is a constant.

The argument for ownership is well grounded in theory. The features and rights of ownership lay the foundation for efficient use of the resource. Sole ownership of the entire pool over an indefinite time horizon allows the owner, whether private, community, or government, the opportunity to

formulate and execute a plan that maximizes the net present value of the resource (Gordon 1954, Scott 1955, Alchian and Demsetz 1973, Neher 1990). More importantly, these features and rights provide the owner with an incentive to do exactly that (Alchian and Demsetz 1973). If the owner has the sole right to the benefits of good decisions, she or he will be motivated to make them (Alchian and Demsetz 1973, Posner 1998).

Although ownership provides opportunity and incentive for effective management, it does not guarantee it (Schlager and Ostrom 1999, Hansen and Libecap 2004). There are many reasons why a private owner might rationally or irrationally use her or his property in a way that does not maximize its net present value (Macinko and Bromley 2002, Bromley 2009). An owner might, for example, lack adequate information on the response of a fish stock to removals, or might prefer to spend the capital

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needed to catch fish on lottery tickets. Scholars have documented numerous instances in which the application of private, community, and government ownership has failed to improve the condition of the resource (Macinko and Bromley 2002, Dietz et al. 2003).

In assessing the success or failure of an owner's property management efforts, it is important to remember that efficient, effective, or optimal results will not look the same for each owner. Owners will differ in the ways in which they both value alternative uses of the resource, and discount future gains or losses. Whereas owner A may prefer to maximize cash flow by regularly catching fish from the hypothetical fishery, "Blackstock", alternative owner B might receive an equally efficient result not by harvesting from Blackstock but by investing in actions or inactions that maximize recreational or ecological benefits. Moreover, even if both owner A and owner B prefer cash flow to recreational enjoyment, they still might make different management decisions. Because the knowledge of future seafood markets and future stock growth is uncertain, owners A and B must incorporate individual attitudes toward risk into their respective plans. Motivated by fear of overestimating the amount and value of future harvests, risk-averse owner A would harvest more today than would risk-neutral owner B.

PUBLIC OWNERSHIP

It is fairly easy to understand the ways in which different value systems and risk preferences will affect the decisions of private owners, whether individuals or firms. The matter becomes only slightly more complicated in the context of community ownership. Where community ownership exists, decisions are likely to reflect something close to a single mindset: the relatively homogenous views of the community members. First, as Ostrom (1990) has noted, community ownership is much less likely to arise where the resource users within the community are not of like mind and values. In addition, because they are not democratic government institutions, community-based management regimes are free to operate in a structure that more resembles a corporation or a club than it does a democracy. In the famous lobster gangs of Maine, USA, for example, decisions are often made by chief executive officers known as "kings" or "kingpins"

(Acheson 1988). In such cases, a very narrow set of values and risk preferences is applied to the choice at hand.

It is in the case of government ownership that things become far more opaque and nonlinear. In democracies, government decisions about natural resource management, from legislation to agency regulations to actual agency decisions, are informed by a process that intentionally aims to incorporate the entire range of public values and preferences (Irvin and Stansbury 2004). This process includes a series of democratic subprocesses such as elections, lobbying, contributing to political campaigns, testifying at legislative hearings, buttonholing agency officials and bureaucrats, submitting written comments in response to proposed rules and decisions, and even filing lawsuits challenging those rules and decisions.

Unlike decisions made by private owners and community-based management organizations, on-the-ground management decisions produced by the government owner should not reflect an easily detectable set of values and risk preferences. Each decision will represent either a compromise among the preferred choices of two or more interest groups or, should one interest group fully prevail, a decision that is contrary to what would have been preferred by some subset of the public (Eagle 2006). Because each decision or set of decisions might represent a compromise, it will be difficult, if not impossible, to determine in hindsight what the objectives of the government owner actually were or are. In the absence of complete destruction of the resource, the success or failure of government ownership is thus more easily judged on the fairness of process rather than on the results of management decisions.

This conclusion is, of course, contrary to the idea of solving problems related to open-access resources. The primary purpose of transferring a previously open-access natural resource to private, community, or government ownership is to end the inefficient use of that resource (Gordon 1954, Hardin 1968, Ostrom 1990, Posner 1998). In other words, the goal is to improve results. Under government ownership, although one goal might be to improve results, another goal will be to ensure a healthy, transparent decision-making process, which is always more important in a democracy. It

is easy to imagine the many ways in which the latter objective might render the former very difficult to achieve (Irvin and Stansbury 2004).

ANOTHER VIEW OF PUBLIC OWNERSHIP

The process-first model of managing a government-owned resource is contrary to what might be called the “neo-Pinchotian” view of resource management. Gifford Pinchot, the first head of the United States Forest Service, was a firm believer that the government’s resource management activities could and should be separated from interest group pressures. According to Pinchot (1947:326), conservation meant “the use of the natural resources for the greatest good for the greatest number for the longest time”. Along this line, but in finer terms, Pinchot thought that there were objectively correct answers to questions such as: How many trees should be cut? Where? And when? These answers could be determined through a technical process of measuring the values and amounts of standing stock, then modeling the responses of that stock to various possible management treatments. This calculation would feed into a technocratic process that would approximate the private owner’s net present value maximization exercise, albeit with values and preferences aligned with public interests such as constant timber flows for employment and construction, and watershed protection for water quality (Pinchot 1907).

Remnants or reflections of Pinchot’s philosophy can be found throughout U.S. natural resource laws, including the United States’ federal fisheries management law, the *Magnuson-Stevens Act* (16 U.S.C §1851). For example, the *Magnuson-Stevens Act* is built around the idea that one can answer with precision questions such as: What is the maximum sustainable yield of fish stock C? How long would it take for stock D to recover in the absence of fishing pressure? In the *Magnuson-Stevens Act*, Congress provides no guidance whatsoever to its fishery managers, the Regional Fishery Management Councils, as to how to make decisions when the answers to such questions are characterized by substantial uncertainty (Weber 2002, Eagle et al. 2003). Although the technocratic core of the *Magnuson-Stevens Act* reminds us of Pinchot, he would likely have considered the other key component of the Act, i.e., the Councils, to be a bad idea, as he thought that decisions ought to be made by disinterested agency officials, not resource users.

In reality, Council scientists and economists cannot answer these questions, nor the dozens of other similar and important questions relating to fish stocks, ecosystems, and fishers, without qualification (Ludwig et al. 1993, Hilborn and Mangel 1997, Mangel 2000). The answers will always be bounded by large error estimates that indicate a range within which the true answer might be found. Although managers’ perceptions of the reality of the stock’s condition and dynamics will thus inevitably be uncertain, the need for decisions about how to manage the fishery in the coming year or years is not. As a result, Council decisions, which are made by majority vote of the 13–25 voting members of each of the eight Councils, must reflect the values and risk preferences of those individuals. The uncertainty of information guarantees that Pinchot’s desired segregation of management from politics simply cannot occur.

Another problematic assumption underlying the Pinchotian view is that all members of the public define conservation of resources in similar terms. Pinchot was of the view that conservation meant the use of resources in a way that ensured their maximum sustainable yield (Pinchot 1907). In Pinchot’s model, there was not a conservationist’s view and a resource user’s view, there was only conservation itself, the achievement of which would perfectly meet the objectives of the conservationist and the user. How could either be unhappy if the resource base was being preserved forever while infinitely churning out the largest possible annual yield of timber, revenue, and jobs?

By the 1970s, however, it became clear that members of the public had developed very different expectations about conservation. Although resource users remained content with the sustained yield approach, other members of the public became concerned about the conservation of forests for other purposes such as biodiversity and recreation, and preferred that yield come from selective harvesting rather than clear-cutting (Steen 2004). A simple yield model no longer sufficed.

The story is no different in the management of marine fisheries. Although a commercial fisher and a marine conservationist might agree that the goal of management should be sustainable fisheries, they would most likely understand this term in very different ways (Gibbs 2009, Verweij et al. 2010).

The fisher, like the timber user, would likely equate sustainable fisheries with management that maintained a population capable of producing the maximum sustainable yield. For the marine conservationist, however, managing fisheries sustainably would likely include setting aside some areas as marine reserves, insuring the integrity of the ecosystem, and allowing only those kinds of fishing gear that produce minimal bycatch and damage to the seafloor (e.g., Natural Resources Defense Council, <http://oceans.nrdc.org/>).

If government managers are to incorporate the views of all citizens in their management decisions, those decisions will necessarily reflect neither the views of the fisher, nor the conservationist. Instead, if the process is fair and open, decisions will reflect a series of compromises about both values and risk preferences. Managers might limit bycatch more than the fisher might like, but less than the conservationist would have wanted. They might choose annual quotas that leave each party feeling equally unsatisfied. Democratic management produces messy decisions that will likely displease all interested parties to some extent. Because the determined objective is not exactly their own, individuals and groups would consider even full attainment of that objective to be somewhat of a failure.

SOME REASONABLE QUESTIONS REGARDING PUBLIC OWNERSHIP OF FISHERIES

How can a fair decision-making process be ensured?

In addition to providing the traditional procedural safeguards such as those found in the *Administrative Procedure Act* (5 U.S.C. §552), there are other steps that might be necessary to ensure that all interests are fairly represented in fishery decision-making.

First, the current version of the *Magnuson-Stevens Act* does not allocate decision-making power equally among interest groups. Several authors have noted that public representation on the Regional Fishery Management Councils consists primarily of commercial and recreational fishing interests (Eagle et al. 2003, Okey 2003). If Congress wishes to ensure a fair and democratic decision-making process, it should amend the *Magnuson-Stevens Act*

to require representation of all interest groups, including commercial fishermen, fish processors, recreational fishermen, tribes, marine conservationists, and even consumers.

Second, fisheries use, like the use of many environmental and natural resources, raises significant “concentrated-diffuse” problems. As first described by Olson (1971), such problems occur when a few individuals or firms have a large stake in the outcome of a government decision, whereas individuals composing the majority of the public have much smaller stakes. If participation has a cost that exceeds the small stake of individuals forming the majority, then only members of the large-stake, concentrated group will have an economic incentive to participate. The result is that government decisions will tend not to incorporate the views of the diffuse majority. Solving this problem requires the use of statutory mechanisms that ensure consideration of diffuse interests, for example, balanced advisory committees or public advocates (Zinn 2002).

Do results and accountability matter?

If the public is characterized by widely divergent values and preferences, and management of the resource requires value judgments and the application of risk preferences, the management objective embodied by laws, regulations, and agency decisions will likely not reflect what either the public or agency decision-makers actually would have preferred. This creates both objective and subjective problems. Objectively speaking, it will be difficult or impossible *ex ante* to determine whether the goals of management have been adopted or met. How then should the next iteration of management decision-making improve upon, or adapt to, the prior results? From the subjective point of view of each interest group, management will likely be seen as at least a partial failure. Public complaints about failures might lead to the government reevaluating its policy and strategy, even though such a reevaluation is not necessarily efficient. After all, to the extent the next iteration invokes healthy and diverse public input, the results are likely to be equally obscure.

Aside from transferring ownership of the fishery to private or community ownership, there are two solutions to this problem. Each narrows the

objectives of management within the government ownership framework. First, the government might manage individual fisheries under individual mandates. As a simple example, the government might place Fishery A under the management authority of Agency A, then charge Agency A with managing the fishery in a way that is consistent with the values and risk preferences of Interest Group A. Second, the government might manage geographically distinct areas of the sea in the same way: Area A would be managed by Agency A in a manner consistent with the values and risk preferences of Group A.

Either approach would produce results that could be measured and that would satisfy the members of Group A. To reflect the democratic nature of ownership, the government would have to distribute the management of stocks or areas fairly among all interested groups. So, for example, various government agencies would manage separate stocks or areas for the benefit of recreational fishers, commercial fishers, and marine conservationists (Eagle 2006, Eagle et al. 2008, Sanchirico et al. 2010). Although this might seem far-fetched, this is similar to the approach the U.S. federal government uses for managing public lands. The U.S. National Park Service, for example, manages national parks for the benefit of recreationists and conservationists; resource extractors are excluded. Democracy is reflected not in the management of each individual area, but in the allocation of areas fairly among interest groups (Eagle 2006). A similar concept underlies the practice of legislative districting, which aims to balance bodies composed of elected officials (Gerken 2005).

CONCLUSION

As a solution to the tragedy of the commons, government ownership is vastly different from private or community ownership. Unlike its sister forms of ownership, government ownership in a democracy requires the incorporation of concepts such as equity and process. Ensuring equity and process is not only difficult, it can also come at the cost of results and accountability. However, there are viable options such as the zoning of interests employed in other contexts that would allow democracy and successful management to co-exist.

Some members of the public will object to a governance change that will prevent them from using all of the ocean areas they had previously used. They will have no viable legal claim, however, because the law is clear that using public fisheries is a privilege, not a right (*American Pelagic Fishing Co. v. United States* 2004). Moreover, all interest groups ought to consider whether they are better off in a world where management decisions do not reflect their interests, or in a world where they sometimes, or in some place, do.

Responses to this article can be read online at:
<http://www.ecologyandsociety.org/vol15/iss1/art10/responses/>

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