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# Property Regime or Development Policy? Explaining Growth in the U.S. Pacific Groundfish Fishery\*

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Researchers often blame problems in fisheries on the property regime under which a fishery is practiced. Depending on their perspective, researchers locate the cause of problems in either common property or open access regimes. However, because these approaches rely on the assumption of the "economically rational individual," they obfuscate the specific cultural, political, and economic practices that shape resource use. Analysis of the U.S. Pacific groundfish fishery shows that growth and subsequent problems in this fishery are the result of a state-led fisheries development program implemented through a series of national, regional, and local policies designed to extend sovereign control to include ocean territory. These policies both created a climate of fisheries development and provided the means by which the fishery could grow. This analysis highlights the need to examine historic and geographic specificity to explain resource use, rather than relying upon generalized models that posit a deterministic relationship between property regimes and socioenvironmental outcomes. **Key Words:** common property, Exclusive Economic Zone, fisheries development, fisheries policy, Pacific.

## Introduction

In January of 2000, the U.S. Department of Commerce declared the Pacific groundfish fishery to be in a state of disaster (NOAA 2000).<sup>1</sup> This announcement, which made fishing communities eligible for federal disaster relief funds, came nine months after the National Marine Fisheries Service announced that several important species of groundfish are severely overfished. Strikingly, five of these species are now at less than fifteen percent of their pre-exploitation abundance (PFMC 1998, T-47; 1999a). These announcements came after several years in which the Pacific Fishery Management Council (PFMC), the governmental management body, had already reduced allowable catch of several key species; the Council has now further reduced allowable catch of these fish by 50–80 percent (PFMC 1998, 1999a, b). Because the groundfish fishery is a mixed fishery, these cuts also limit the amount of other species that can be caught, thus affecting the entire fishery.

While many claim that climate, not just overfishing, has contributed to the current reductions in fish abundance, problems in the

fishery have actually been building for two decades. By the late 1980s, domestic fishing and processing capacity had surpassed that necessary to sustainably exploit these fish (PFMC 1992). A recent report argues that "overcapitalization is the single most serious problem facing the West Coast groundfish fishery" (PFMC 2000, 1). Overcapitalization leads to a variety of other problems, including fisheries conflict and overfishing. Throughout the 1990s, the groundfish fishery was fraught with conflict as each sector fought to maintain its access to the fish at the same time that the Council placed limits on the total catch. For example, sablefish fishers disagreed over whether trap fishers or trawl fishers should be allowed more fish (PFMC 1994); the U.S. and Canada disagreed over how much whiting each country should take (Dorn et al. 1999); and the shore-based processors competed with the factory trawlers for access to whiting (PFMC 1993). The Council is also embroiled in conflicts of its own, as fishers and fisheries scientists often disagree over the status of individual species of fish and the information used in stock assessments. Further, to minimize the economic impact of management

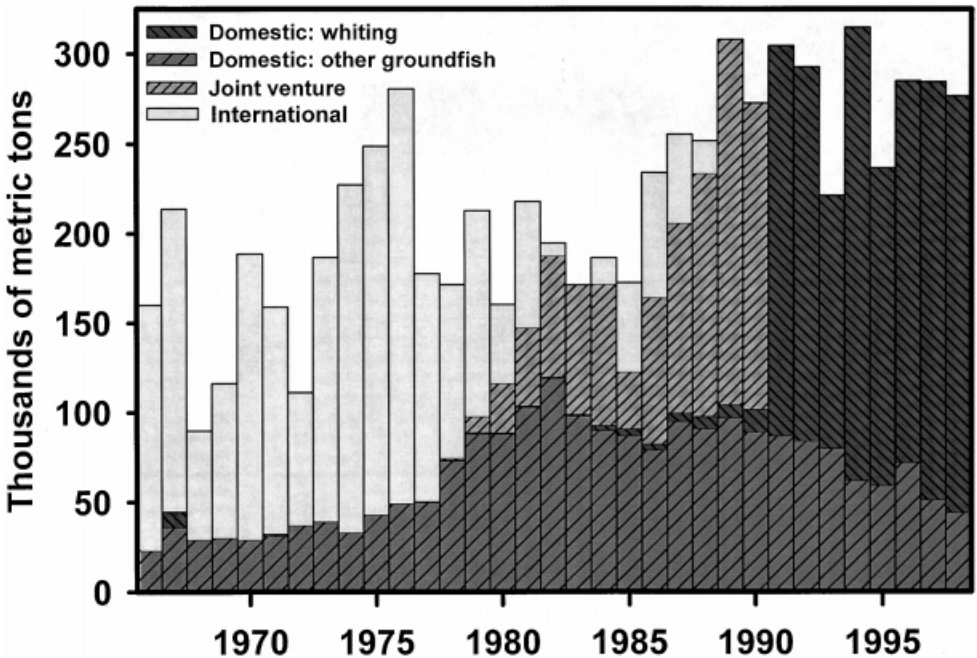
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and to reduce conflict, until the current crisis the Council allowed fishers to continue to catch several depleted species. The Council set catch limits for groups of fish, which allowed some species to be overexploited so that fishers could continue to catch the more abundant species in the group (PFMC 1998, 1999a).

The problems in this fishery are particularly striking because until the late 1970s the domestic Pacific groundfish fishery was relatively unimportant. Small-scale fishers caught a few nearshore species, mainly for local markets. Large-scale fishing was conducted by a fleet of distant-water vessels from the Soviet Union, which targeted mainly Pacific whiting, a species American fishers considered to be a "trash fish" because of a parasite that gives the fish a soft texture if it is not processed immediately (OCZMA 1985b). Starting in the late 1970s, the domestic fishery grew dramatically (see Fig. 1). Between 1976 and 1991, domestic catch of Pacific whiting increased over one-thousand-

fold, so that today whiting accounts for over 75 percent of the entire West Coast groundfish fishery (Dorn et al. 1999, 39; PFMC 1999b, T-1). Catch of other groundfish species doubled between the mid-1970s and early-1980s, when it peaked (PFMC 1982, 3-35; 1990, 11-41; 1999b, T-1).

This article argues that both the growth of the Pacific groundfish fishery and the subsequent problems of overcapacity and overfishing are the result of a concerted effort to develop this fishery. In 1976, the U.S. passed the *Fishery Conservation and Management Act of 1976 (FCMA)*, which simultaneously extended political jurisdiction over coastal waters from 12 to 200 nautical miles and launched a massive fisheries development program on the West Coast. In the late 1970s to early 1980s, a series of interrelated federal, regional, and state policies worked to replace foreign fishing with domestic fishing, develop domestic and international markets for West Coast groundfish, and pro-



**Figure 1** Total catch of groundfish on the Pacific coast, 1966–1998 (thousands of metric tons). After the creation of the 200-mile zone in 1976, the U.S. domestic Pacific groundfish fishery rapidly displaced the international fishery. Domestic catch of groundfish other than whiting expanded in the late 1970s and early 1980s. Joint venture fishing for whiting expanded throughout the 1980s, and was replaced by a fully domestic industry in 1991. Sources: PFMC (1982, 1990, 1999b); Dorn et al. (1999).

vide financial assistance for the high-tech vessels, gear, and processing equipment that enabled fishers and processors to exploit the resources of the 200-mile zone.

In making this argument, this study uses a political ecology framework, emphasizing that to understand specific resource use patterns it is also essential to analyze how local situations are influenced by processes beyond the local scale. As many political ecologists have highlighted, state policies and practices often play a vital role in shaping access to and use of natural resources (Peluso 1992; Bryant 1997). Economic development policies in particular are often central in creating socioenvironmental problems; these problems are rooted in the historical geography of development practice (Peet and Watts 1996). Using a framework that focuses on how growth in the groundfish fishery was actively produced through complex, multiscale processes, this article challenges one of the more common frameworks for analysis of problems in fisheries, that of property regimes. Depending on their perspective, property theorists claim that either common property or open access regimes inevitably lead to environmental degradation. This article argues that these property-oriented frameworks are unable to address the complexity of historical-geographical processes that create resource-use problems. Property theorists overemphasize the importance of property by positing a deterministic relationship between certain property regimes and socioenvironmental outcomes. This is not to argue that property is therefore irrelevant; rather, property must be viewed as one social institution among many that influence resource-use situations. Property structures may influence regimes of access, but property does not determine how people will use natural resources.

The next section briefly outlines different theoretical approaches to understanding property. It then shows that even divergent perspectives rely on similar assumptions about individual behavior under different property regimes. The following section, on the history of development of the groundfish fishery, offers an alternative explanation for this fishery that does not rely on generalized models of behavior governed by property regimes. Instead of explaining this fishery in terms of open access or common property, it develops an explanation that is rooted in the specificities of state fisher-

ies policy in the era of extended jurisdiction. Even though groundfish was managed as an open access fishery during the period of development, the property regime is not the proper focus for analysis of growth and problems in this fishery.

## Explaining Fisheries

### *The Tragedy of the Commons?*

The Council has attributed growth and problems in the groundfish fishery to the prevailing open-access regime, in which anyone could fish. Writing in the early 1990s, the Council asserted that "the underlying cause of [fisheries problems] is the 'olympic [sic] system' under which most of the fishery is currently managed. Under this system, there is a lack of clearly assigned 'property' rights . . . for harvesting of the resource" (PFMC 1992, 2.13). Based on this type of analysis, the Council adopted a limited entry program in 1991, which was implemented in 1994 (PFMC 1992, 1995). Limited entry changed the fishery from the open access regime that prevailed during development of the fishery to a closed access regime. The Council has also considered a form of individual transferable quotas, which would privatize the right to fish (PFMC 1994). The Council's analysis and solutions are based on "the tragedy of the commons," which posits that environmental degradation inevitably occurs in a commons because individual incentives are not commensurate with either sustainable use of resources or economic efficiency. The tragedy occurs because when an individual conserves for tomorrow, that simply provides someone else with the resource today (Gordon 1954; Hardin 1968).

The tragedy of the commons has become the dominant model for fisheries management around the world. According to fisheries economists, "one of the most robust results in economic theory is the theorem that common property resources will be overexploited, possibly to the point of ultimate depletion" (Hannesson 1991, 401). Similarly, the "lack of property rights has motivated fishermen to race each other for the fish. This race usually leads to industry overcapitalization and overexploitation of fishery resources" (Boyd and Dewees 1992, 179). As the U.S. National Research Council recently explained in its report *Sustaining Marine*

*Fisberies* (NRC 1999, 71), the main cause of problems in fisheries is “the ‘commons,’ where a lack of clear property rights leads to a difference between individual and short-term interests on the one hand and societal and long-term interests on the other . . . Other problems, such as overcapitalization, derive from this one.”

Despite the apparently simple logic employed to explain resource degradation, and despite the widespread use of the model, the tragedy of the commons does not accurately explain resource use. Over the past two decades, scholars have criticized the model for ignoring the historical contexts from which specific resource-use situations arise (see, e.g., McEvoy 1986; McCay and Acheson 1987b; Berkes et al. 1989; Feeny et al. 1990; Ostrom 1990; Bromley 1992; Roberts and Emel 1992; Dyer and McGoodwin 1994; Feeny, Hanna, and McEvoy 1996; Ruddle 1998). These researchers have documented many cases in which people are able to successfully manage resources within a commons. Further, concentrating on the diverse cultural and institutional contexts of resource use, in recent years researchers have focused on identifying conditions under which the commons can be made to work (see, e.g., Pinkerton 1989; Ostrom 1990; Bromley 1992; Dyer and McGoodwin 1994; Hanna and Munasinghe 1995; Hanna, Folke, and Mäler 1996).

### *The Tragedy of Open Access?*

Nonetheless, this body of literature has not fully abandoned some of the basic tenets of the tragedy of the commons argument. A key conceptual framework that researchers use to challenge the tragedy of the commons is the distinction between *common property* and *open access*. According to these researchers, by portraying the commons as a free-for-all, tragedy of the commons proponents “confuse common-property resources with open access—the absence of property rights” (Berkes et al. 1989, 93). To challenge this view, theorists argue that property held in common has cultural and institutional rules regarding its use, while open access is devoid of these rules (see, e.g., Ciriacy-Wantrup and Bishop 1975; McCay and Acheson 1987b; Berkes et al. 1989; Grima and Berkes 1989; Bromley 1992; Ostrom 1992; Emel and Roberts 1995; Fairlie 1995; Feeny, Hanna, and McEvoy 1996; Hanna 1997). “By equating common property with open access, the tragedy-of-the-

commons approach ignores important social institutions and their roles in managing the commons” (McCay and Acheson 1987a, 34). Thus, in this formulation, open access regimes become the proper locus of concern about environmental degradation arising from tragedy of the commons formulations. “The evidence supports Hardin’s argument concerning degradation due to the inability to regulate access to resources held as open access” (Feeny et al. 1990, 6).

However, by defining open access as the lack of social institutions, common property theorists simply replace the tragedy of the commons with the “tragedy of open access.” Both of these tragedy perspectives rely on the same assumption of the “economically rational individual” who maximizes profits in the short term; this is the key to the tragedy, whether in a commons or under open access. Common property theorists have expanded the original tragedy of the commons framework by emphasizing that cultural norms and social institutions can close access to the commons, but this perspective still assumes that the economically rational individual is the norm in open access situations. In this view, the individual profit motive dominates when unfettered by cultural constraints. However, the existence of an economically rational individual is itself an unwarranted assumption. As Barnes has argued (1987, 1988, 1996; Barnes and Sheppard 1992), reliance on “homo economicus” is “based upon *reducing* the complexity of economic events at any time or place to the *universal* trait of rational choice making” (Barnes 1996, 86; emphasis in original). This assumption of universality is untenable when individual actions are “grounded precisely in the realities of place . . . The only mystery is why the theoretical category of the individual was ever abstracted from the reality of space and place” (Barnes and Sheppard 1992, 16). This is not to challenge the idea that profit may be one motivation for exploiting natural resources, nor to deny that there are effects when resources become commodified and places are incorporated into market economies. Rather, what is being challenged is the idea that economic rationality is natural and universal, rather than something that needs to be explained.

One way to bridge concerns about the outcomes of individual behavior and the type of geographical specificity that Barnes’ demands is through an understanding of what Bourdieu

(1977) terms the *habitus*. Simultaneously constitutive and normative, the *habitus* is knowledge that is enduring yet unconscious, perceived as an objective truth and experienced as an objective reality. The *habitus* appears universal because our culturally specific positions remain unspoken, known yet not-known. Because the *habitus* is unspoken and invisible, it is constructed uncritically through the everyday practices of people, rooted in the specifics of history and place. The outcome of individual behavior is that the particular is normalized to seem universal. By recognizing that individuals and their actions are grounded in the complex realities of specific times and places, this perspective undermines the idea of rationality, which presumes that individuals can perform the "god-trick" (Haraway 1988, 582) of transcending their specific circumstances to be objective about the world. Thus, both of the tragedy perspectives arise from particular yet unacknowledged world-views that depend upon false notions of universal economic rationality as an explanation of human behavior. Tragedy perspectives naturalize the economically rational individual as something outside of and prior to cultural norms, instead of treating it as something that is produced through particular historical-geographical processes. As political ecologists advocate, analysis of individual behavior requires examining how people's actions articulate with larger-scale processes (e.g., Vayda 1983; Blaikie 1985).

Recognizing that particular knowledges and practices come to seem natural over time requires an approach that examines how these knowledges and practices come to be, rather than one that assumes that they are universal. Applying this approach to understanding the role of property, instead of relying on assumptions of universal and transcendent rationality to explain problems and solutions in either commons or open access regimes, we should focus on how specific resource use situations are shaped by specific cultural, political, and economic practices. Focus on diverse practices shifts analytical attention from static definitions of property (open access, commons, private, or state), to the ways in which access, opportunity, motivation, and the like are created and constrained. This focus also opens up the possibilities of property relations, such that multiple regimes can coexist: e.g., state property managed as open access. This approach,

then, demands analysis of social relations, institutions, and processes without conflating access with property or insisting upon deterministic relationships between property regimes and environmental outcomes (see Ribot 1998; Leach, Mearns, and Scoones 1999). This view of access and property reverses the view of institutions put forth within the common property literature: rather than locating social institutions and practices within common property but not open access, property itself is recognized as a type of social institution. As Ribot (1998, 312) has argued, "'access' does not replace the term 'property', but rather it encompasses property, putting property (and other forms of) rights in their place among the whole array of mechanisms, structures and relations at work." In this view, property remains relevant, but instead of seeing property regimes as either the container for or absence of social institutions, property is viewed as one type of social institution that may influence regimes of access.

This theoretical approach to understanding the relationship between human activity, property regimes, and environmental degradation is supported by recent arguments made by McCay and Jentoft (1998). Early pioneers on the benefits of the commons, they (1998, 24) recently criticized this literature for focusing on general models while not giving enough attention to how "systems of resource use [are] embedded . . . within discrete and changing historical moments, social and political relations, and environmental conditions . . . Numerous situations of resource use and abuse are analyzed almost entirely in terms of 'common property' or 'open access.' This may be so even when property rights are not the issue at all." This perspective is echoed in a much earlier work by Marchak, Guppy, and McMullan (1987) on fisheries in British Columbia, in which the authors argue that focus on the commons is misplaced and instead focus attention on state fisheries management and economic relations.

Neither the tragedy of the commons nor the tragedy of open access is able to explain changes in the Pacific groundfish fishery because they rely on generalities about rational individual behavior, which is presumed to create a deterministic relationship between property regimes and socioenvironmental outcomes. The remainder of this article analyzes place-specific political and economic processes to show that many

factors beyond the property regime have shaped the structure of this fishery. Through the case study of how the *FCMA* and subsequent policies transformed the groundfish fishery in the 1970s and 1980s, the article shows that, even in an open access situation in which there are problems that property theorists ascribe to individual decision making, the property regime is not the underlying problem.

## Development of the Groundfish Fishery

### *Extended Jurisdiction and Local Economic Development*

The Pacific groundfish fishery was profoundly affected by changes in the governance structure of the world's oceans. Motivated in part to benefit domestic fishers, in 1976 the U.S. government unilaterally created its 200-mile Exclusive Economic Zone (EEZ), and claimed all rights to control fishing activities within this new territory.<sup>2</sup> This declaration came toward the end of decades of global negotiations concerning political jurisdiction of ocean space. Debates over the political status of the oceans revolved in particular around the desire of coastal states to develop the resources of the coastal zone. The three UN Conferences on the Law of the Sea (1958, 1960, 1973–1982), following the 1945 Truman proclamation asserting U.S. control over resources of the continental shelf, were specifically aimed at balancing territorial claims to ocean space with global interests in maintaining access to the high seas (Steinberg 1999). By the time the UN Law of the Sea Convention was concluded in 1982, a 200-mile economic zone was customary international law.<sup>3</sup> Extended jurisdiction by all states enclosed about 30 percent of the world's marine area and 95 percent of the world's fish catch, with the U.S. gaining more marine territory than any other country in the world (Nadelson 1992; Woodworth 1994).

Extending the rhetoric of sovereign national identity into the oceans under the rubric of economic protection for hard-working local fishers, the goal of the U.S. government within the EEZ was Americanization of offshore fisheries. To achieve this goal, the government launched "a national program for the development of fisheries which are underutilized or not utilized by United States fishermen," so that the EEZ could generate "the greatest overall

benefit to the Nation" and provide economic opportunities in coastal communities of the Pacific Northwest (*Fishery Conservation and Management Act of 1976*, 332, 335).

While the rhetoric of Americanization encouraged fishers nationwide to fish, there were different forms of Americanization in different regions of the country. In New England, where a well-developed domestic fishery was competing with international fishing fleets, Americanization was a matter of removing competitors who were blamed for depletion of local fish stocks (Stencel 1992). In contrast, on the West Coast there was no domestic fishery that could easily displace Soviet factory trawlers, so Americanization was also a process of fishery development.

Local economic conditions influenced these regional differences. The center of the Pacific groundfish fishery is the coastal region of Oregon. Because its economy has traditionally been based on natural resources and tourism, this region has faced a chronic problem with total and seasonal unemployment (Oregon Employment Division 1988–1989, 1990–1991; PFMC 1993). During the mid-1970s, as the *FCMA* was being drafted, there was a permanent downturn in both the timber industry and the high-value salmon and shrimp industries, causing several coastal counties to experience higher rates of unemployment than ever before (Radtke and Davis 1988; Oregon Employment Department 1993). Because of its reliance on a few declining industries and its perpetually peripheral status, the coastal region became the target of post-*FCMA* state and national fisheries development strategies. Oregon Congressman Jim Weaver stated that "the fishing industry is critical, particularly now, when the wood products industry is in [a] deep, deep slump" (House 1980a, 42). He proposed that "the development of a healthy processing industry for [groundfish] could significantly alter the employment situation in every coastal county from northern California to the Olympic peninsula" (House 1978, 557). Politicians and residents alike viewed "underutilized" species of fish as a possible salvation for the region because they could provide employment in fishing, processing, marketing, and other fish-related industries.

### *Fisheries Development Policy*

The idea of sovereign control over territory combined with the promise of jobs provided the

context within which individual fishers along the coast made decisions about fishing activities. This atmosphere was translated into action via the *FCMA*, subsequent federal policy measures, and series of diverse fisheries development plans over the next decade (e.g., *Fishery Conservation and Management Act of 1976*; Combs 1979; *American Fisheries Promotion Act of 1980*; PFMC 1982; WCFDF 1982; OCZMA 1985a). This section of the article addresses three interrelated categories of policy aimed at fisheries development. First, the government curtailed foreign fishing in the EEZ while encouraging domestic use of these waters. Second, the government was actively involved in developing domestic and international markets for Pacific groundfish. Third, the government expanded financing for both the harvesting and processing sectors of fisheries for “underutilized” species.

*Kicking out the foreigners* To develop a mechanism for removing foreign fishing fleets from the EEZ, Congress deployed “optimum yield,” defining it for maximum flexibility as the yield of a species of fish that provides the greatest long-term economic, social, and ecological benefits. Foreign fishing was allowed only if there was a surplus in optimum yield. To eliminate foreign fishing and simultaneously facilitate domestic fishing, the Council (1982, 1.1) set optimum yield as “all fish which are harvested under regulations adopted by the PFMC,” rather than setting a specific, numerical optimum yield for each individual species. This immediately eliminated foreign fishing, because the optimum yield for Pacific groundfish was simply the amount of fish domestic fishers caught.<sup>4</sup> By defining optimum yield in this way, the Council (1982, EIS.14, 20) worked to “create a climate for controlled growth and minimal disruption of the domestic fishery. . . . [If] optimum yields are assigned to logical groupings of species, then fishermen can try to harvest the maximum yield from the group, even though one species in the group may be fished at slightly higher than its optimum yield or another slightly lower.” Thus the Council encouraged overfishing of less-abundant species in the name of fisheries development. These flexible definitions of optimum yield provided the baseline for managing the fishery to benefit the domestic fishery while eliminating the international fishery.

*Marketing* While the federal government and the Council used Americanization to actively encourage West Coast fishers to expand their fishing activities, the local industry faced many barriers to expansion, including lack of markets for West Coast groundfish (House 1979; *Pacific Fishing* 1980a; WCFDF 1982). In the late 1970s Pacific groundfish was sold mainly in local, fresh fish markets in major West Coast cities (*Pacific Fishing* 1980a). One reason for lack of markets was that Pacific groundfish varieties were not well received domestically, where they were perceived to be inferior to fish from New England, such as cod (WCFDF 1982). To address the lack of consumer familiarity with Pacific groundfish, local fisheries organizations tried to stimulate groundfish markets through programs to educate retail fish sellers and consumers. For example, the Pacific Coast Fisherman’s Wives Association started a seafood marketing program, funded by the federal government, to teach grocery store meat department managers how to buy, handle, and display their fish to maintain quality and increase retail sales of West Coast fish (*Pacific Fishing* 1980b). In 1979, the Oregon legislature tried to further stimulate domestic markets by making it legal to call fish by different names for marketing purposes. The state renamed rockfish species as “snapper” and sablefish as “butterfish” or “black cod.” To break into the already developed market for “whiting” (in reality a number of species from several different regions), the state renamed hake as “Pacific whiting,” a name change that was approved by the federal government.

The government also actively supported market development by facilitating joint venture operations, which provided a market for domestic fishers by allowing them to sell their catch to foreign processing vessels, mainly from the Soviet Union, stationed within the EEZ. Under these nonequity joint venture arrangements, American fishers would contract with specific Soviet processors to deliver their catch immediately to the processing vessels without ever bringing the fish to shore. After passage of the *FCMA*, local fishers rapidly developed their capacity to catch groundfish, especially Pacific whiting, but coastal processing plants did not as quickly expand their capacity to process groundfish (House 1978). Testifying to Congress about the lack of domestic processing capacity, one fisher stated “We invested money

in this fleet and we invested heavily and we invested in good boats, and none of us did this without attempting to assure that there would be a market. . . . The [domestic] markets have not come forth" (Barry Fisher in House 1980b, 397).

Domestic processors, however, felt that they were put at a disadvantage by foreign competition in the form of joint ventures. The fleet of Soviet factory trawlers had a substantial advantage, especially in the whiting fishery, in which they could rapidly process and freeze the fish and thereby prevent the parasite from turning the fish to "mush" (House 1978; OCZMA 1985b, 52). Further, domestic processors complained that foreign enterprises had an unfair advantage because they did not have to comply with U.S. environmental and labor laws, such as minimum wage (House 1977). Processors claimed that they would never be able to raise the capital to build local processing plants and marketing operations if they faced foreign competition (House 1977, 1978). One processing plant owner testified that "the minute there was consideration by the council of allowing the Russians [sic] to process, the interest . . . on behalf of . . . [Arthur] Treachers . . . [and] McDonalds . . . absolutely died" (Ted Bugas in House 1978, 125). The executive vice president of the National Fisheries Institute (Lee Weddig in House 1977, 213) argued that joint ventures were against the intent of the *FCMA* because they did not "utilize the entire industry—producer—processor—marketer."

The federal government mediated between fishers and processors in a 1978 amendment to the *FCMA* known as the "Processor Preference Amendment" (*Fishery Conservation and Management Act Amendment of 1978*). Combining practical needs for fishery development of "underutilized" species on the one hand with national sovereignty and domestic control over new territory on the other, Congress allowed joint venture fishing to continue, but only if processors were unable to show that they had both the *capability* and the *intent* to process all the fish caught by domestic fishers. Thus, the government gave the processing sector priority to the fish within the EEZ. The federal government again expressed its support for joint ventures in 1980. That year, it placed sanctions on the Soviet Union for its invasion of Afghanistan and curtailed all direct fishing by the Soviet fleet.

However, U.S.-Soviet joint ventures were allowed to continue because of the opportunities they provided to American fishers (House 1980b). As Representative Les AuCoin (House 1980b, 382) argued, "cancellation of the United States-Soviet [joint venture] is an example of an ineffective sanction that is just dripping with symbolism but disastrously off-target." The Council also played a critical role in facilitating joint ventures by making an exception to their non-numerical definition of optimum yield. They set a *numerical* optimum yield for whiting, thus making foreign involvement possible, citing as their rationale that joint ventures would benefit local fishers (PFMC 1982).

Joint ventures were also the main beneficiaries of the "fish and chips" portion of the 1980 American Fisheries Promotion Act, in which the federal government used the desire of other countries to continue fishing in U.S. waters as leverage to open international markets for American fish products. Under this portion of the act, the government used eligibility criteria for international fishing permits to compel countries that wanted to fish in the EEZ to contribute to the development of U.S. domestic fisheries in return. These criteria included the extent to which a country reduced import barriers, bought U.S. fish, invested in the U.S. fishery, or transferred technologies (*American Fisheries Promotion Act of 1980*, 3297–98). Countries such as the Soviet Union saw joint ventures as the best means of conforming to the fish and chips policy, and by the late 1980s U.S. fishers had joint ventures for Pacific whiting with processing fleets from Japan, South Korea, China, Poland, Greece, and Bulgaria, as well as the Soviet Union (WCFDF 1982, 7.6; PFMC 1990).

According to the Council (1992), joint ventures were a critical stage in the overall development of the groundfish fishery because they allowed for a transition between foreign and domestic exploitation of the 200-mile zone (see Fig. 1). Whiting joint ventures started in 1978 with just two fishing vessels, expanding to over forty vessels by the late 1980s (PFMC 1990, 11–32). Throughout their existence, from 1978 to 1990, joint ventures accounted for more than 95 percent of total domestic harvest of whiting (PFMC 1996, 31). Further, joint ventures encouraged fishers to invest in new fishing technologies and vessels used not just in the whiting

fishery, but also in other new offshore groundfish fisheries (*Pacific Fishing* 1981; Shafer 1981). By providing wholesale markets, joint ventures supplied incentive to build new fishing vessels, capital to maintain and upgrade those vessels, and opportunities that fishers used to obtain financing for the new groundfish fleet. All joint venture fishing ended in 1990 when the first American factory trawlers, which had full processing capacity, entered the whiting fishery. Despite the lack of domestic processing capacity up to this point, joint ventures allowed domestic fishers to turn groundfish into a lucrative business.

*Financing fishing* The first vessel built for the whiting fishery, Barry Fisher's *The Lady of Good Voyage*, cost \$1.2 million to build and outfit (House 1980b, 418). The average cost for a new whiting vessel was \$1–3 million, and factory trawlers cost \$18–22 million (WCFDF 1982, 8.6; PFMC 1993, 34). Vessel costs included new technologies such as larger nets, stronger and faster winches to raise the nets, and new fish finding gear, such as sonar and net recorders, that were essential elements of the new offshore fishing enterprises (*Fishermen's News* 1978). Because of these high costs, government financing programs became a major emphasis of fisheries development, both nationally and locally. Access to government-backed credit was a central factor in the growth in the number and type of vessels in the groundfish fishery (OCZMA 1985b); a large majority of Pacific groundfish vessels constructed in the late 1970s were funded through federal programs (House 1980a).

There were several types of government-backed financing available to the fishing industry. Production credit associations (PCAs) provided direct loans for fishing vessels. In addition, the National Oceanic and Atmospheric Administration (NOAA) offered two programs for financial assistance. The Fishing Vessel Obligation Guarantee (FVOG) helped fishers acquire expensive loans for which they would not otherwise qualify by offering federal guarantees on private loans. The Capital Construction Fund (CCF) was a tax-deferral program into which fishers deposited deferred taxes and from which they then withdrew funds for vessel construction or reconstruction. Finally, funds for fisheries research and development were available through Saltonstall-Kennedy grants.

All of these programs were expanded and strengthened after 1976 to promote West Coast fisheries development. In 1971, the government had extended to fishers loans from the PCA, originally targeted only at farmers. In 1978, the loan repayment time for fishers only was extended from seven to fifteen years (*Public Law 95-443 of 1978*). By 1980, PCAs had a greater number of loans with fishers than farmers and were the primary financiers of vessels in the West Coast region (House 1980a, 205; *Pacific Fishing* 1980c).

The NOAA programs were used extensively by groundfish fishers in the late 1970s and 1980s. In 1978, the government altered the FVOG program to make it easier to acquire large loans for catching and processing "underutilized" species by increasing the percentage of the loan that the government guaranteed from 75 percent to 87.5 percent of the total loan (*Public Law 95-257 of 1978*). Congress further amended FVOG in the American Fisheries Promotion Act to include fishery facilities, including land, equipment, and buildings for processors and distributors (*American Fisheries Promotion Act of 1980*). By 1980, NOAA had a backlog of FVOG applications from the Pacific Northwest, and by the late 1980s, 75 percent of CCF agreements were with fishers from Oregon, Washington, and Alaska (*Pacific Fishing* 1980c; PFMC 1992, 5.9). According to the West Coast Fisheries Development Foundation (WCFDF) (House 1981, 219), "when the combined Capital Construction Fund and Loan Guarantee package of benefits was made available to the harvesting sector, it went far toward modernizing and increasing the capacity of our fishing fleet."

Saltonstall-Kennedy grants are given for "research and development projects addressed to any aspect of United States fisheries, including . . . harvesting, processing, marketing, and associated infrastructures" (*American Fisheries Promotion Act of 1980*, 3288). The American Fisheries Promotion Act expanded access to this form of funding by broadening the list of those eligible to receive these grants, from just the federal agencies to include individuals, fishery development foundations, universities, and private organizations. The WCFDF was founded as a conduit for Saltonstall-Kennedy funds, and received approximately \$800,000 per year to "promote and develop seafood" through technical projects such as "exploratory fishing, devel-

oping products, processing equipment development, helping develop markets, and promoting the products of the West Coast industry” (Yuska and Ridlington 1985, 4–5).

## Conclusion

Whereas in the early 1980s the federal government provided funds to build new fishing vessels and promote a new fishery, today—just twenty years later—the fishing industry is seeking federal funds to buy back and decommission groundfish vessels (*Oregonian* 2000). These contemporary problems in the Pacific groundfish fishery cannot be blamed simply on the outcomes of rational individuals acting within an open access or common property environment. While fishers played a large role in the expansion of the Pacific groundfish fishery—making new opportunities real by catching fish—their activities alone did not create this fishery. Rather, starting with the *FCMA* in 1976, the federal government created a national climate of fisheries development that led to regionally oriented development programs. By defining optimum yield, allocating foreign fishing and processing permits, expanding markets, and providing financing for the industry for “underutilized” species, national and regional policies served to contain foreign fishing and create the means by which the domestic groundfish fishery could grow. At the most basic level, this fishery could not have developed without the existence of the state-controlled EEZ. The structure of the fishery—the problems as well as the successes—is fundamentally tied to U.S. fishery policy, which was developed in the context of international focus on marine resources as a source of national economic development. The government dedicated itself to Americanizing the West Coast fishery for what can no longer be called underutilized species.

Even prior to the creation of the EEZ, the territory encompassed by the 200-mile zone had been open to all U.S. fishers. However, it was not until the U.S. launched its Americanization program that domestic fishers entered these waters with the intent of catching groundfish. The growth of this fishery and subsequent problems of overcapitalization, conflict, and overfishing are not explained by the fact that this region of the coastal ocean was managed under an open access regime both before and

for almost twenty years after extended jurisdiction. Access to groundfish on the part of U.S. fishers required much more than access to the territory; access required development of an entire infrastructure oriented toward fisheries exploitation. This infrastructure of laws, regulations, fishing technology, domestic and international markets, funding sources, processing capacity, and so forth required active intervention on the part of the U.S. government, acting with other state, regional, and local agencies. This intervention was carried out to implement political control over marine territory and economic development of marine resources. Fisheries development policy—not the open access property regime—made it possible for fishers to enter and expand the groundfish fishery.

Thus, it is of critical importance that we examine the full implications of the global extension of state jurisdiction over the oceans. The new geography of the oceans, in which coastal states have gained new territory, has created new possibilities for resource exploitation as well as resource management. By defining sovereignty over EEZs primarily in economic terms, extended jurisdiction has not only encouraged individual states to take active control over ocean territory, but has also become an additional incentive to use this territory for domestic economic development. Individual states now play a central role in determining how to use marine resources, even though this role is not always recognized. In the case of the Pacific groundfish fishery, the new national territory and policies designed to control this territory actively transformed a small, nearshore fishery into a large and economically important industry dependent upon the resources of the 200-mile zone.

Attention to the dynamics of state control over ocean space turns away from generalized accounts about the relationship between property regimes and socioenvironmental outcomes. Territorial control, in the form of political jurisdiction of the oceans, is central to this story of fisheries development, but at the same time, the fishery was managed as an open access fishery. That the fishery was open access does not mean that it was devoid of social institutions, cultural norms, political interventions, and so forth. Common property researchers posit the commons as being culturally rich, with diverse customs and political-economic histories. In their empirical work, these researchers have offered

complex, place-based analyses of both successful commons and the ways that state policies, economic development, and the like can disrupt local practices to create socioenvironmental problems. It is precisely because of the richness of this literature on the commons that it is all the more troubling that open access is posited as being devoid of the same type of complexity. When open access regimes are defined as the lack of social institutions and successful cultural norms, theorists fall back on problematic assumptions about the economically rational individual. This "tragedy of open access" places blame for problems on the actions of individuals while obscuring the range of practices that shape and influence resource use.

To identify the causes of problems in resource-use situations, and to develop viable solutions, it is necessary to move beyond generic models of human behavior and property regimes. Instead, it is important to recognize that all types of property relations are complexly situated within a variety of social relations, which together influence access to and use of natural resources. ■

## Notes

<sup>1</sup> In this article, I used the terms "Pacific" and "West Coast" to refer only to the parts of the Pacific Ocean adjacent to Washington, Oregon, and California; this is the common definition in U.S. fisheries management. Alaskan fisheries are categorized separately as the "North Pacific." The term "groundfish" refers to a wide range of bottom-dwelling fish, of which there are over eighty species in the Pacific groundfish fishery.

<sup>2</sup> The 200-mile zone was called the Fishery Conservation Zone until 1983, when President Reagan renamed it the Exclusive Economic Zone to reflect the new international law of the sea.

<sup>3</sup> Like the United States, many other countries unilaterally declared their EEZs before the conclusion of the law of the sea negotiations. For example, by 1977 Canada and the Soviet Union (the U.S.'s fishing neighbors in the northern Pacific) had declared their own EEZs.

<sup>4</sup> The Council made an exception for Pacific whiting, for which an international fishery continued (see the following section on developing markets).

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