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COMMON AND PRIVATE PROPERTY RIGHTS

A ROUNDTABLE
DISCUSSION

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Property rights theorists and others considering various conservation regimes often differentiate between common and private property rights institutions. There is a rich anthropology literature on common property and the efforts of groups and communities to conserve natural resources. There is also a rich economics literature on the importance of institutions and private property to conservation. Both rely on an institutional analysis of the incentives facing decision makers, but just what difference – if any – exists between common and private institutions is not well defined. An additional confusion arises from the fact that the word “commons” has been used to describe everything from open access areas to a strict set of rules governing behavior.

In an effort to clarify what really constitutes private conservation in the context of private and common property rights, the Center for Private Conservation hosted a roundtable discussion on March 17, 1998. The comments of fisheries economist Dr. Francis Christy, free-market environmental expert Don Leal, political scientist Professor Edella Schlager, and economist Professor Barry Field shed light on this and other questions, such as when “communal” arrangements may be more effective than individual arrangements, and what the proper role of government should be in fostering the host of successful conservation initiatives mentioned.



MICHAEL DE ALESSI: For today's discussion, we've gathered a panel of experts from the fields of economics, anthropology, political science, and free market environmentalism. Dr. Francis Christy is a fisheries economist of some renown and co-author (with Anthony Scott) of *The Common Wealth of Ocean Fisheries*. Professor Edella Schlager is a political scientist from the University of Arizona's School of Public Administration and Policy. Don Leal is from the Political Economy Research Center in Montana, and is co-author (with Terry Anderson) of *Free Market Environmentalism*. And Professor Barry Field is from the Department of Resource Economics at the University of Massachusetts and author of the best-selling text, *Environmental Economics: An Introduction*.

The topic at hand for this distinguished group today is a consideration of common and private property rights regimes, and I'll start things off by bringing up a relatively recent article by Elinor Ostrom and Margaret McKean that appeared in the FAO publication *Unasylva*.¹ They make the point rather strongly that common property rights are simply another form of private rights. Is this the case or is there a more significant difference?

DR. FRANCIS CHRISTY: I don't know, really, what the differences are between common and private property rights. I think it depends upon why you want to ask the question. In a sense, you could say there's no significant difference if the owners of the rights, whether they're private individuals or groups, have adequate exclusive-use rights over the resource. If you're interested in the distribution question of who gets what, there is a significant difference.

Also, it's not simply private versus community rights; there are also corporate rights, and a lot of variations on "community." So, we should think about why we want to ask that question before we try to identify what the significant variables are.

MR. DE ALESSI: Don, perhaps you could comment on this and give some background to the common/private property rights discussion?

MR. DON LEAL: Well, the problem we are trying to solve is how to avoid the tragedy of the commons, and the typical answers have entailed essentially two policy prescriptions, both grounded on the argument that cooperation is not possible. The first calls for turning management of the commons over to government, with its major coercive powers. The second calls for privatizing the commons.

Often omitted from these policy prescriptions is the possibility that a community could apply its own system to manage the commons. Researchers have uncovered many examples of these systems as applied to coastal fisheries, livestock grazing, timber management, and tribal wildlife. The fact that they exist goes against the prevailing assumption that, left on their own, users are always locked into a destructive pattern of competition.

Elinor Ostrom and Margaret McKean suggest that common property rights are simply another form of private rights.

In a sense, there's no significant difference except in the distribution question of who gets what, there is a significant difference.

¹ Elinor Ostrom and Margaret McKean, "Common Property Regimes in the Forest: Just a Relic from the Past?", *Unasylva*, 46, No. 180 (1995), pp. 3-15.



Though the exact conditions under which these systems emerge are not well understood, several factors have come to characterize them. These are systems that have survived anywhere from 100 to 1,000 years overcoming various social, political, and economic changes. In her groundbreaking book, *Governing the Commons*, Ostrom describes these factors in detail.

The problem is how to avoid the tragedy of the commons, and the typical answers have entailed policy prescriptions grounded on the argument that cooperation is not possible.

They include: (1) Clearly defined boundaries so that individuals within a group know which resources they can harvest and how, and individuals outside the group know when they are trespassing. (2) Decision rules that determine how the group parcels out the value of the resource. (3) Rules that are tailored to local conditions. (4) Effective sanctions for individuals who violate the rule, or rewards for those who follow the rules. (5) Resolution mechanisms to resolve conflict among members or the group. (6) And last but not least, rules not subject to change by government. Ostrom notes that when communities devise rules that lack government recognition and backing they remain fragile at best.

For these factors to emerge and survive, members perceive themselves to have strong group identity. Having a homogenous group reduces the efforts people must devote to centralized authority or to the definition and enforcement of private property rights, but it also requires members to invest resources in maintaining the group's identity.

Outsiders wishing to enter the commons have two choices; they can negotiate with the group for permission to use the resource, or they can force their way in. In either case, customary constraints are tenuous at best. With trade, formal transferable rights will be necessary, and once traded, these users may not share the group's perspective. Preventing trade with outsiders or requiring strict standards of acceptance for entry are two methods communities use to insure the group's integrity. Such restrictions may be disconcerting to some in the sense that those who value the resource may not be able to trade freely for it. On the other hand, such restrictions must be weighed against the benefits generated by the community in sustaining the resource.

The study of common property regimes challenges the notion that without state control or pure privatization, users will be locked into the tragedy of the commons.

The study of common property regimes that entail community management presents fertile ground for research if for no other reason than it challenges the notion that without state control or pure privatization, users will be locked into the tragedy of the commons.

DR. CHRISTY: There are all sorts of transitional developments once you establish some kind of property right, or once some kind of exclusive use right emerges – whether it's established or arises from the individual users. For example, you begin with an ITQ system, an individual transferable quota system, in which the stock or yields from the stock of a fishery are divided up among a group of fishermen. They might have limited property rights.

Property rights, of course, are a bundle of all sorts of things and it's often not clear exactly what one means by property rights. They may be fairly limited to begin with. But as the users gain some sense of tenure in the resources, then they may acquire more and more elements of property rights.

MR. DE ALESSI: Perhaps Edella could weigh in on this

DR. EDELLA SCHLAGER: Okay. I want to make a couple of distinctions and, given that I'm an Elinor Ostrom student, these are required; otherwise she'll disown me. One distinction is between the dynamic that goes on around common pool resources and the property rights arrangements that get laid down on these situations.

And common pool resources, according to Ostrom and other folks, and some economists, have two characteristics. One is that it's difficult and costly to exclude people from them, so you have to pay attention to exclusion. That can be costly. And the other characteristic is that the resource is subtractable; that there's rivalry in the use of the resource. Whatever fish I take, they're not available for anybody else. Or whatever water I take, it's not available for anybody else.

So, within any kind of situation that generally exhibits those two characteristics, there can be a million different types of property rights regimes. I spent a lot of time thinking about the question that you're asking, and it drove me nuts. I finally just threw up my hands and said—like you're saying—you really can't make this distinction between private and common property.

Maybe another way to phrase it would be to say "What types of property rights regimes work best in what types of situations?" And I think that you're going to have a wide variety of property rights regimes, some that look much more like individual, transferable, private property rights, and some that are more shared, depending on the setting.

There has been a lot of interesting work done by a number of anthropologists, economists, and others, looking at what drives people to define particular types of property rights rather than others, and one study that comes to mind is the work of Bob Netting who is an anthropologist and looked at the folks in the Alps, and given a single setting, these villagers defined both individual transferable private property rights and collective rights, depending on what part of the Alps you were looking at.²

His question was, "Why would they do something like that? Why not just privatize everything?" And his answer was that it depended upon the physical setting. Resources that are consistently productive will produce some kind of relatively dependable return if you invest your own work or capital, and those types of resources are more likely to be placed under private [individual] property. Resources that are much more patchy or more variable in their production are a much greater risk, so you're much less likely to have private property rights defined in them. You don't want to lay down your entire life on whether or not rain is going to come at the right time in your grazing area to

"What types of property rights regimes work best in what types of situations?"

Resources that are consistently productive are more likely to be placed under private property than resources that are variable in their production.

² Robert Netting, *Balancing on an Alp* (New York: Cambridge University Press, 1981).



allow you to make a living for the next year. Instead, you want to be able to have access to all aspects of the resource.

How does a corporate structure differ from some of these shared property rights systems or common property rights systems?

My answer is that what kinds of property rights work best depends on the setting, and I think there's a continuum of property rights regimes that go from individual private property rights out to state rights, and I don't think you can always identify where one ends and another begins.

I also wonder how does a corporate structure differ from some of these shared property rights systems or common property rights systems? It seems that in each case you have a group of people who are exercising similar types of rights in relation to a valuable asset.

DR. CHRISTY: Yes, what is the distinction? That's an interesting point. Why describe it as common property rights rather than corporate property rights?

MR. LEAL: I think the corporation connotation carries with it some sophisticated institutions that require contracts, dividends, shares, things like that. From the context of parceling out the value of the resource, I think the corporation is just another, higher, level definition of communal ownership, that requires sophisticated institutions. In America we could imagine corporate ownership of a fishery, but in some of these small, coastal fisheries I don't think they'd be applicable without these sophisticated institutions to back them.

MR. DE ALESSI: One example might be that in a corporate structure generally has well-established procedures for out-transfers, but in common property arrangements it is frequently difficult to move in and out of the arrangement. But I should give Barry a chance to weigh in.

A corporate structure generally has well-established procedures for out-transfers, but in common property arrangements it is frequently difficult to move in and out of the arrangement.

DR. FIELD: Yes, let me do that, before you guys get all the good points. I think there's been a lot of heavy breathing trying to get the property rights terminology right, without, maybe, going beyond it and looking at the properties we want to examine. I had a colleague once who said, "It doesn't make any difference what we call it." He said, "Let's call it apple sauce. Once we've agreed on that, then we can go on and examine its properties." It really doesn't make any difference what we call it.

There are several continua that property rights can vary over. Obviously, there can be individual rights and there can be collective rights, depending upon whether you have one person involved or whether you have a whole bunch of people involved.

In one case you have individual property and in the other case you have some sort of collective property, and there can be any kind of collectivity involved in terms of owning the property, whether it's a corporate collectivity or political collectivity, a bunch of neighborhood people, so on and so forth. That's one continuum.

Then what about private property? What's the continuum there? We have private rights, and we have public rights. Well, we have private rights in the sense that these rights are being exercised by people in a private capacity, and we have public rights which are presumably being exercised in the name of some sort of political entity.

Let me give you an example of that from some work I've done on the evolution of property rights in colonial New England, in particular agricultural property rights. When the first white farmers came to New England, in the 17th century, they instituted an enormous amount of collective land holding, for pretty good reasons. Most communities had common fields, and they were managed by the political organs of the towns, that is, public property rights were exercised by the formal, political organs of the town.

But over time, these fields broke off so that you'd have a collective field here and another collective field here, and here, and here, with different groups of people in each field, and the decisions as to the use of that field devolved from the political organs of the town to the individual group's collective rights. These public rights evolved into collective, private rights.

And then, over time, those fields became smaller and smaller, so that they became, eventually, down at the end of the continuum, individual rights. That was a very smooth transition. You can see the transition in the history. You can also see the transition in the law, because the law of collective property evolved right along with the colonial times.

There's another continuum and that's the whole issue of de facto rights and de jure rights, or what I have called specified rights and realized rights. Property rights can be one thing on a piece of paper but an entirely different thing when you go out and study how property rights are actually used. I think that, as a whole, there are at least three, and possibly more, different scales that one can use to slice these property rights, or slice the concept.

MR. LEAL: If you want to talk about a scale that distinguishes between private property rights and community, or common property rights, I think you have to talk about transaction costs. On the one hand, when you have sharing you have the cost of avoiding shirking or the cost of avoiding over-exploitation. With individual ownership, the cost of defining and dividing the resource are other costs.

In some cases when I look at these examples, the difference has been transaction costs. Is it less costly to go with a shared arrangement? Basically, if you have fish in the sea that are highly mobile, you could define territorial rights to some extent but it wouldn't be practical. If it's herring, they're not in one spot very long, and I can't divide up the herring. So you have a problem with this definition phase. It may be more feasible for local fishermen to consider a shared arrangement. But now they're going to have the problem of making sure that the sharing is equal as far as the catch goes. They have to make sure everybody is doing their share, that they don't shirk.

There are several continua that property rights can vary over; there can be individual rights and there can be collective rights.

Then we have private rights, and we have public rights.



Even if it's just going to be an equal access approach where everybody keeps their own catch, you still have to make sure that one guy doesn't catch so much more than everyone else that it harms the fishery.

So I think that transaction costs are a very important consideration.

Property rights can be one thing on a piece of paper but an entirely different thing when you go out and study how property rights are actually used.

DR. CHRISTY: Yes, I think you're right. I think that probably one difference between private and community rights is security of the rights. Under systems that support private property rights, there's a fairly clear legal distinction that supports and defines the territory and everything else that goes along with it.

In community rights, you have pressures from both outside and inside. The pressures from inside are in terms of the free riders who are taking advantage of the system, and from outside, the people who want to get in. Generally, there's less legal justification or legal support for de facto rights in many of the cases.

Fish are a little bit different than agriculture, because they swim. It is not necessary to control the whole stock, wherever it moves. All you have to do is acquire sufficient right to a sufficient portion of it to justify the cost involved in maintaining that right. In the Philippines, for example, they plant fish aggregation devices to attract tunas. Tunas swim thousands of miles but when they come through the Philippines they congregate around these devices, and the fishermen have found it in their interest to agree among themselves as to where they should put these aggregation devices and what spacing they should have between them. So, they're capturing something from an exclusive right to a certain area, for a mobile, fugitive stock. So it can be done that way.

But the question that interests me, somewhat more than the ones we've been discussing, is the question of establishing these rights. What I'm interested in is, what are the incentives and the motivations and the forces and the conditions that lead to the acquisition of exclusive rights?

The community, common property literature is filled with descriptions of how they operate, but there's very little information on the genesis of these rights. I made a stab at it at a Japanese conference; that

To distinguish between private and common property rights, you have to talk about transaction costs.

there are three incentives that seem important *for the genesis of these rights*: efficiency, equity, and enhancement. With regards to enhancement, if you can invest and receive some return from a resource by having a property right in it, you would make that investment. Planting oysters is an example. You won't make that investment if there is public access to the product of your investment. Enhancement opportunities provide one strong motivation for acquiring exclusive - use rights.

Efficiency is in terms of how to capture the rent that's in a fishery. In fact, most of the Japanese systems emerged from just that motivation.

They were created by the Japanese feudal lords because they wanted to tax the fishing villages, and the way they did it was to establish a kind of territorial right around the village and tax all the fishermen in it. When the feudal lord system broke down, the communities inherited those rights.



There are also some systems where equity is a motivation or incentive for people to get together and create property rights. They want to make sure there's stability in the society they live in, and if one person is taking too much, then society may break down. You might say that, through Darwinian development, the ones that have evolved and survived are those that have achieved some degree of equity in the distribution of the benefits.

But I don't think there's been much work done on this -- on what these incentives are for creating and establishing community rights. It seems to me that if we're in a business of fostering them, we should find out what those conditions and incentives are and encourage them.

DR. FIELD: But wouldn't you say that the basic incentive is the obverse of what the tragedy of commons is? When Hardin wrote that paper, it clearly concentrated on the incentives that lead people to free riding -- that lead people to over-use the commons.³ But he didn't go as far as to see that once you get a large amount of over-use, then there are incentives working in the opposite way; there are incentives for political entrepreneurship or what have you, for people who can organize a collectivity, develop some sort of restraint, and thereby increase their returns from the resource. That's an incentive going the opposite way, and I think that is what's behind the efforts to develop collective governance organizations for these resources. The open access equilibrium is not really an equilibrium, because once you get to that point you have all the incentives for entrepreneurs to come in and try to get effort reduced.

DR. CHRISTY: Well, if you look at them, most of them have not evolved for conservation reasons. There were other objectives such as ensuring that there would be large fish available for a party or something like that. And in order to achieve this they imposed constraints. They weren't derived from an awareness that resources were being over-used. And in the commercial industry, overusing many of these species results in price increases as the supplies are down, which drives them even further and further into over-fishing.

If you look at New England, the chances of agreement on some collective approach are not very hopeful, until you reach the point where all the rents and all the profits are completely dissipated and the fishery has gone to hell. This is a policy some people suggest following -- just encourage the destruction of the resources and start over again.

DR. FIELD: But the incentive behind the formation of the harbor gangs up in Maine was their feeling that they would be better off in terms of cash if they could keep out outsiders.⁴

DR. CHRISTY: I know that in the Gulf shrimp fishery, for example, in the 1930s -- and this is a very strong motivation for collective behavior -- they wanted to control the market. I think that's a very strong incentive that I would put

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³ Garret Hardin, "The Tragedy of the Commons" *Science* 162, December 1968, pp. 1243-8.

⁴ Harbor gangs are groups of lobstermen who use extralegal means to restrict access to the fishery. See James Acheson, *The Harbor Gangs of Maine* (Hanover, NH: Univ Press of New England, 1988).



under the efficiency category. It wasn't that they wanted to preserve the resource, they wanted to make sure that they didn't throw so much fish on the market that the price went down. And you find that in many fisheries. To control the market, they controlled the catches which they couldn't do unless they controlled access, which they did.

Three incentives seem important for the genesis of these rights: Efficiency, equity, and enhancement.

In the case of the shrimp fisheries in the Gulf, the Sherman Antitrust Act was brought in and destroyed the system. But it also existed in the case of the Smith Corporation, for the Menhaden Fishery in Virginia, in the Thirties and Forties. He was a monopsonist, and he controlled the amount that was caught and sold to him and so, he controlled, essentially, the use of the resource. That fell apart when the Gulf Menhaden came in.

DR. SCHLAGER: I think that there are over-use issues, as you have pointed out, but the equity issues that you mentioned also provide incentives to create property rights. Some of these equity issues involve conflict, and so some of these property rights are devised as mechanisms for limiting conflict. Conflict resolution mechanisms separate people out and limit vicious competition and are another motivation for defining property rights. So you don't necessarily have to have over-use to see them emerge.

But your example out of the Gulf Coast raises another issue – and the only place I've really seen it addressed is in the CPC paper by Yandle⁵ – and that is, how do you distinguish between groups of resource users who come together and try to limit how much they harvest? Are they engaged in some kind of conservation efforts or are they engaged in trying to control or influence the market? I guess in many cases it's both. When you engage in some kinds of conservation efforts, you're going to see an effect on the market. When do you invoke antitrust, and when do you just say the environmental benefits that they're producing – the conservation benefits – are well worth it?

DR. CHRISTY: Yes. The monopoly rents may be less than the loss of resource rents.

If you can receive some return from a resource by having a property right in it, you would make that investment. Planting oysters is an example.

MR. DE ALESSI: CEI has made the point in other papers that if baseball is worthy of an antitrust exemption then why not conservation?⁶

MR. LEAL: In this day and age, especially in the U.S., with better distribution of products, there is little opportunity for fishermen to affect the market.

DR. CHRISTY: Well, there are situations where this has developed. Some of them are fairly special. One that I keep citing, although my source of information was just a casual conversation with a former FAO colleague (I'm hoping to go down to Argentina sometime and

⁵ Bruce Yandle "Antitrust and the Commons: Cooperation or Collusion?" Washington, DC: Center for Private Conservation, June (1997).

⁶ Ibid.

find out if it's true) is the Mar Del Plata fishery in Argentina. They had about 200 families there selling to the fresh fish market in Buenos Aires, and they were, perhaps, the only major seller to that market. And they were able to agree among themselves to control access.

There is also a nice little shrimp fishery in Japan that catches a very specialized kind of shrimp. They were the sole suppliers and they were able get together to control the market. But, you're right, if you're selling haddock or cod, you can't have much influence on the market.

Efficiency is in terms of how to capture the rent that's in a fishery.

MR. LEAL: As long as we're talking about what causes these community systems to emerge or enables them to emerge, we shouldn't leave out a primary consideration – whether a group is homogeneous or heterogeneous. That seems to span all cases: fisheries, timber management, tribal wildlife, et cetera.

Oil pools in Texas and Oklahoma are an interesting example. Gary Libecap has discussed why one level of government has been able to successfully enact so-called unitization, while another level hasn't been able to.⁷ A lot of it stems from the heterogeneity of users who wield a lot of power at the state level but not at the federal level.

DR. FIELD: Oh, I think it's essential that there be a body of law. Any property rights system, whether it's individual property rights or some sort of collective property rights system, has to have a body of law in which it operates.

DR. CHRISTY: Yes, I think that there may be situations where governments can establish some of these, and I tend to agree that they should be endogenously created. The role of government in this is to establish the framework within which they can operate and also the incentives and conditions that facilitate it. For the fisheries, I have long advocated shifting away from mobile gear to fixed gear, to having stake nets or fixed gear or traps, pots, and other things along these lines that make it easier to set boundaries. Setting boundaries is one of the major questions, so, if you can set a boundary for fixed gear, then the rights may emerge. And I think there are things that governments can do to facilitate the process.

ROBERT J. SMITH: R.J. Smith with the Center for Private Conservation. When common property systems have been studied by anthropologists, it seems that most of the pressures for behavior come from within – not from government. Does it come from an elder or is there a general, philosophical, agreement to start with? Has there ever been any pattern on how these arrangements have evolved, or does it just vary depending on the various peoples around the world?

Equity is a motivation for stability.

DR. SCHLAGER: I think that it varies considerably by the type of problem that the users confront and the forms or types of organization that develop, if at all. I think that that's true not just in developing countries, but also here in the U.S.

⁷ See Gary Libecap and Steven N. Wiggins "The Influence of Private Contractual Failure on Regulation: The Case of Oil Field Unitization" 93 *Journal of Political Economy* No. 4(1985), pp. 690-714.



For one, it is critical to be able to capture any benefits that are produced by collectively governing a resource. If communities feel relatively confident that they can capture the benefits that they'll produce from cooperating, then that provides a powerful incentive to do so. It is also important if they exist in an environment in which they can get a relatively decent handle on exclusion, so that once they create this benefit somebody doesn't come in and take it or destroy the system, which also ties into the role of larger governmental systems. At the minimum I would argue that you need a larger governmental system that will just ignore them – leave them alone – so they don't have to worry about interference at that level.

If you look at New England, the chances of agreement on some collective approach are not very hopeful, until the fishery has gone to hell.

But ideally, government should provide a relatively supportive environment. And what that generally means is reducing the costs of organizing, providing a system of independent and fair courts to enforce these agreements, providing conflict resolution mechanisms,

and perhaps taking on some of the different transaction costs like enforcement or, if not enforcement, monitoring of these agreements. In some cases, it would be sufficient just to have a larger governmental entity take on some of the information costs, helping communities to identify the problems that they face and the extent or depth of the problem. So, it's more of a supportive environment.

MR. SMITH: What about resource distribution within those communities? For example, the Mosquito Indians in Nicaragua apparently share the turtles they catch with everybody, although an individual might get a choice cut first. But then you look at the coastal fishing villages in Japan and each family is effectively an individual entrepreneur.

DR. CHRISTY: There's infinite variety.

MR. LEAL: The lobster fishers in Maine essentially share access and get economies of scale with respect to enforcement and monitoring, and they have their own internal sanctions. But each lobster fisherman determines his own catch.

A very strong motivation for collective behavior is to control the market.

DR. FIELD: By the way, lobster fishing in Maine is interesting, because that's changing now. As of recently territories are now sanctioned by public law in some of the islands.

MR. SMITH: Well, in a way, that's not necessarily common property. They have extended territorial limits and excluded other people from fishing by creating an exclusive area. But then everybody is a private fisherman within that, like your lobster fishermen or the Japanese family within a coastal village.

MR. LEAL: But they share access. If you look at it from a contractual arrangement, they contract to share access, but they will not share their catch. But there are other groups – the Swiss Alp example – where both occur. The remote, less productive regions in the Alps are shared commons; sometimes they share the output and sometimes they don't.

DR. SCHLAGER: Right, depending upon how productive it is. I think in a lot of these community-based systems you find relatively complex sets of property rights, and some property rights come much

closer to what you would consider to be private property rights and others are, clearly, more shared or collective rights. A good example of that is some of the groundwater basins in Southern California, where the flow—the water that’s pumped out—is defined and managed by private property rights. Each of the individual pumpers has a share of the water that can be pumped out each year, like an ITQ system in a fishery. But, the basin itself is collectively managed. And they’re able to exclude other folks from the basin.

Some property rights are devised as mechanisms for limiting conflict.

So in a number of these instances, you find different types of property rights, depending on whether it’s the stock or the flow of the resource that is managed. You rarely find the stock being managed by individual private property rights. Even though the flow may be private, there’s usually some kind of collective management.

DR. CHRISTY: Well, there are many variations on this. I think in the Nomura Bay scallop fishery, the Japanese arrived at a system of planting the scallops, hiring labor to harvest the scallops, and then splitting the profits. They’re operating very much as a sole owner. In other systems, you have the resource itself being shared under a variety of contractual bases – given to the local community, or frequently to the poor in the local community. So, it’s really highly complicated and there isn’t any simple way of going about doing it.

I’m interested in a study done by John Kurien in Kerala State in India. Two different communities established artificial reefs. In one, a group of fishermen created the reef themselves, and then they acquired exclusive rights to harvest it. In the other community, there was a kind of appeal for everybody to contribute something, and they created the reef, and then anybody who wanted to could have access to it, so there was no exclusive use right in that case. These were based on religious differences between the two communities. John Kurien seems to think the latter is better. I think the former is better.

DR. FIELD: Were non-community-members excluded?

DR. CHRISTY: I think so. But anybody within the community could use it.

DR. FIELD: So, in the first case anybody who did not contribute was excluded. In the second case, only community members were included. So the second case was more of a political right, because to exercise the right you had to be a member of a political community, whereas the first was more of a non-political—a private-collective right.

If you’re selling haddock or cod, you can’t have much influence on the market.

DR. CHRISTY: Yes, although there’s another problem if we’re thinking of fostering these types of arrangements. In the case of Japan, someone once said “Success contains the seeds of its own destruction.” Once you establish a system that’s producing a large amount of economic rents, then there’s a lot of pressure to get into it and break the system. So it all depends upon the security of the system.

DR. FIELD: That’s the paradox.



Any property rights system has to have a body of law in which it operates.

DR. CHRISTY: Yes, and that's a real threat to many of these systems. Most of the ones we're talking about emerged traditionally and haven't produced much in the way of significant rents, though I may be wrong on that. So, there's not as much pressure to break the system or for individualistic behavior.

MR. DE ALESSI: I think we can all agree that there's an amazing amount of ingenuity out there and that, given the opportunity, these "apple sauce" regimes often evolve. And if they're allowed to evolve, they often continue to do so to the extent that such problems as out-transfers are settled within the group. Of course, this doesn't help where these regimes haven't been allowed to evolve, which, unfortunately, is more often than not the case. Many fisheries today are prime examples. They have been managed as a public resource for many, many years, and even though most people now agree that some form of self management is desirable, trying to guess how things might have evolved absent government intervention is impossible.

Thus, in many cases, the question is "How can we begin to move back toward the types of institutions that would have evolved over time, absent public management?" Don mentioned unitization, for example, which is one way of devolving state control.

DR. CHRISTY: The first thing we can do in the fisheries is get rid of Senator Stevens.

DR. FIELD: Well, I think that comes back very strongly to the issue of getting a legal doctrine in place that permits these private, collective rights to grow, separate from the political entities or political organs of the community. Because if the collectivity has to be part of the political structure, then it has to be part. But, if you want these private, collective rights to evolve, it has to be done in the context of some legal superstructure or substructure, whatever it's called.

DR. CHRISTY: Yes, I agree. I'm not quite sure how you go about doing that. I know in the Solomon Islands, for example, the community rights to TURFS⁸ were fairly clearly defined by tradition.

If communities feel confident that they can capture the benefits from cooperating, that provides a powerful incentive.

DR. FIELD: I don't think in the modern world you can rely on tradition.

DR. CHRISTY: Well, let me finish. The government was going to go in and say, "Okay, let's map these things out and you guys can have the rights. We'll legally protect them." But once they started investigating it and asking where the boundaries were, they got into a real mare's nest, because while there was a general understanding as to where the boundary is between two communities, when you tried to specify it precisely it just led to conflict. And they had to abandon some of that devolution of authority that they were working on.

DR. FIELD: Well, it's clear that in the exercise of collective rights, there are transaction costs. Somebody has to set some rules. For example, does it take majority rule to determine what the collectivity does, or three-quarters rule? Somebody has to set the rules as to how these collectivities can make decisions, what are going to be binding decisions among the collectivities.

⁸ TURFS - territorial use rights for fisheries.

MR. LEAL: I'm not saying that it's an example of total agreement, but I think a good model is the Lofoten fishery in Norway. They classify it as co-management, and it is completely government backed. They have enforcement mechanisms supported by government, and they even mark off territory for the cod fishermen.

Government should provide a relatively supportive environment.

My only concern about this is that we have to be careful not to institutionalize rigidity into a system. That some time in the future, as technology improves or lowers the cost of privatization, there is no roadblock to evolution from common to private property rights. If you think about the open range in the American West, there were roundup associations that gave economies of scale rounding up cattle. But there was still a commons—the range. Why wasn't it privatized? Because it was too costly until they found, or discovered, barbed wire. If we had institutionalized the roundup system, we may have prevented the evolution of private property rights on the range.

DR. FIELD: Let me go back to the New England experience because again, there was an evolution of the law about collective rights. One of the elements in this evolution was the terms under which a subset of the collectivity could break off and act as a new collectivity. So, from one collectivity you might have two, and then you'd have three and four or whatever. In other words, the legal structure there allows these collectivities to rise or decline, to break off and to form again and so on and so forth. And I think that's absolutely critical, if you're going to have private, collective rights.

DR. CHRISTY: In the case of fisheries, the creation of some form of exclusive-use right, whether it's a license limit or ITQ system, sets very powerful forces into motion. Once these systems of rights are established, there will be a general trend toward greater and greater assumption of individual rights and greater assumptions of responsibility for the management of the fisheries by the members of the user group.

As you were saying, you have to watch out for the impediments that you establish because you can establish sets of rules designed to serve certain distributional goals, which may make it very difficult to become efficient in the long run. Whether it's desirable or not I don't know; it depends on the situation. It may be desirable to have some kind of distributional goals in mind. But you have to recognize that there's a certain cost to it, and generally, you want to avoid setting rules and regulations that impede further evolution towards more self-management. The role of government in the management of fisheries is to get government out of the role of managing the fisheries.

You find different types of property rights, depending on whether it's the stock or the flow of the resource that is managed.

DR. SCHLAGER: Don, I think one of the interesting things that came out of your book on free market environmentalism is that regulation can be used by a relatively well organized interest to protect themselves and their use of a resource.¹⁰ Living in the West, one of the things that impedes conservation of resources is a number of the rules that have been laid down to protect ranching or timber interests.

¹⁰Terry Anderson and Don Leal, *Free Market Environmentalism* (San Francisco: Pacific Research Institute for Public Policy Westview Press, 1991).

Once you establish a system that's producing a large amount of economic rents, then there's a lot of pressure.

One of those rules is "use it or lose it." There are a lot of conservationists who would love to get involved in the marketplace and by buying up private property rights and then retiring them or using them in a very different way, but they aren't allowed to participate in the markets because they intend to use the resource in the traditional sense. I think one of the important lessons that comes out of this is that communities have to have the authority—the recognized authority— to be able to make rules on their own behalf.

Another advantage of self-governance is that if you are making rules on your own behalf, presumably you're going to try to maximize the benefits and minimize the costs of those rules. If you're allowed to go outside of your community and appeal to a larger government that then has the authority to impose costs on somebody else outside of the community, then you end up with these rules and regulations that promote inflexibility. So, I think it's matching rule-making to the community.

DR. FIELD: The paradox of regulation is that you need the regulation, you need the regulatory overlay, but unfortunately, regulation can also be used to benefit individuals or individual parties.

MR. LEAL: Yes, as soon as you have an external authority implementing the rules, you have the incentive for rent seeking.

DR. FIELD: But that doesn't mean you can't have rules.

MR. LEAL: Yes. Or rules that emanate from the group of users themselves, which is far better, if you're going to have some sort of shared use arrangement.

In the exercise of collective rights, there are transaction costs.

MR. JESSE WALKER: Jesse Walker, Competitive Enterprise Institute. Getting back to the original question about the difference between private and common rights, I think that one thing that's really become clear is that the important distinction here is between emergent, or evolved rights, and those that are imposed from an outside source, be it the imposition of collectivization on a private right or on a common right.

And, when you ask a question about how you get from one to the other, you run into this problem that you all have just been discussing, and the question that comes to my mind is, "Is there a way to have the legal set of rules?" Obviously you have problems because, as you're saying, you're imposing a set of rules to create these emergent or evolved orders. How can you find a way, in this buried institution that hasn't evolved, to have the rules emerge? How can you have the laws that allow an order to emerge, itself be an emerged order? To what extent can you do that, especially if, for the last fifty or a hundred years, the evolution has been stopped?

And what I want to know, since we have so many people who have looked at case studies here, is are there case studies of a transfer from an imposed order to an evolved order, which has managed to make the successful leap, and what can we learn from adapting that to other circumstances?

DR. FIELD: Well, I can tell you in the case of the collective land institutions in New England, that was precisely the case. It was the legislature in Boston that was establishing the rules under which these collective institutions evolved. Now, why they enacted the rules that they did, and did not rig the rules to favor certain types of landowners is a good question. But the laws were established.

We have to be careful not to institutionalize rigidity into a system.

And the laws kind of bubbled up from the communities. A couple or three communities ran into a certain problem and made some local adjustments and then, two or three years later, you'd see some laws coming out of Boston, covering that type of deal.

MR. WALKER: What would be an example of a law then, that emerged from below?

DR. FIELD: There were conditions that determined the responsibility for "mending the public fence," the common fence, that required 30-day notice of meetings before the collectivity got together and made decisions — laws that govern the way the collectivity made decisions. That's a good question, though, as to why that law was facilitative and not destructive.

DR. CHRISTY: We have the experience, though not very successful, of attempting to create cooperatives which were generally imposed from the top. Very few of these ever evolved beyond that. I may be wrong, but I don't think cooperatives imposed from the top ever evolve into any sort of self-management regimes. It may be because the rights they were given weren't really significant rights. It may be that if you provide a property right to a cooperative rather than a right to market something or buy something at a lower cost, that self-management might emerge.

MR. LEAL: As I study community arrangements, two things hold me back from giving them wholehearted endorsement. One is tradability. You can't have free trade within the system because you're always in danger of breaking the system down by doing that. And the other thing is you have a difficult time rewarding any kind of individual initiative. A share-ownership or corporate arrangement normally includes a payback to an individual or a group within this group who increase the efficiency the operation. The cooperative doesn't give that incentive.

If you don't have a system in place to support contracts or individual property, a cooperative may be the next best thing. You could lose the whole resource altogether.

The role of government in the management of fisheries is to get government out of the role of managing the fisheries.

DR. SCHLAGER: Maybe I'm a little too optimistic, but I'd say in answer to your question of how to go from a central to a lower level, that there are dozens of examples of that occurring in the U.S. every day if you look enabling legislation at the state level. What has happened numerous times in Arizona is that local communities experience a particular problem, maybe around water, that they're having a difficult time dealing with but have some ideas about what they want to do. They head off to the state legislature and they say "Look, what we'd like to do really isn't recognized in state law, but if we can come up with an agreement among ourselves, will you, the state, recognize it and help us enforce it?" And sometimes those efforts are successful. I think that enabling legislation is, at least in the U.S.,

a mechanism that can be used to support devolution or to allow local communities to solve a number of their own problems.

The paradox is that, regulation can also be used to benefit individuals.

DR. FIELD: Provided there are conditions in there for individuals or subgroups to contract out, because if there aren't then you have a mechanism for some members of the community to dictate to other members of the community.

DR. SCHLAGER: Well, that's politics, right? And politics is coercive.

MR. DE ALESSI: Individual transferable quotas (ITQs) have been seen as a way to devolve control over fisheries, but there are often significant roadblocks to their creation. One of these is based on the "community effects" that they may have. Is there some sort of common property alternative that could ease this transition? Could we imagine, say, instead of ITQs, creating and allocating common property rights? Why not simply allocate some or all of the rights to the local fishing cooperative, then if individual rights are superior, allow them to evolve?

DR. CHRISTY: Well, I suppose to a certain extent, the community development quotas (CDQ) that exist in Alaska are something along those lines, in which the identified community has been given a right, and then it can use that right in whatever way it wants. I think the wreckfish fishery in the South evolved in a somewhat similar way – not from the granting of authority but from the fishermen themselves, saying they wanted the authority to manage the fishery, and then from within that context an ITQ system evolved.

MR. DE ALESSI: Do you think individual property rights could evolve under something like CDQ program?

DR. CHRISTY: Well, I think most of the CDQs are just extracting rent.

DR. SCHLAGER: Right. There are no mechanisms created in the legislation to allow them to evolve.

I don't think cooperatives imposed from the top ever evolve into any sort of self management regimes.

MR. DE ALESSI: Is that the only politically feasible way to allocate community-type quotas?

DR. CHRISTY: I don't know. I hadn't thought about it that way. Sort of the reverse way. I would think that if you establish a system of exclusive use rights, like an ITQ system or license limit scheme, then those who acquire the rights tend to become a community, rather than having a community acquiring the rights and figuring out what to do with them. Although, Mike Orbach of Duke University has been

working along these lines by exposing fishermen to all sorts of possibilities, letting them determine how they want to manage the fishery, and then trying to get them to support some kind of legislation to go with it. I don't see it being applied very easily in the U.S., however.

DR. SCHLAGER: There are attempts at it, though, if you look at what's going on in Maine. Not just in the lobster fishery, but in different types of fisheries in Maine they're trying to organize on the

community or at least a regional level within Maine, allowing the fishermen to make decisions about how different fisheries are managed.

DR. CHRISTY: Well, they've tried in developing countries. In the Philippines the municipal authorities have the rights. I don't know generally how they work them out, but I know in the milk fish fry fishery, they manage it as sort of a sole owner – the rents are captured and go to the municipality.

Enabling legislation is, at least in the U.S., a mechanism that can be used to support devolution.

DR. SCHLAGER: I don't think that there's any reason why the Magnuson-Stevens Act – the overarching U.S. fishery management legislation – couldn't allow for something like that. And, in a sort of larger way, it has, by setting up the regional councils and having fishermen and industry representatives on these councils, managing fisheries. I think maybe the next step would be to give these regional councils authority to hand over their authority to manage fisheries to communities or local level groups. As far as I know, right now, they don't have that kind of authority, but that could be a mechanism to allow something like this to occur.

DR. FIELD: Those are all political rights. You're handing down rights from one political level to another. And eventually, if you want them to become private rights, they have to have a way of evolving to groups of private individuals, or collectivities of private individuals. And it's not clear to me that the Maine situation will permit that. But it'll be interesting to see.

DR. CHRISTY: A political decision has to be made in any case. If you're going to establish an exclusive - rights use system, whether it's a license limit or ITQ, you're redistributing wealth, which is a political decision.

DR. FIELD: Yes, but let me go back to the communities in New England. For the first 20 or 30 years, the political organs managed the land, and then once there were enough communal fields around and other problems developed, the town said "All right, this group of farmers who have land in that common field over there, that's your problem. You can now do what you want. It's no longer town business." In other words, it was a private, collective right that devolved from the political rights in the town.

DR. CHRISTY: There was an attempt in Worcester County, the only seaside county of Maryland, where they had a long history of essentially private rights, TURFS, for the oyster industry. They had evolved systems of who had a right to what area, and they purchased their seed oysters from Virginia and planted them on their beds. The state came and said, "Okay, we're going to legitimize it, institutionalize it. You guys come in and apply. You'll know where your boundaries are and you'll have an exclusive - use right, legally protected." And one guy went out and tried to do it, and the next day when he was out working his beds, shots whistled over his head, and so he went back to the town, the county government, and withdrew his application.

If you establish a system of exclusive use rights then those who acquire the rights tend to become a community.

The reason they didn't want rights to be established, institutionalized, was that then they could be taxed.

DR. FIELD: Oh yes indeed, taxes are an important problem.

To establish an exclusive rights use system you're redistributing wealth, which is a political decision.

DR. CHRISTY: In fact, once you raise the whole question of property, you're raising all sorts of issues. The Magnuson Act insisted that rights to fish not be known as property – they are “exclusive – use rights” or something like that. It specifically maintains that the fishermen do not own the resource.

MR. LEAL: Clearly, they go so far as to say they could take the quota away without compensation.

DR. CHRISTY: That destroys the system.

MR. LEAL: Yes. I mean, they have these stipulations in the halibut and the sable fishing in Alaska, and I don't know how banks are lending on that.

DR. CHRISTY: Well, the perception is that they won't take them back.

DR. SCHLAGER: Right. But that's also true in markets for air pollution. They are clearly defined as “privileges to emit,” not property rights, and still you have relatively well developed markets emerging in them.

DR. FIELD: Well, that's true. That's a good point. These evolutionary forms can have a slightly different look to them.

MR. LEAL: But I know I wouldn't make a long term investment on the basis of how tenuous those quota rights are.

DR. CHRISTY: Oh, I think people are making long term investments.

DR. SCHLAGER: In the case of the fishery, their lives have always been based around it, what else are they going to do? If the set of rules changes, okay, they adapt to those new sets of rule changes. But they've already made a lifelong commitment to it.

The Magnuson Act specifically maintains that the fishermen do not own the resource.

DR. CHRISTY: In terms of investment capital though, they go to the bank and borrow the money. They can do that and it works.

MR. LEAL: There has also been an expected outflow of a lot of fishermen out of that fishery. And that was the intent. It was over-capitalized. But I guess the question is, what changes could we expect if those quotas were clearly defined property rights? And I think you

could expect fishermen investing more in a management system on their own, or pressuring the government to say “We don't need you.”

DR. CHRISTY: I think that will emerge.

DR. SCHLAGER: That's been the case with ITQs in New Zealand, where the government is increasingly moving out of management.

MR. LEAL: Yes. And for an example of how not to do it, look at CAMPFIRE in Zimbabwe.

MR. DE ALESSI: Could explain what CAMPFIRE is?

MR. LEAL: I don't know if I know the whole story, but it is a community system developed to give locals – villages – the power to manage wildlife so that they could capture some of the gains from safari hunting, eco-tourism. One problem that has emerged is one that I've already talked about – parceling out the value. It turns out that there has often been corruption so that the people in the community or village have not received their benefits. But that's something that's going to happen. Giving fishing quotas to native communities in Alaska, the so-called community development quotas, has just resulted in contracting with large fishing trawlers from outside the community. Who knows if there is something untoward going on there?

MR. DE ALESSI: Have these Alaskan communities done anything to steward the resource, or have they simply sold off their rights, no questions asked?

DR. SCHLAGER: Well, there are no stewardship incentives. Essentially, they have been carved out a piece of the pie and that's it. And there have been some very tight constraints placed on what can be done with the rents that they receive from contracting out the harvesting, and so forth. I wouldn't hold these up as the way to go, as the model.

MR. DE ALESSI: Any effort they put into enlarging the pie would be lost?

DR. SCHLAGER: Yes. They are an advantage in part for the villages who have these rights, but it's also an advantage for the trawlers to contract with these villages, because that essentially throws them into an ITQ regime and the competition among trawlers is limited. They get access to the fishery during a very productive period of time in the fishery.

MR. LEAL: They get access right beyond the regular season, which is really attractive for them. Terry Anderson has written about the devolution of some of these rights in Native American tribes.¹⁰ They're really interesting. The White Mountain Apache in New Mexico, for example, have come up with rules for parceling out their rents from trophy elk hunting and other such arrangements. And they had to struggle for this independence, because when they first wanted to do trophy elk hunting the state interfered. They wanted to issue their own licenses, and also wanted to harvest more cows and bull elk to increase the herd health and to get bigger bulls. But they couldn't because the state controlled

Giving fishing quotas to native communities in Alaska, the so-called community development quotas, has not resulted in stewardship incentives.

If you feel that that you're not going to have a right in perpetuity, it impedes the evolution of these rights.

¹⁰ Terry Anderson "Conservation Native American Style," PERC Policy Series PS-6, July 1996.

the hunting licenses and so there was a big court battle between the White Mountain Apache tribe and the State of Arizona. The court decision resulted from another court suit, a similar one, the Mescalero tribe decision, which set a precedent. The court ruled that they could take ownership of the elk on their property. In a sense, the state had no business even issuing licenses, and that started their whole industry.

As the tribes asserted ownership they made an effort to manage according to what was best for the resource.

DR. FIELD: Did Anderson conclude that it's better for the political institutions of the tribe to manage these resources rather than the state or institutions of the state?

MR. LEAL: Yes, because their rules will be tailored to the local conditions, etc. The tribe has this natural mechanism for sharing, which eased the question of how to parcel the rent out. It was easier than, say, for a group of contemporary fishermen. That's pretty difficult.

DR. FIELD: Now, what if some technological device comes along where it makes sense, from an efficiency standpoint, to divide their earnings, so that it's better to have one half of the tribe doing this part and the other half of the tribe doing that part? Is there an institutional way to do that?

MR. LEAL: Yes, there is an institutional impediment. They have decided they're going to share, basically, and there is no mechanism for adaptation.

DR. CHRISTY: That raises a question we should explore, and that you raised earlier, in terms of impediments to the evolutionary process. Maybe it would be useful to examine some of these impediments that are being established in setting up ITQ systems. Let's leave aside license limit schemes. For ITQ systems, there are some limits on the quantity that anybody can hold. There are some limits on transferability who you can transfer them to and maybe limits on leasing them.

I don't know the degree to which rents extracted by the public would be an impediment. I know that Hannesson feels that if you extract a large portion of the rents you decrease the incentive for the fishermen to work together.¹¹ I don't think that's necessarily true, but that's been raised.

When is the creation of some private incentives a bridge to stronger private property rights, and when is it a cul-de-sac?

Security of tenure is also an impediment – if you feel that that you're not going to have a right in perpetuity, it impedes the evolution of these rights.

MR. LEAL: Yes. That could impede any evolution. I've talked in informal discussions with fishery managers who say that's one of the more powerful tools they have to keep the fishermen under their thumb – to maintain a limit of only owning one percent of the catch or

something like that. It's socially acceptable because they say, "Aw, we don't want some group of people –"

¹¹ See R. Hannesson, "The Political Economy of ITQs" in *Global Trends: Fisheries Management*, E. Pikitch, D. Huppert, and M. Sissewine, (eds), (Bethesda MD: American Fisheries Society, 1997).

DR. CHRISTY: Tyson Foods is the bogeyman. They say Tysons is going to come in and take over and monopolize the fishery. But Tyson's has no interest in catching fish. It's nonsense.

DR. SCHLAGER: I guess I'm not clear on what you mean by impediments to evolution. You may have a self-governing community that decides what's most important for them is to be sure that the members of the community are able to make a decent living off the resource. A technology may exist that that allows a couple of harvester boats to come in and sweep out the harbor, but then what's going to happen to the 30 other fishermen who now can't harvest? So, if a self governing community decides "Well, what we're really interested in is these distributional issues and making sure that everybody can make a decent living," would that be an impediment to evolution?

The halibut and sable ITQ system in Alaska, as I see it, has been an excuse for the fishery bureaucracy to get bigger.

MR. LEAL: Well, there's nothing wrong with that except that it's probably not what you want in an economy that's not very well diversified. Then you want the opposite. You want to be able to handle dynamism in this economy.

The Japanese villages started to experience problems with out-flows of people from their communities. They started getting attracted to the cities and leaving. For small, little, island communities, this kind of thing works well because they don't have a lot of options. But, by the same token, sooner or later, as these economies evolve, diversification of economic activity will cause people to say, "My horizon isn't as long over this resource as it once was." That's why individual private property is more adaptable. It allows trade – somebody wants to get out and somebody wants to get in.

But then again, for a less developed country, this may not be the option you want at that time. You want to protect or keep the livelihoods of these individuals who don't have other options.

MR. SMITH: I'd like to go back to the point that Don raised earlier, about Terry Anderson's work and some of the Indian tribes in the southwest taking over ownership of their resources. I think the real gain that has come through there is that it has essentially depoliticized the management decisions on how the resources are being used. As the tribes asserted ownership of the resource, they made the decisions on how to manage that resource based on what was best for the resource itself rather than paying attention, as the government managers did, to the state fish and game agencies or to the animal rights people who don't want any elk killed or shot within a certain distance of the highway. They didn't have to worry about how many people would show up at a hearing here or a hearing there, or about changing the management schemes with every new political administration that came in. They made an effort to break out of all of those things and to manage according to what was best for the resource, rather than counting political noses or how many letters are on a state legislator's desk.

If I were a fishermen I'd say "Fine, let the bureaucrats take on all of these costs. That just means more money for me."

And I think the gains that have come from this are why, from a libertarian point of view, many of us have promoted the extension of this concept to many of the public lands that we view as a commons. I think, in a lot of areas, there have been very positive gains from trying to depoliticize management

Abalone fishermen, for example, in New Zealand, are working toward taking over enforcement duties from the government – as they're already done with the science.

decisions so that they are made on a much more rational basis. I mean, wouldn't it be better if the Wilderness Society owned wilderness areas and bore all the costs themselves, rather than having a Reagan administration saying that wilderness areas are bad, and then having the Clinton administration saying they're good, and so on, and so on?

DR. FIELD: I agree with that, but then, in the long run, you may run into trouble with the fact that there are still politics within the tribe, and so they themselves may politicize the use of resources. What do you do then? And if you have no way of going beyond that, then in a few years you're going to end up with the same kind of political resource decisions as you did before, at the state level.

MR. SMITH: Well, you might, but I would still rather break it down. If you have 20 different tribes in the state, each trying to manage their elk for what's best for the elk, that's still better than having one politically-determined decision at the top, than using a cookie-cutter approach to managing all the elk, on all the state lands.

DR. FIELD: I agree with you to a certain extent, but what I think what we need to do, as Dr. Christy was saying, is give more attention to establishing rules that permit evolution when the time comes, and where the factors warrant.

MR. SMITH: But I would go beyond the tribes to large ranchers who owns 50,000 acres or something like that. Why shouldn't they be able to manage the elk themselves? In that case you do have one owner and you don't have any political problems.

MR. DE ALESSI: Is there anything to indicate why some limited rights become politicized and others don't? To return to the fisheries example, in New Zealand, transferable quotas seem to be evolving into something ever closer to real, private property rights. In other ITQ fisheries, however, this has certainly not been the case. When is the creation of some private incentives a bridge to stronger private property rights, and when is it a cul-de-sac?

A completely private system would still probably have limitations on out-transfers.

MR. LEAL: The New Zealand ITQ system has resulted in the clearest definition of property rights as far as quota goes, the reduction in the bureaucracy, and the allowance for fishermen to assume more management responsibility. On the other hand, the halibut and sable ITQ system in Alaska, as I see it, has been an excuse for the fishery bureaucracy to get bigger. Before ITQs, there was a small enforcement force, smaller number of scientists, and so on. What we need is

something, maybe through the private sector, so that ITQ management does not become an excuse for the bureaucracy to grow.

DR. CHRISTY: It's the biologists that have screwed us up in the first place, they really have.

DR. FIELD: Well, let me ask you, then, when you establish an ITQ, who defines the limits of the fishery over which the ITQ will be spread?

DR. SCHLAGER: The scientists define the stocks.

DR. CHRISTY: Yes, it is largely the scientists, although, in the case of the wreck fish fishery, it was the fishermen themselves. But that's a difficult question because not only do you have the stock that's being caught but the by-catch (non-target species that are caught inadvertently), which makes it more complicated. I think that the halibut fishery ITQ is in a process of transition, and I suspect that government's role will diminish.

One of the most efficient fisheries arrangements the North Pacific Fur Seal Treaty.

MR. LEAL: I hope you're right from the long-term perspective, but from what we've seen in the first three or four years, that has not been the case.

DR. CHRISTY: You have to remember that any kind of system that may lead to privatization or increased private rights is a threat to the bureaucracy, and they're one of the major sources of opposition to it. If they lose their power, they lose their authority.

In some developing countries I have worked in, trying to gain acceptance for the concept of devolving authority to the local level has been a major problem. They just can't believe that the fishermen are intelligent enough. When I have been on missions they want me to tell the fishermen how good the government is, rather than listen to the fishermen. They don't understand why the fishermen won't do something.

DR. SCHLAGER: I don't disagree with anything that you guys have said, but I wouldn't just heap everything onto bureaucrats. I think that there are a couple of issues here.

One is that certain types of property rights systems, like defining ITQs for a highly mobile source that is difficult to count and difficult to get a good idea of what would be a reasonable tack and what not, are very information intensive. That information is costly, and so there has to be very careful consideration given to whether or not it's worth it to move to that kind of property rights system if it's going to entail those kinds of costs.

The other thing is that it seems to me if I were a fishermen I'd say, "Fine, let the bureaucrats take on all of these costs. That just means more money for me." So it's not just bureaucrats saying "Oh, I want to hang onto my job."

Agencies like the National Forest Service that keep a part of the revenues they generate, but are not residual claimants, do a horrible job.

DR. CHRISTY: No.

MR. LEAL: The fishermen don't want to cut the umbilical cord either. They like the idea that there's someone there with a pocket book.

DR. SCHLAGER: Right! They can push all of these management costs onto the general taxpayer, so I don't think it's just bureaucrats trying to protect their jobs; there are incentives for fishermen to do that too.



Why not establish a futures market for quotas?

DR. CHRISTY: Also, transaction and operating costs vary quite widely in different fisheries. There are some fisheries which are totally unsuitable for an ITQ. It's not the panacea that everybody thinks it is. Where you have a large number of different species being landed and the possibility of transfer at sea, it becomes impossible to count the fish, and you don't want an ITQ system.

The problem is that the license limit scheme is filled with all sorts of imperfections itself. So, we're going to be faced by very difficult complexities no matter what happens, and privatization is not going to emerge easily in most of these situations.

DR. FIELD: In an ITQ system, how do you get around the question of problems of illegal catch and this kind of thing? What's the incentive for people to stay within the quotas?

DR. CHRISTY: You can do it through observers on board. You can do it if the fish are landed at very few spots or sold to few processors.

DR. FIELD: So it's the same as if you didn't have an ITQ; it's the same as any kind of a quota system. You have to enforce it roughly the same way.

DR. CHRISTY: Any time you have a quota system you have to count fish, that's true.

DR. SCHLAGER: Yes. What the Canadians have done, to my understanding, is that in some fisheries they have a hundred percent observer coverage. They have an enforcer on every boat, watching the landing of that boat, and it's very costly.

DR. CHRISTY: Very costly. But in New Zealand it's covered by the fishermen themselves, isn't it?

DR. SCHLAGER: I don't think they have a hundred percent coverage in New Zealand; they do it mostly just through paper trails.

In the early eighties that Garret Hardin and John Baden came to an idea that there's a certain size at which you're beyond properly managing the commons.

MR. SMITH: Michael, do you want to step down as moderator for a moment and deal with the question of self-monitoring in New Zealand?

MR. DE ALESSI: The abalone fishermen, for example, that I have talked to in New Zealand are working toward taking over enforcement duties from the government – as they've already done with the science. And fishermen certainly have the incentives to monitor themselves, rather than all trying to get away with something.

DR. CHRISTY: The fisheries industry in New Zealand is a special situation. They didn't have a long, vested interest in fishing. It's not a traditional activity out there, so they're operating in sort of a de novo situation – a clean slate, and they can impose anything.

DR. FIELD: Wouldn't self-monitoring depend on how many fishermen there were?

DR. SCHLAGER: And how dependent they are on that fishery. If it's just one of maybe four or five fisheries that they harvest from, and they don't live in the community. It's like "Okay, put quotas in."

MR. DE ALESSI: That's relates to a problem in the U.K., where quota-hopping receives a lot of attention. Fishermen there don't have ITQs, but they do have licenses. When a someone from say, Portugal, buys one into of those licenses, the informal enforcement mechanisms that exist among small seaside fishing communities lose their teeth.

I think a completely private system would still probably have limitations on out-transfers. It wouldn't be open for exactly that reason. If you have a tightly-knit community of people in England fishing a certain area they will steward the resource, whereas someone from Spain isn't as likely to.

MR. LEAL: Well, even if you have self management, with more than one user, you face the same problem of protecting whatever it is that bonds the users together. I don't care if you have ITQs or not; all you need is a few renegades or just one renegade and you have this problem.

Canada had that problem in the Bay of Fundy, where they allocated the quota to the market cooperative. The cooperative took the quota and allocated it to their fishermen – their members – and they had a dispute. Two fishermen splintered off, and the Canadian government, or the Department of Fisheries, said "Yes, you can go ahead and fish, even though you don't belong to the cooperative," which broke the whole system. The government didn't protect the integrity of the group. There were no sanctions that this cooperative could use to say, "Hey, either do it our way or you don't fish here."

One of the strongest arguments in favor of private alternatives is that they internalize costs.

DR. CHRISTY: One of the most efficient fisheries arrangements that's ever been developed was one of the earliest international agreements, in 1911 – the North Pacific Fur Seal Treaty. Under that arrangement, the four countries involved agreed that no one would take seals on the high seas but harvest them on the islands on which they breed. So, they reduced costs to the minimum for this government operation. So why shouldn't we consider this kind of operation for our marine fisheries? Let the government take over entirely, and employ labor and vessels.

MR. LEAL: The thing that bothers me about government employing the labor is that I'm not sure they would have any interest in efficiency.

DR. CHRISTY: They did in the Pacific Fur Seal Treaty.

MR. LEAL: What did they do with the profits?

MR. SMITH: It was divided amongst the four nations and they all agreed they would abandon treating the resource as a commons, and Aleuts would harvest so many seals and then split either the furs or money from the sale of the furs amongst the four nations, and they all realized their investment.

MR. LEAL: And they paid them with a piece from it?

DR. CHRISTY: Yes. Japan and Canada got 15 percent of the share. But why not go to a sole owner idea? I mean, that would relieve all these problems. Who would the sole owner be? You can't give all the resources to one individual or one corporation. I mean, you could conceivably. Bill Gates could take it over. He's done other things like this.

MR. SMITH: Give it to the Pribilof fur seal industry.

DR. CHRISTY: I'm talking about all the fisheries. Assume that all New England fisheries are now owned by an agency. And that agency has the right, the incentive, and the objective of maximizing the profits from those fisheries. It can determine who will fish - I mean, it will contract for labor, contract the vessels. What bothers you about that?

MR. LEAL: Well, I guess my familiarity with agencies like the National Forest Service and others that keep a part of the revenues they generate but are not residual claimants - they do a horrible job.

DR. FIELD: Well, suppose you made them a residual claimant?

MR. LEAL: Then I would say yes from my experience with state school trust lands, where Social Security recipients act as claimants. If they said, "You will make a profit from the income from these fisheries," and it goes into the Social Security fund or whatever, then I'd feel a little more comfortable with it. I would say, on its own merits, the government itself would not have any incentive to maximize the rents.

DR. CHRISTY: We'd give them that incentive. It would be a management agency and the management agency would have some overseers. The overseers would be there to ensure that everything the agency does is to maximize the profits for the fishermen.

DR. FIELD: Chris, but what you're doing is just sort of, all of a sudden, abstracting all of the political stuff out of the picture.

DR. CHRISTY: Of course.

DR. FIELD: And if that were easy, if we could do that, then we wouldn't be here.

DR. CHRISTY: Well, I know. But, I mean, we're dealing with political stuff and I'm just reversing the procedure. Instead of privatizing it, let's publicize it.

MR. LEAL: Socialize it.

DR. FIELD: But, no, no, you're privatizing it, but just in a different way. You're taking out the political aspect.

DR. SCHLAGER: He's just creating a monopoly.

DR. CHRISTY: There was an arrangement like this in the Maldives, where there was a fishery for tuna, all of which was processed in the Maldives and exported. The state trading organization would

buy from the fishermen at one price and sell it at twice the price on the open market. It was a very efficient arrangement but they decided to get rid of it.

If we examine this approach, maybe it'll be helpful in examining the alternatives. Once they socialize it, what's the problem with socializing it? It might be helpful in figuring out how you want to or why you want to privatize and what are the impediments to doing it.

DR. FIELD: I think a major reason against doing it that way is that that will lock it in - you'll never change it again. And if something comes up so that calls for smaller groups to work on a fishery, or a technological change - barbed wire in the ocean or something like that—that calls for changes in the structure of the management groups, that won't happen.

DR. CHRISTY: I don't know. Maybe it's more likely to happen. Maybe if you want to develop the fantasy ideas of putting giant tubes in the ocean to bring the deep, nutrient-rich, water to the surface, who's going to invest in that? As a matter of fact, I do know somebody who's going to invest in that. There's a guy that called me the other day that has -

MR. LEAL: Tyson's.

DR. CHRISTY: Not Tyson's. Somebody. He has a lease for something like 2,000 square miles in the Pacific, and he's going to seed it with some kind of chemicals which are going to change the whole structure and allow phytoplankton to grow up. That's private capital attempting to do that.

DR. FIELD: Well, suppose you had one management agency managing all the lobsters in Maine.

DR. CHRISTY: I wouldn't leave it to a single species.

DR. FIELD: Well just for purposes of the discussion. I mean, that's too big. It's because the resource ought to be managed, probably, in more localized groups.

DR. CHRISTY: But they would have the information, presumably, to know which area should be fished at which time, and they could send their vessels out, with their traps, to the various areas, to do that.

DR. FIELD: Only if you could be assured that that's the way they'd make decisions. But if you had a big, essentially public, agency like that, that's not the way they'd make decisions.

DR. CHRISTY: We don't know that We're making a lot of assumptions about public agencies which are not necessarily true. Public agencies surely do not function very well in many cases. But that's not necessarily the fault of having a public agency; it's the way a public agency is managed. It's not endemic that that public agency is going to be mismanaged.

I'm just trying to tackle you guys here.

MR. LEAL: Well, I guess the red flags that come up to me are the incentives. I would like to take your model and say, why not a corporation, a profit-making corporation that sends out contracts to fishermen and says, "You will go catch this many fish."

DR. CHRISTY? And the CEO gets rewarded on the basis of the net profit.

MR. LEAL: And if they want to cut back on harvests this year because the price is low or because the abundance of fish is not high enough and it's getting too costly to fish, they can capture the gains from that decision down the road.

DR. CHRISTY: Let me ask you a separate question. A friend of mine and I were talking the other day about quotas and how you value the quota. It's very difficult to determine what the value of the quota is and the value of the rent of the fishery. Ragnar Arneson has said you could manage the fishery simply on the basis of monitoring the sale value of the quotas. That is, you can adjust the quota on an incremental basis until you reach the maximum rent, and you don't need the biological information at all.

The question that we were talking about was, maybe the information on an annual basis is not sufficient to know what the value of the quota is. Why not establish a futures market for quotas? Now, has anybody given any thought to the idea of a futures market for quotas?

MR. LEAL: No, but I've looked at the stock market. I mean, the stock of the company that owns the fishery. Just like the stock of International Paper, owning trees, if they're -

DR. CHRISTY: Yes, but that's different. I'm talking about a futures market for the property right. Now, I have explored this a little bit further and there are some such markets existing or coming in Iceland, and apparently it's the processors who are buying some of the futures. They want to say that "Five years from now, we want to be able to have so much fish available to meet our processing requirements."

MR. LEAL: Yeah. Well, it would be interesting, if we did have a futures market, given the way the Magnuson Act defines quota.

DR. CHRISTY: Well, I said that in the beginning, the first thing is to get rid of Stevens. Is that on the record? Good.

MR. SMITH: I hope so. If I can switch to something very quickly, in the examination of property schemes within villages and communities, has anyone found any sort of optimal size or size beyond which a community grows, when the village mores and cultural pressures begin to break down and a common property system falls apart? I know there was some work in the early eighties that Garret Hardin and John Baden did, looking at the history of the development of communes around the country.

MR. LEAL: Hutterites.

MR. SMITH: Right. And looking at some of these various religious communities that were started, and also looking at various monasteries and nunneries, they sort of came to an idea that there's a certain size at which there's more pressure on fragmentation and breaking it up - a level when you're beyond a size in which pressures from your fellow peers can make a system of sharing or of properly managing the commons work. I don't remember what the number was. They had some figure that seemed to show up over and over.



MR. LEAL: It's 100. They said about a hundred and then the group will start, like you said, splintering off and starting to grow again.

MR. SMITH: But they've looked at others than just the Hutterites and saw that in a lot of these, like New Harmony and these kinds of towns that were created, that there was a certain critical mass. Has anybody looked at that?

DR. SCHLAGER: I don't think so. To my knowledge, nobody has ever looked at it very carefully. I can think of examples though, and it really depends upon the institutional arrangements in place. You can have very small communities that seem to operate very well, but you can also have much larger groupings that operate pretty well.

It depends upon whether or not they have been generally pretty good at nesting themselves. There's a very interesting bit of research done by an anthropologist named Steven Lansing, who looked at irrigation systems in Bali, where the community norms are very strong.¹² You're looking at literally hundreds of villages that, together, are interdependent because they use the same river and their irrigation systems are interdependent, and they have been able, over several thousand people, to coordinate and maintain these norms, but they've been able to do it because they nest themselves. So, their building block is a small community, which then coordinates with other communities in its area, and collectively they work their way up to where they have some overall coordination. I think that it's possible to have these kinds of community norms stay in place, under certain types of institutional arrangements.

DR. FIELD: That's an interesting point, because almost all of our theories of property rights are based on transactions costs of one kind or another. But who has ever gone out and measured a transactions cost for them?

DR. SCHLAGER: There have been a lot of attempts.

DR. FIELD: Well, you can tell. If something didn't happen, you say "Oh, well that must be because there were too many transactions costs." But nobody has ever really explicitly nailed that down as to what they were, which is unfortunate.

MR. DE ALESSI: Well, one of the strongest arguments in favor of private alternatives is that they internalize those very costs, obviating the need for any public calculus of the matter.

MR. SMITH: That's a good thing to conclude on.

MR. DE ALESSI: Sounds good. Are there any closing comments anybody would like to make?

DR. CHRISTY: I think we should make some closing comments. One of the areas of research that I mentioned earlier is the need to examine and determine what are the conditions and the incentives that facilitate communities taking over responsibility for management, legal and otherwise. This is an area that really needs to be examined.

¹² Stephen Lansing, "Priests and Programmers", (Princeton: Princeton University Press, 1997).

MR. LEAL: I want to second that. I think you hit the nail right on the head as to finding some kind of theoretical framework for the emergence of community arrangements over and above just homogeneity. What else brings them into this operation?

DR. CHRISTY: I'm talking more about the genesis. Why do they evolve?

DR. SCHLAGER: I would refer you to Eleanor Ostrom's book *Governing the Commons*.¹³ She takes a crack at it, saying, "What are the conditions under which communities are likely to begin to develop their own sets of arrangements?" And it's a much richer story than what economists like Demsetz have traditionally told.¹⁴

MR. LEAL: That the benefits outweigh the costs?

DR. SCHLAGER: Right, and that's not much of a story.

DR. CHRISTY: Yes, but what are the benefits? What are the motivations? These are the kinds of things that should be examined.

DR. SCHLAGER: I just think that it's a starting point. She's laid out some things but you're right, there needs to be much more work done in this area.

DR. FIELD: Well, let me throw in one last idea too. I think this whole notion of evolution is very important. But I think we have to also take a careful look at the development of these so-called "community rights systems," how these resources are getting used, whether they are still being allocated on a political basis, and to what extent the mix of efficiency, equity, and other things are any different. The problem is, I could just say, "OK, a community starts managing its own resource," but the decisions are still going to be made by politicians, just their local politicians and not a different set of politicians.

It seems to me that the major focus of interest has been on the performance of localized, resource managing collectives. Some like them because they are vehicles for the expression of community values; others like them because they are a step or two away from state political control. One thing we perhaps did not give enough attention to is what criteria are appropriate to use to evaluate their performance; anthropologists presumably would judge them on their ability to preserve community institutions, economists perhaps on their ability to maximize the value of the resource involved.

The problem is, however, that they are still collectives. They may use the political governance machinery of the community to manage the resource or they may establish a separate governance process applying only to the resource. But in the first case certainly, and maybe also in the second, the decisions are likely to be politicized, that is, undertaken for reasons other than to maximize the long-run value of the resource. Maybe what is needed is a concept of "politicized property rights." Will

¹³ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, (Cambridge: Cambridge University Press, 1990).

¹⁴ See, for example, Harold Demsetz, "Toward a Theory of Property Rights," *American Economic Review*, May 1967.

local collective property organizations lead to less politicized property rights? Assuming ITQs continue to develop, it will be very interesting to keep track of how management institutions evolve with them, for example, who gets to make decisions about the total quotas, what rules develop for buying and selling quotas, etc.

MR. DE ALESSI: Very good questions indeed, and I hope that maybe we've spurred some interest today in trying to answer them. Thank you all again.

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