Rules of Privatization: Contradictions in Neoliberal Regulation of North Pacific Fisheries

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Recent changes in fisheries regulation in the U.S. North Pacific reveal how neoliberalism is constituted in practice, and the forms that neoliberalism takes when it engages with environmental management and ecological processes. Whereas neoliberalism can be taken as a political economic philosophy that posits that markets, without state involvement, can best allocate resources, the history and practice of neoliberalism show that it is not as unified as it often appears. Analysis of contemporary fisheries policy reveals not only contradictions in neoliberal approaches, but also how those contradictions are shaped by the environmental context of the industry. This article discusses the rationale for neoliberalism in fisheries and the governance changes enacted in the 1998 American Fisheries Act, which privatized the fishery for Alaska pollock by closing the fishery to all new entrants, providing a set percentage of the yearly catch to "cooperatives" of participants, and allowing individuals to lease their shares. Karl Polanyi's notion of the "double movement" provides a framework to argue that even though regulators tout these reforms because they rely on market mechanisms to resolve recalcitrant ecological and economic problems in these fisheries, writing and implementing the act simultaneously involved complex rule making designed to protect the market. This form of neoliberalism results from the history of fisheries regulation, including recent emphasis on cooperative management, and the ecological characteristics of marine fish. Moves to privatize the oceans entail developing distinctive forms of neoliberal practice that uniquely combine private industry and government regulation. Because fish are one of the last great resource commons, neoliberal approaches to fisheries mark a profound geographical transformation in the political economy of the oceans. *Key Words: neoliberalism, privatization, double-movement, fishery policy, Pacific Ocean.*

Neoliberal Fisheries

In the fall of 1998, in a rider to an omnibus appropriations bill, the U.S. Congress made sweeping changes to the fishery for Alaska pollock, a highly abundant fish of the North Pacific Ocean. The primary achievement of this law, known as the American Fisheries Act, was a series of market-based reforms, including privatizing and marketizing (i.e., commodifying) the right to fish and devolving certain allocation, monitoring, and enforcement duties to the industry itself. These reforms are especially significant, given that oceans, and the resources within them, have long been common property, with access open to all. Although privatization of fisheries is not yet globally widespread, over the past two decades, fisheries economists and policymakers increasingly have tried to close access to fisheries by devising new forms of property rights. Privatization of the Alaska pollock fishery is an important step toward enclosure of oceans in general, given that this fishery is the largest single-species fishery in the world, and the U.S. portion is the largest fishery in the United States, with a catch of 1.2 million metric tons (2.6 billion pounds) in 2000 (NMFS 2001b). Because the fishery has such global significance, neoliberal restructuring of this fishery marks an important moment in the shift from public to private control of the North Pacific and, more generally, the world's oceans.

The purpose of this article is to explain these market-based reforms within the larger context of neoliberalism, to analyze contradictions within neoliberal practice, and to show how neoliberalism takes on specific forms when it engages with natural resource industries (see also Mansfield 2004). In broad terms, neoliberalism is a political economic approach that posits markets as the ultimate tool for achieving optimal use and allocation of scarce resources. Increasingly, policymakers around the world are applying such market-oriented approaches in myriad political economic settings and at multiple scales; examples include the shift from welfare to "workfare," privatization and/or deregulation of individual industries (e.g., energy or telecommunications), regional and global free trade agreements, and the structural adjustment programs of the International Monetary Fund and World Bank (for overviews of neoliberal policy, see Overbeek 1993; Peck 2001b; Brenner and Theodore 2002; Chase 2002; Jessop 2002; Peck and Tickell 2002). Although proponents of such approaches rarely self-identify as

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neoliberal, they all share an underlying belief that free markets lead to the best outcomes. Because markets are supposed to work through the dynamics of individual decision making in competitive settings, neoliberal proponents suggest that political involvement in economic activity (e.g., regulation of corporations, support for regional industries or particular sectors, or social protection for the poor) is just interference in an otherwise natural process. The contribution of this article is that it avoids treating neoliberalism as an unchanging force that is applied in different contexts, but instead treats it as a highly variant outcome of conflict and the political process. Through analysis of how neoliberalism is created in the fisheries of the North Pacific, this article addresses how neoliberalism is constituted, how it varies, and why. As such, this article is about both the geographical constitution of neoliberalism and its geographically distinct outcomes, as expressed in the enclosure of oceans and marine resources.

The rest of the article is divided into four main sections. First, I provide background on the fishery, explain the theoretical rationale for privatization in fisheries, and introduce neoliberal reforms in the Alaska pollock industry. Second, I introduce current approaches to neoliberalism, giving attention to the idea of contradictions within neoliberalism as a practice. I focus in particular on Karl Polanyi's notion of the "double movement" and current ideas about de- and reregulation and turn to particularly geographical dimensions of these issues. Third, I then use this framework to analyze contradictions inherent in the 1998 American Fisheries Act, as expressed in highly detailed regulations designed to encourage market mechanisms. Fourth, I turn to an analysis of why neoliberalism in this fishery takes the contradictory forms that it does. I argue that contradictions of neoliberalism in the Alaska pollock industry result from unique features of the fishery, including the history of regulation and management and the biophysical characteristics of fish. Rather than reflecting a generic program of market-based reform, enclosure of the oceans entails developing new and distinctive forms of neoliberal practice.

Privatization of North Pacific Fisheries

The North Pacific Pollock Fishery

The fishery for pollock is one of several important fish industries in the Alaska region (Figure 1); others include fisheries for salmon, halibut, and a variety of species of crab. Fishers and processors have built a large and important industry on these fish resources, and fishing and processing is one of the top industries in the state of Alaska. Especially in isolated coastal areas of the Bering Sea and Aleutian Islands, the fishing industry provides important employment and economic development opportunities (Alaska Department of Community and Economic Development 2004). Whereas the fish industry overall is important, fisheries for individual types of fish are organized very differently. For example, salmon are caught near shore as they return to their native streams, and because fish are individually valuable, it is possible to make a living catching a relatively small volume. Reflecting this situation, the fishery for salmon is composed of many independent fishers who own and operate relatively small vessels. In contrast, pollock are caught in schools offshore and are valuable only in large volumes. Thus, from its inception, the pollock fishery has been dominated by relatively few, large-scale, industrial fishing and processing operations.

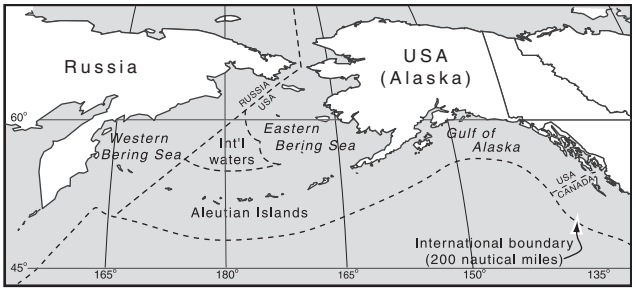

Figure 1. The North Pacific Ocean. This map depicts fishing regions and current political boundaries (dotted lines), including the "donut hole" of international waters that are more than 200 nautical miles from land. The Eastern Bering Sea, Aleutian Islands, and Gulf of Alaska are all part of the United States; the Western Bering Sea (along with most of the Sea of Okhotsk, on the far left of the image), are part of Russia. The Eastern Bering Sea comprises the most productive pollock fishing grounds in the United States.

Although now the U.S. pollock fishery is a large, powerful, and fully capitalized industry, a quarter century ago U.S. fishers were only beginning to target these fish and there was no domestic processing capacity. The rapid growth of this industry over a short time was sparked by the Fishery Conservation and Management Act of 1976, in which the U.S. extended political jurisdiction over the oceans to 200 nautical miles and emphasized domestic fishery development within this new territory (Mansfield 2001b). In extending jurisdiction, the U.S. enclosed as state property the most productive pollock fishing grounds, including the Eastern Bering Sea and Aleutian Islands region.

Until this time, the pollock fishery had been dominated by the Japanese firms that initiated this fishery in the 1960s, using the then new technology of factory

trawlers (fishing vessels with processing facilities on board). Once the U.S. extended jurisdiction over these waters, a central role for the state was to "Americanize" the fishery by phasing out the Japanese fishery and working with the domestic fishers and processors to develop a U.S. industry to replace it (Mansfield 2001b). Although Japanese fish firms had relied exclusively on factory trawlers, U.S. fishery advocates focused first on developing an inshore industry in which local fishers would deliver their catch to land-based processing facilities, which would then export their product to Japan. A U.S.-based offshore sector of factory trawlers developed after the first land-based plants had been built. By the 1990s, this Americanization effort was complete; domestic fishing and processing displaced the foreign industry, and the products of this domestic pollock industry are now sold in both domestic and global markets. One of the ironies of Americanization is that although it is touted as the development of a "domestic" industry, its success relied largely on foreign direct investment, mainly from Japanese and Norwegian firms, in both of these sectors. Further, these development efforts created a sharp divide between the inshore and offshore sectors, and there have been ongoing battles between them, particularly over allocation of the yearly catch. As will be outlined below, the American Fisheries Act explicitly recognizes and is organized around this sectoral division, which is itself the result of combined public and private development efforts.

Even though the pollock fishery is relatively young, it faces both environmental and economic problems. Environmental issues include bycatch (catch of nontarget species or individuals), and interactions between this large fishery and the endangered Steller sea lion, which eats pollock. The main economic problem in this fishery is that it is overcapitalized; there is more than enough fishing capacity to catch each year's total allowable catch.[1] Without regulation, excess capacity would lead to the additional environmental problem of overfishing. To address these, and other, issues, the fishery is actively regulated by the North Pacific Fishery Management Council ("the council"), which is a regional branch of the U.S. National Marine Fisheries Service.[2] The mandate of the council includes managing the fisheries for both environmental sustainability and economic goals such as generating the greatest revenue, providing economic development opportunities for the communities of coastal Alaska, and allocating overall benefits among different interests within the fishing community. Because members of the council represent different portions of the industry, managing for economic goals is often contentious. Until passage of the 1998 act, the council used a variety of traditional management tools. An annual "total allowable catch," based on fish population size and trends, limits total catch to ecologically sustainable levels. Time-space management, in the form of seasonal and area closures, limits total catch over the course of a year, protects populations of fish during their reproductive period, and protects populations that are a key food source for other animals, such as sea lions. Gear limitations, such as regulations about mesh size in nets, reduce the catch of juvenile individuals, and can be important for reducing bycatch as well. Licensing requirements limit the total number of fishing vessels active in any particular fishery.

In this context of combined economic and environmental management, the council, over a decade ago, began to move toward neoliberal reforms. Building on several decades of academic support, especially among economists, for using "rights-based" (i.e., market-based) management of fisheries, the council decided on a long-term plan of "rationalizing" all the fisheries of the North Pacific (see also Mansfield 2004). The term "rationalization" derives from the neoclassical economic concept of "rational" economic behavior, which is defined as that behavior which maximizes individual profit. From this basic idea, proponents of market-based solutions argue that traditional state management has been unable to deal with problems such as overfishing, overcapacity, the "race to fish" (i.e., increasingly short and competitive seasons), bycatch, and unsafe practices such as fishing in poor weather (e.g., Neher, Arnason, and Mollett 1989; Iudicello, Weber, and Wieland 1999). The reasoning is that traditional management does not address the underlying cause of such problems, which is said to be the "open access" nature of fisheries, in which the lack of private ownership supposedly leads to "irrational" behavior and, ultimately, to inefficient use of resources. This approach to understanding resource problems was first articulated for fisheries by H. Scott Gordon (1954) and was then popularized more generally over a decade later as the "tragedy of the commons" (Hardin 1968), which has since become one of the most enduring explanations of environmental degradation. Although the model has been criticized from myriad angles over the past several decades (e.g., Berkes et al. 1989; Ostrom et al. 1999), this approach remains dominant in fisheries management (for discussion and geographical approaches, see Mansfield 2001a; St. Martin 2001; Young 2001). Because fisheries are viewed primarily through this property regime lens, rationalization then means privatization of fisheries through limits on, and at least partial marketization of, access to fisheries. The most prominent of such neoliberal approaches to fisheries

have been "individual transferable quota" programs, in which allocations of total catch are made to individual fishers and firms, which then fully own, and can sell or lease, their quota.[3] Whereas a quota program is currently used in the North Pacific halibut fishery, the American Fisheries Act builds from this general rationale to implement a new form of privatization for fisheries, the specifics of which are outlined below.[4]

The American Fisheries Act

As a political project, the American Fisheries Act involved an interesting mix of national and regional scale activities and was affected by the activities of key individuals. Alaska Senator Ted Stevens was particularly important, in that he wrote the act with contributions from several shore-based pollock processing firms and environmental organizations that were campaigning against factory trawlers. He then attached the legislation as a rider to a general appropriations bill for the entire U.S. government for 1999. Stevens is known for using riders to U.S. appropriations bills to pass fisheries legislation that he deems will assist Alaskan fisheries, as such riders provide a means for side-stepping political debate. Because these riders are attached to much larger laws, they often pass without substantial discussion, and once passed, they become binding legislation that puts an end to ongoing discussions. Using such a rider to pass the American Fisheries Act was a means to restructure the pollock fishery through a variety of privatization and marketization measures, and to do so without involving regulators, most fishers, or fishing communities in the decision-making process. Because this political strategy essentially put an end to contentious debate over the pros and cons of privatization, including who would and would not benefit, Stevens successfully shifted attention from whether privatization should happen at all, to details of implementing it.

There are provisions of the act that are applicable to all fisheries in the U.S., including provisions for eliminating foreign ownership of fishing vessels. In this sense, the act is a continuation of the "Americanization" process, although in the North Pacific, this has the effect of forcing foreign owners of factory trawlers to exit the fishery (selling their vessels to American firms), while allowing foreign-owned shore-based processors to remain in the business, and even expand their operations (see below, on increased allocation of fish to the inshore sector). The majority of the provisions of the act, however, are specific to the Alaska pollock industry, and implementation, including final decisions on many matters, was left to the active political process of the regional council. The three main provisions of the American Fisheries Act, as passed by the federal government, are discussed here; the role of the council is the substantive focus of a later section.

First, the act allocated a set quota (a certain percentage of each year's catch) to each of the three sectors of the fishery: 40 percent went to the offshore sector, 50 percent to inshore, and 10 percent to the motherships.[5] These percentages are calculated after removing 10 percent off the top for the Community Development Quota (CDQ) program, which is designed to support the indigenous communities of coastal Alaska.[6] The set quota means that firms and fishers in each sector know at the beginning of the year exactly how much fish they will be allowed to catch. A similar quota system, by sector, has been in place since 1992, and the division between sectors has been contentious; the quota percentages outlined above represent an increase in the quota allocated to the inshore sector, away from the offshore sector. This quota allocation system gains particular significance when combined with the other measures of the act, outlined here.

Second, the American Fisheries Act allowed the sectors to form "fishery cooperatives," which receive their own quota allocation and can make joint decisions about fishing activities, prices, and so forth. Under this structure, the offshore sector and the mothership sector each form a co-op, while inshore, each of eight processors forms a co-op with the fishing vessels that sell their fish to that processor. For these inshore co-ops, once a fishing vessel has chosen to join a co-op associated with a particular processor, it can only sell pollock to that processor. Within each co-op—one offshore, one mothership, and up to eight inshore—the firms divide their quota among themselves (a form of legal collusion). Once each firm/vessel knows its particular allocation, it can then lease that quota to another member of its co-op, thus encouraging the most "rational" use of fishing capacity. Those who choose not to join a co-op can remain in the "open access" fishery; this is a competitive fishery for the proportion of the total catch that is accounted for by all vessels that join the open access fishery.

Finally, a very important change in the American Fisheries Act is that it closed the fishery to *all* new entrants. Participation in fishing and processing for Alaska pollock is limited to those vessels and firms that were participants in the mid-late 1990s, and these vessels and firms are individually named in the act. Because it is vessels, not individuals, that are named, individuals can enter the fishery by buying an existing pollock vessel and its permits, but only if someone else is willing to sell. Not only to limit the number of vessels, but actually to

reduce it, the act also removed nine factory trawlers from the fishery altogether.

These measures of the American Fisheries Act enact a particular form of neoliberal practice. By closing the fishery to new vessels and distributing the quota to this closed class of owners, these measures privatize access to fish. The federal government took what was a public good and gave it to a small and clearly defined group of private firms and individuals. By creating co-ops that distribute quota among their members, these measures decentralize decision making. Allocation and enforcement of that allocation is the purview of the firms that constitute the co-ops. By giving each entity the right to lease this new form of private property, while limiting entry to the fishery to those who can buy an existing pollock vessel, these measures marketize access to fish. Although they cannot sell quota to simply anyone, firms now have a new form of quasi-property with which they can make money by *not* going fishing. For example, the seven fishing vessels that formerly participated in the offshore sector by delivering additional catch to the factory trawlers, now lease their quota to those factory trawlers, thus making millions of dollars for not fishing.[7] Combined, these measures radically reorganize the relationships among businesses and constituencies in this fishery, and, by enclosing access to fish, these measures mark a major transformation in the geography of fishing industries and control over the North Pacific. In doing so, these measures also mark a fundamental transformation in control over the oceans more generally.

Neoliberal Contradiction: The "Double Movement" of Reregulation

Neoliberal Variation

The specific measures of the American Fisheries Act make it clear that neoliberalism can take on particular forms in different contexts, and particular forms of neoliberalism are both historically and geographically specific to a given situation. The specificity of restructuring of the pollock fishery raises more general questions about how neoliberalism—as both philosophy and practice—is constituted and how it varies. To address this issue, this section of the article first outlines the history of neoliberal thinking and then discusses Karl Polanyi's analysis of the "double movement" of de- and reregulation. These existing perspectives are quite useful for understanding contemporary neoliberalism, yet they are fairly ageographical in their approach. In addition, there is now a growing body of literature addressing geographical dimensions of neoliberal restructuring, including both spatial variation and scalar dynamics. This article aims to contribute to this focus on neoliberalism as an inherently geographical process, but to do so by turning in a somewhat different direction. This analysis emphasizes ways that reforms were based on the geographical context of the North Pacific pollock fishery and, in particular, on ways that neoliberal restructuring is influenced by the socionatural relations of this fish industry.

Whether seen as a sound political economic philosophy or an ideological project, it is easy to treat neoliberalism as a unified and coherent body of thought that is now ascendant around the world. The history of neoliberal thought, however, including its relationship to late 18th- and 19th-century liberalism, shows that neoliberal thinking is actually quite diverse, and has evolved significantly over time (Burchell 1993; McNally 1993; Overbeek and van der Pijl 1993; Rose 1993; Bonanno 2000). Nineteenth-century liberalism was not just about the market, but also about the unity of society and the state around the idea of the free individual citizen. Because of this, liberal thinkers called not only for laissez-faire approaches, but also for some state action as a means to improve individual and social conditions. According to David McNally (1993, ch.2), Adam Smith, who is best known for his idea of the "invisible hand" of the market, was actually a supporter of the right of workers to "combine" (unionize) and even tacitly supported "the poor laws." In neoliberalism, this assumption of society and ethical responsibility is abandoned, replaced by the sense that state intervention in economic affairs, even in the name of ethics and moral behavior, inevitably has a negative effect on economy and society overall (see Hirschman 1991).

In addition to shifts in emphasis between liberal and neoliberal philosophies, there have been a number of different neoliberal approaches.[8] In particular, in the postwar period, theorists from both German and American schools of thought argue that government intervention in market processes is inherently dysfunctional. But in the German school, markets and competition are *not* natural features of human existence; instead, the political role is to provide the conditions for market development, thus facilitating freedom and democracy. American theorists, on the other hand, generally treat the market as the ultimate expression of human social behavior, such that all social and political activity is to be evaluated in terms of market concepts. Whereas the German liberals "pursued the idea of governing society in the name of the economy, the U.S. neo-liberals attempt to re-define the social sphere as a form of the economic domain" (Lemke 2001, 197).

One lesson of this variety and evolution of thinking is that neoliberal ideology is not as complete or coherent as it might seem. It is not simply a philosophy that can be applied in real world situations; the reality of neoliberalism does not exist simply in its abstract ideals, but also in the varied forms that it takes in geohistorical practice. In this vein, the idea of *contradiction* has been a major theme of recent scholarship on neoliberalism, particularly contradiction between what is called deregulation and the active role of political intervention in creating and maintaining deregulation. An important finding of recent scholarship is that neoliberalism does not actually free preexisting market forces from state or social intervention, but instead is a political project that creates and naturalizes features of the contemporary economy, such as transborder markets and flexible labor, all of which lend themselves toward supply-side political economic arrangements (Peck 2001a). Although proponents of neoliberalism often treat market reforms as the necessary and inevitable response to "external" forces such as the globalization of capital (Held et al. 1999), recent research has shown that political activity, including that by the state, plays an active role in creating and facilitating these forces in the first place (O'Neill 1997; Cerny 1999; Glassman 1999; R. A. Walker 1999). Even the idea of "freedom," at the very heart of neoliberal philosophy, is created within neoliberal practice, not released by it. Whereas neoliberal proponents link "free" markets with political and personal "freedom" (Friedman and Friedman 1980, 1982; Hayek 1944, 1960), recent scholarship has found that the idea of freedom is not only a product of liberal thinking, but itself demands certain kinds of self-discipline to exist (Miller and Rose 1990; *Economy and Society* 1993; MacKinnon 2000; Lemke 2001; Wiener 2001).

Polanyi's "Double Movement"

To understand these basic contradictions, it is useful to turn to Karl Polanyi's analysis of liberalism in *The Great Transformation* (Polanyi [1944] 1957). Polanyi examines the rise of liberalism and laissez-faire political economy at the beginning of the 19th century and traces the relations among state, economy, and society up to World War II. He argues that liberalism entailed no less than the separation ("disembedding") of "the economy" from the rest of society. He also finds that for every move toward free markets and economic liberalism, there is a concurrent counter-movement for social protection. Polanyi calls this the "double movement." This double movement is often interpreted as the opposed actions of two different groups of people, organized along class lines: merchants and capitalists who benefit from free trade, and the landed and working classes who do not and thus demand protections in the form of controls on economic activity (132–33). In contemporary scholarship, this aspect of the double movement is cited in terms of the possibilities for democracy and the importance of social and environmental movements (see Gill 1995a, b; Baum 1996; Bernard 1997; Birchfield 1999; Low 2002).

Review of Polanyi's definition of the double movement shows, however, that the countermovement against free markets is not just about protections for certain groups of people and the environment. Polanyi's text does support interpretation of the double movement as a class-based dynamic, but it also argues that the double movement is about protection for the market itself: "the principle of social protection aim[s] at the conservation of man [sic] and nature *as well as productive organization*, relying on the varying support of those most immediately affected by the deleterious action of the market—primarily, *but not exclusively*, the working and the landed classes" ([1944] 1957, 132, emphasis added). From this perspective, the double movement is also about the ways that the market system cannot survive by itself, such that measures for "protection" (i.e., political regulation) are the result of orthodox liberal ideology and practice. An important dimension of his argument is that market society is not natural in the sense that it preexists political intervention. Rather, in his discussion of 19th-century liberalism, Polanyi quite clearly articulates the various ways that states were involved from the start in formulating markets and encouraging market society and concludes that "there was nothing natural about *laissez-faire*; free markets could never have come into being merely by allowing things to take their course . . . *laissez-faire* itself was enforced by the state . . . The road to the free market was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism" ([1944] 1957, 139–40).

This emphasis on the importance of the state for instigating what are supposed to be free markets and spontaneous trends is not, in itself, the double movement. The double movement articulates something more than either the necessity of opposition politics to protect people and environments hurt by the market or that the state was important in bringing liberalism into practice. The idea of the double movement implies that market society also requires certain kinds of ongoing political and social regulation and that this regulation is often supported, and even demanded, by those in support of liberalism in principle. Polanyi argues that a "paradox" of liberalism is that "while *laissez-faire*

economy was the product of deliberate state action, subsequent restrictions on *laissez-faire* started in a spontaneous way. *Laissez-faire* was planned; planning was not" ([1944] 1957, 141). He shows that, from the 1860s on, even proclaimed liberals worked for various regulations to keep the "self-regulating" market system running. Interventionism and the market economy are not opposed, but are necessary complements. A fully functioning, free-market system, with no involvement from "outside" social and political interests is, according to Polanyi, a dangerous myth, and the protectionist, interventionist reaction involved in the double movement is a response to "the peril to society inherent in the utopian principle of a self-regulating market" ([1944] 1957, 150). In this sense, the double movement is not about fundamentally challenging the market system, but it is about altering the market system in order to maintain it. As Fred Block puts it, Polanyi's insight is that "the vitality of capitalism has always rested on a particular mix of markets and limitations on markets" (1991, 86).[9]

It seems that liberal, market-oriented philosophy is inherently fraught with what appears to be a basic contradiction, in that proponents posit a separate realm of market forces that can work independently from social and political institutions, while at the same time, the free market is dependent on those institutions. Recent empirical work on neoliberal reforms of the past quarter century is replete with evidence of the contradictions of neoliberalism, including, for example, increased economic and social risks in neoliberal environments (Ericson, Barry, and Doyle 2000; Gwynne and Kay 2000; Wiener 2001) and the collective behavior (e.g., "herding") of supposedly independent decision makers such as investors (Harmes 1998). Based on a diversity of particular contradictory practices, many scholars have concluded that "deregulation" is a misnomer and is perhaps better seen as "*re*regulation," with new regulatory forms designed to support markets, national industries, individual sectors, and so on (see, especially, Vogel 1996). This argument about reregulation goes beyond the perspective that states have been important in bringing neoliberalism to fruition; this would be an explanation of deregulation, which is clearly the purview of states, in that only states can dismantle their own laws. Arguments for reregulation, on the other hand, point to the ways that free markets actually require certain kinds of political involvement to be sustained.

Geographical Approaches

Whereas much of the work on variation and contradiction within neoliberalism has given more attention to historical trajectories than to geographical dimensions, of increasing interest has been the ways that neoliberal practices of reregulation have geographical forms and influences. Some scholars posit this geography as the difference between nation-states, such that evidence of differences in the form of neoliberalism between states is taken as evidence of the continued strength and importance of government action for neoliberal practice (Vogel 1996; Hay 2000). To avoid reifying any particular scale as embodying politics, government, or institutional restraints on the market, other scholars have given their attention to ways that reregulation and practices of neoliberalism involve a rescaling of the relations of governance and economic activity (Snyder 1999; Brenner 2000; MacKinnon 2000; Wiener 2001; *Antipode* 2002; Peck 2002). Rescaling is largely seen to involve a shift from emphasis on the national scale of regulation, to regulation at both sub- and supranational scales.

My goal in this article is to examine geographical dimensions of neoliberal contradictions by analyzing the particular forms contradictions take when neoliberalism confronts environmental management and ecological processes. As scholars in agro-food and agrarian studies have argued, analysis of primary sector activities can yield important insights into political economic processes more broadly. Research on articulation of agriculture and other resource industries with manufacturing and services reveals that capitalist activity is much more diverse than is generally recognized. In particular, primary sector industries are not simply residual—vestiges of an earlier era—but instead remain relevant today. Social relations surrounding resource extraction and agriculture contribute to multiple trajectories and forms of agrarian transition and can lead to distinctive geographies of industrialization (Watts and Goodman 1997; Hart 1998; R. A. Walker 2001). Not only must scholars take care in applying general theories of economic activity to agriculture and resources, but paying attention to the ways that agriculture and resources differ from manufacturing or services can also reveal shortcomings in theoretical approaches to industry, especially those that treat industrialization and capitalism as relatively uniform processes (Goodman and Watts 1994; Page 1996). Thus, attention to neoliberal approaches to natural resource industries can generate new insights about neoliberalism as geographical political economic practice.

Existing research on neoliberalism and environment has focused primarily on market-based solutions to environmental problems, especially related to pollution (e.g., markets for pollution credits). In this area, proponents of "ecological modernization" examine the ability of capital to be reflexive and thus evolve its own,

market-efficient solutions to environmental problems (e.g., Murphy 2000; Spaargaren 2000; *American Behavioral Scientist* 2002). Although it has received less attention, the political economy of natural resources, as well, has been marked by neoliberal approaches, particularly in the form of privatization of resources and access to them. Analysis of liberalization in mining, for example, has tried to connect the processes that have led to increased foreign direct investment in developing countries with both ecological and socioeconomic changes (Bridge 1999, 2002). Research on privatization and marketization of water and water provisioning has shown that ecological dimensions of water affect privatization, such that privatization itself can take multiple forms; further, full privatization or full state control are not the only options, and real cases involve complex mixes of public and private control (Bakker 2002; Haughton 2002; see also Laurie and Marvin 1999; Loftus and McDonald 2001). While there is very little research explicitly addressing neoliberal approaches to fisheries, recent work on Latin America has shown that neoliberal policy reforms have encouraged unsustainable exploitation of fish resources (Schurman 1996; Ibarra, Reid, and Thorpe 2000). These studies, however, have examined the effect on fisheries of more general neoliberal reforms, such as free trade measures and financial deregulation, without examining neoliberal approaches to fisheries policy itself. As one of the last great resource "commons," marine fisheries are not just one sector among many that are affected by a general neoliberal turn to the market. Instead, neoliberal approaches to fisheries themselves mark a profound geographical transformation in the political economy of the oceans.

Reregulation and the American Fisheries Act

The emphasis of this section is on ways that regulatory reforms of the Alaska pollock industry rework the contradiction between neoliberalism as freedom of the marketplace and the realities of reregulation to protect markets. Drawing on Jamie Peck's suggestion that "states are increasingly adopting the role of market 'manager'" (2001a, 445–46), I focus on the ways that, in their combined and separate roles, both the federal government and the regional council manage markets. Polanyi's double movement of deregulation and reregulation is particularly relevant because this case is not just about protection for those who might be injured by neoliberal reform, nor is it just about the ways that the state is involved in creating competitive markets where none existed before. Instead, the actions of the federal government and the council, in writing and implementing the American Fisheries Act, show that even existing economic practices are fragile and require protections. The geographical production of neoliberalism involves a double movement comprising shifts toward privatization and marketization, accompanied by complex forms of regulation designed to facilitate market competitiveness.

Given that proponents of neoliberal, "rights-based" fisheries management argue that problems in resource industries cannot be addressed without assigning property rights, it might be expected that rights-based management, such as the cooperative structure introduced in the American Fisheries Act, would replace traditional, "command and control" regulations; however, despite the rhetoric of "rationalization" as a solution to past failures, none of the traditional regulations have been dismantled for this fishery. There are still seasons, area closures, gear limits, and so on. Indeed, in a series of separate management decisions, there has been a recent increase of this type of regulation in the face of concern and controversy about the interactions between the pollock fishery and the endangered Steller sea lion.[10] A key point about this regulatory reform, then, is that rather than reducing regulation, co-ops and allocations are yet another layer of that regulation.

Not only do co-ops and allocations not replace existing regulations, but linked to the rationalization plan of the American Fisheries Act is a complex mix of intensely detailed regulations, which are the focus of this analysis. These regulations are designed both to protect the competitive market in related, non-pollock fisheries and to manage the power dynamics among different entities within the pollock fishery, especially those between inshore processors and independent fishers. Some of these regulations were outlined in the act itself, while others were left to the North Pacific Fishery Management Council. In a process that took over two years, thousands of pages of analysis, and countless hours of public testimony and debate, the council painstakingly defined every ambiguous term of the act, quite aware that every nuance of definition could shift power and advantage from one group to another. It is in this manner that neoliberalism in the Alaska pollock fishery involves the double movement of marketization dependent on government regulation. I provide here a discussion of two dimensions of this double movement, focusing first on rules governing how those in the pollock fishery can participate in other fisheries and, second, on rules governing inshore co-ops, including their formation and how catch is allocated to them. It is neither possible nor interesting to convey every decision relating to these (or

other) issues; instead, I use examples to give a sense of the type of decisions and provide a few more-detailed examples to indicate the level of detail involved in these regulatory actions. (See Table 1 for a summary of the decisions discussed in this article.) The dynamics involved in this suite of regulations show, in short, that rationalization requires rules.

The analysis presented in this section draws on written documents pertaining to the implementation of the American Fisheries Act and my attendance at fishery management meetings. Documents primarily include those available from the North Pacific Fishery Management Council and the National Marine Fisheries Service.[11] I also attended several meetings of the council in 1999–2000, at which implementation of the American Fisheries Act was a major topic. At these meetings, I witnessed debate among the council members, listened to testimony from the public (mainly those in the fishing and processing industry), and spoke informally with others. Whereas the documents provide information about the scope of decision making, the formal process through which decisions were made, and final regulations, by attending the meetings, I learned how debate was carried out, the kinds of issues and concerns raised in discussion, and the levels of detail that went into each decision.

Protecting the Competitive Market with "Sideboards"

Because individual vessels and firms are generally active in fishing for and processing more than one species of fish over the course of a year, creation of pollock co-ops has the potential to affect the variety of other fisheries in the North Pacific, including those for other fish (known as "groundfish") and for a variety of species of crab. First, through leasing their allocation, individual firms can choose to reduce or even stop fishing for pollock altogether. These firms can then be more active in other fisheries, while making money for not fishing for pollock. Further, even without leasing, the allocation agreements mean that firms no longer have to "race" for pollock, fearing that someone else will get to them first. Instead, each firm can plan more carefully and spread its fishing activity out over both time and space, which also frees pollock fishers to be active in other fisheries. In sum, by freeing pollock companies from competitive pressure in the pollock fishery, the American Fisheries Act potentially gave these companies a competitive advantage in other fisheries in which these companies are active.

To protect the non-pollock companies that could be harmed by this restructuring, the act itself contains

Table 1. Forms of Double Movement in the American Fisheries Act: Examples of Decisions Made by the North Pacific Fishery Management Council

Form of Double Movement	Goals	Regulatory Decisions
"Sideboard" limits: Use regulation to protect competition in other fisheries	Use a "catch history" formula to limit pollock firms' activities in other fisheries	Varied the formula for catch history by sector, region, type of catch, etc. Altered the formula for calculating both individual and total catch history Created exemptions from limits
	Manage and choose levels at which to apply limits	Harvesting sideboards: Chose to apply as a sector aggregate while requiring co-ops to develop sideboard rules Processing sideboards: Chose to apply to individual firms at the "entity" level (i.e., horizontally integrated firms)
Co-op rules: Use regulation to facilitate market behavior	Entice fishers to join and remain in co-ops	Reduced fish available to fishers opting for the open-access alternative Adjusted catch history to shift allocation among fishers Maintained requirement for fishers to join the open-access fishery for a year before switching co-ops
	Encourage leasing	Allowed fishers to temporarily leave the fishery with the option of later rejoining their co-op Allowed leasing across, as well as within, co-ops

measures, known collectively as "sideboards," that explicitly limit those in the pollock industry from expanding operations in any of these other fisheries beyond the extent to which they participated in the years leading up to the 1998 act. The basic mechanism stipulated in the act is to calculate a "catch history" (calculated from catch and/or processing quantities in 1995–1997) on which to base limits for current and future fishing and processing activities. This mechanism restricts firms to their past behavior, thereby limiting their ability to respond to market conditions, changes in technology, innovations in business management, and so on. In essence, to protect competition, the Act places limits on the extent to which market mechanisms influence activity in these industries.

In addition to this basic framework, the council made a series of modifications to general sideboard rules. In this process, the council tried to manage the relationship between flexibility and control through carefully defining terms and rules. First, the council actively varied how catch history is calculated and to whom it actually applies. Definitions of catch history vary for different parts of the overall fishing industry: between catcher processors and catcher vessels; between groundfish and crab; between harvesting and processing; and between the Gulf of Alaska and the Bering Sea/Aleutian Islands regions. The council also changed the formula from which the history is calculated, altering both what to count as catch by pollock firms (the numerator of the proportion) and what counts as total catch (the denominator).[12] For example, for groundfish catch history, they reduced the amount of fish available to the pollock firms by not counting fish that had been thrown away at sea, and thereby gave more protection to the non-pollock fleet. The council also created sideboard exemptions, which protect a few individuals whose primary fishery was not pollock, but who would have had to abide by pollock sideboard rules nonetheless. To give a sense of the details involved in such rule changes, vessels less than 125 feet in length that caught less then 1700 metric tons of pollock from 1995–1997 and that made at least thirty landings of Pacific cod in the Bering Sea/Aleutian Islands, or forty landings of all groundfish in the Gulf of Alaska, can be declared exempt from sideboards altogether. Just as the point of sideboards was to protect competition and facilitate economic activity, the council decided that creating exemptions to the sideboards could also work to protect competition and facilitate economic activity.

Second, to protect competition within the industry, the council altered the way that both fishing and processing sideboards are managed and applied. For fishing, the Act specified that sideboard regulations should apply in the aggregate at the level of the sector. That is, the catcher processors as a group and the catcher vessels as a group would each have a total sideboard amount for which individual vessels would then compete. Another option was to allocate sideboard shares to the co-ops, thus further devolving allocation and enforcement activities. The council chose a combined approach in which they manage the allocation as a sector aggregate, while also requiring that each co-op design its own management plan for limiting the sideboard catch of its members to their share based on catch history.

For processing, deciding how to apply sideboard limits entails deciding whether a fairly small group of facilities is affected, or if the rules affect multiple facilities connected through horizontal integration. Without going into the range of options and myriad details accompanying each, a brief discussion of two options at either end of a spectrum of choices gives a sense of the complications and issues at stake.[13] One option was to apply sideboards to all processors in aggregate, but to include only pollock facilities, not the facilities of parent companies or larger "entities" (see below). Because this configuration places limits only on individual facilities that physically process pollock, non-pollock processors feared that pollock processors could evade regulations by using subsidiaries, holding companies, and the like, to shift activities and thus avoid restrictions. Another option was to apply limits to individuals at the entity level, where entities are defined via a "10 percent Ownership rule" to include all facilities that are connected through horizontal investments of at least 10 percent.[14] This configuration not only limits the activities of individual firms by applying the rule to these individuals rather than all firms in aggregate, it also casts the net most widely as to what counts as a firm: any facility that is linked to any pollock facility through any number of ownership linkages has limits placed on it, even if those ownership linkages are indirect and never amount to more than a 10 percent stake in the company or facility. In its analysis of a wide range of options, the council found that only applying sideboard limits at the entity level provided protection to the non-pollock processors, while applying them to individuals provided the pollock processors the most individual flexibility (because they are freed from competition), without placing the non-pollock processors at risk. The council thus chose the second option discussed here, which most affects the activities of large, horizontally integrated firms.[15]

In sum, sideboard restrictions in general, and the specific versions chosen by the council, work to protect those who may be harmed by the windfall given to

pollock fishers and processors. These protective regulations explicitly restrict the competitive market to protect the competitive market. This is the double movement at work.

Facilitating Market Behavior with Rules on Cooperatives

In another set of decisions, the council developed rules governing how inshore co-ops are formed and how catch is allocated among them. Because the American Fisheries Act gives fishers the ability to opt out of the co-op system by remaining in the open-access fishery, there was the potential that only the catcher-processor and mothership sectors would be operating under the new "rational" market-based model, while the inshore sector would remain an "irrational" open-access fishery. The problem is that co-ops were highly controversial among fishers, because the co-ops could potentially alter the power relationship between fishers and processors, including the ability of fishers to retain their independence and bargain for prices. Thus, the council used rules and definitions that manage the power dynamic between fishers and processors to encourage co-op formation and thereby facilitate privatization and marketization.

First, the council addressed this situation by further altering the definition of "catch history." To make open access less enticing to fishers, the council changed the definition of total catch (the denominator of the catch history proportion) from all catch of pollock, to only catch by those vessels that were later certified under the act to catch pollock. This new definition reallocated to co-ops what had been a de facto open access reserve of 4 percent of the fishery; in 2001, after the change of rules, the open access sector had only 0.39 percent of the inshore allocation (NMFS 2002, 4:119). Thus, fewer fish are now available to those vessel owners who decide not to join a co-op. To make co-ops more enticing to fishers, the council adjusted catch history to take into account the needs of fishers who had diversified strategies (e.g., switching fisheries year to year), or who had delivered fish to offshore as well as inshore processors. The new definition of catch history counts only the best two of three years prior to the act, and it compensates vessels for catch that was delivered to offshore processors.

The council declined, in a highly controversial decision, to make one further change that would have made the co-ops yet more enticing to fishers. As defined in the American Fisheries Act, 80 percent of "qualified" vessels have to join a co-op for it to exist, where "qualified" is defined to mean all those vessels that delivered the majority of their catch to that processor in the previous year. In other words, fishers are obligated to join the co-op associated with the processor to which they sold most fish in the year prior to co-op formation. To switch co-ops, they have to go into the open access fishery for a year, and during that year sell most of their fish to the processor whose co-op they wish to join. As fishers are therefore obligated to deal primarily with a single customer, they do not have much negotiating power for prices or other conditions. Seeing this requirement as providing processors with inordinate power in the fisher–processor relationship, a group of fishers presented the council with an alternative proposal, which essentially eliminated the definition of "qualified catcher vessel" altogether: instead of joining the co-op to which a vessel delivered most of its catch last year, fishers could change co-ops at will, without spending a year in open access. In the end, the council did not adopt this change, though they did leave open the option to do so in the future. This does not mean, however, that the council did not regulate; the choice here was not between rules or no rules, but rather over which rules would apply. The rules they chose are actually more involved than those proposed by the fishers, which would have allowed individual fishers and processors to negotiate their relationship.[16]

A second set of decisions was designed to encourage leasing, which is one of the main market mechanisms upon which this form of rationalization relies. Whereas the council declined to alter the definition of "qualified" to benefit fishers, they did alter it to encourage fishers to consider leaving the fishery, if only temporarily. As written into the act, the requirement that a fisher join the co-op to which they sold the most fish in the previous year meant that, to retain their ability to fish for pollock in the future, fishers had to make at least one delivery of pollock every year (and sell that pollock to their co-op processor). Given this definition, some vessel owners might be unwilling to leave the fishery because they would then be unable to return at some point in the future. The council changed the definition of "qualified," so that now "inactive" vessels can qualify for the co-op to which they delivered most pollock in the last year they fished for pollock, rather the last calendar year.

Additionally, one of the last major decisions the council made toward implementing the American Fisheries Act was a new amendment that would allow vessels to lease their allocation not only to other fishers in their co-op, but to fishers in other co-ops as well. In other words, specific levels of allocation were made even more transferable and open to market mechanisms. Allocation is still not fully transferable, nor is it a fully marketable right given to individual fishers. Allocation to individuals is decided within the co-op, and even under these

new rules, the processor associated with the fishers' co-op would need to give their permission before such a transfer could take place. Despite these limitations, according to the council, "allowing inshore vessels to lease quota to vessels that are members of other inshore cooperatives and basing cooperative qualification on the last year fished, as opposed to the previous fishing year, should provide greater flexibility to members of that sector to retire vessels and result in more leasing. Overall, the AFA has provided the tools and incentives for the [Bering Sea/Aleutian Island] pollock fleet to improve their fishing practices by ending the race for pollock" (NPFMC 2001, xi).

In sum, the protections offered by the American Fisheries Act itself, and subsequently by the council, were designed to address the aftereffect of privatization, in which federal legislation gave the largest fishery in the United States to a small group of fishers and processors. But these protections for those negatively affected are also economic incentives; they are incentives to "rationalize" practices within the pollock industry and to maintain the competitive market system in other fisheries of the North Pacific region. As Polanyi's double movement emphasizes, the market system depends on getting the rules right. It is important to emphasize that in all these cases in which the council made particular choices, it is not that they chose between social engineering by the state or letting the market run itself. Instead, they chose under which rules the market would work. A truly "free" market with no government involvement was not an option. Thus, the "contradiction" is that this neoliberal model of market reform involves micromanaging the dynamics of power and competition among firms, sectors, and the different fisheries of the North Pacific, all in the name of protecting the competitive, market context.

Socionatural Relations of Enclosure of the Oceans

This section of the article addresses the question of why neoliberal reforms took the contradictory form that they did in the North Pacific. Given the intense level of rule making, why turn to co-ops, allocations of total catch, and leasing, rather than designing some other type of privatization and market mechanism? If the goal is to "rationalize" the pollock fishery—that is, use market mechanisms to optimize efficiency and allocate a scarce resource—why not actually create a "free market"? Here I show that both the social relations of resource management and the biophysical context of fisheries help explain the particular geographical form of double movement in the North Pacific pollock fishery. Resource extraction, especially for biological resources such as fish or forests (but also many mineral resources), stands out from other economic sectors in that business decisions are considerably constrained by state environmental regulation pertaining to inputs and locations in addition to that pertaining to outputs (i.e., pollution). The amount of fish caught or the area in which fishing occurs is determined not only by company managers (based on the multiple explicit and implicit factors that go into such decisions), but also by officials associated with state environmental agencies. Thus, questions about the structure of resource industries, and the particular forms of economic practice associated with them, cannot be divorced from debates about resource management or from the biophysical characteristics of the industry.

Cooperative Privatization

Just as the rationale for market-based reforms arises directly out of debates about proper resource management as they manifest in the "tragedy of the commons" model of explaining environmental degradation, the distinct forms of neoliberal privatization pursued in the North Pacific pollock fishery are also shaped by other themes in natural resource management. In particular, I suggest here that the trajectory of "rationalization" in the American Fisheries Act is consistent with emphasis on local, participatory, cooperative forms of resource management (see also Mansfield 2004). "Co-management" entails resources users and state agency officials sharing responsibility for information gathering, decision making, and enforcement (Jentoft 1989, 2000; Pinkerton 1989; McCay and Jentoft 1996; Sen and Nielsen 1996; Singleton 1998; Pomeroy, Katon, and Harkes 2001). This approach seems to be quite different from, or even opposite to, market-based approaches. The rationale for market-based approaches is that they solve the tragedy of the commons, whereas the rationale for co-management is that it is an extension of the "benefits of the commons" (Berkes et al. 1989), in which resource users are able to collectively manage themselves. While acknowledging that cooperative and market-based approaches are not mutually exclusive, scholars generally treat the two as quite different types of regulatory reform for natural resources (Dubbink and van Vliet 1996; McCay and Jentoft 1996). Despite what seem to be very different analyses of and solutions to the problems in fisheries and other resources, however, cooperative and neoliberal approaches do share common themes and assumptions. In particular, both emphasize decentralization

and devolution of decision making and enforcement power as alternatives to faulty, top-down, state mandates.

The North Pacific pollock fishery shows that these connecting themes are quite relevant. Cooperative management and the idea of participatory decision making can be used to justify and legitimize neoliberal, market-based reform. A rhetorical linkage makes "co-operative" decision making among firms sound like "cooperative," democratic, participatory management instead of like collusion. In addition, the council justifies the co-op structure not only as a way of implementing market instruments, but also as itself a type of cooperative management. The basic design of these co-ops includes mechanisms for devolving decision-making and enforcement power to "user groups" (industry) while retaining a role for state management. That the council sees these moves toward privatization and rationalization as a form of co-management is made explicit in the official analysis of alternatives for implementing the American Fisheries Act. The council's preferred alternative (encompassing all the modifications and additions discussed above) "would provide a *co-management approach* to AFA implementation under which [the National Marine Fisheries Service] would manage pollock quotas at the sector level and manage catcher vessel and catcher/processor sideboards as fleet-wide aggregates. Cooperatives would be responsible for managing fishing activities at the co-op and individual vessel level" (NMFS 2002, 2:19, emphasis added). Not only does the council treat this plan for rationalization as a form of co-management, but so have several academic researchers, who tout the co-ops as good examples of "community-based and cooperative fisheries" (McCay 2001) and as evidence of the development of new "common property institutions" in the North Pacific groundfish fisheries (Holland and Ginter 2001).

In describing the co-op structure in such terms, both the council and these common property scholars treat the market-based reforms of the American Fisheries Act not as moves toward neoliberalism and privatization, but as moves toward increased community control over the resources of the North Pacific. Yet, while fishery "co-ops" may sound like a way of bringing "the community" into management practices and decisions, in practice, the relevant community rather narrowly means just the resource users themselves, that is, the pollock fishing and processing industry. "Community" is the community of firms, rather than, for example, the wider set of groups or individuals within the Alaska coastal region that might have an interest in how this fishery operates.

Further, while some of the reforms do incorporate aspects of "co-management," to see these regulatory reforms in terms of community control both obfuscates their neoliberal aspects and misses the particular political process that interlaces cooperative management with neoliberalism. The council process can give legitimacy to neoliberal reforms. The membership of the council and its various advisory bodies comprise individuals from private industry, academia, and nongovernmental organizations, as well as state and federal government agencies; as such, these councils have been called a form of cooperative management. In creating cooperatives through national legislation, however, federal policy makers bypassed the cooperative management process of the council, instead approving the act in a top-down, nonparticipatory manner; they then left the messy process of reregulation to the council and its participatory process (see also Criddle and Macinko 2000). This neoliberal reform involved a particular scalar dynamic of governance that gives privatization a cooperative dimension. Graham Harrison (2001) has termed conjunctions such as this "liberal populism," a free-market approach that uses populist discourse of participation and community. In this case, liberal populism is cast as "cooperative privatization": the pollock co-ops seem to comprise a populist move toward participation and co-management that is conjoined with neoliberal practice in the form of enclosure of public fisheries in a new form of marketable property.

Privatizing Access: The Significance of the Biophysical

Another important factor for understanding why neoliberal reform might involve intense regulation is the biophysical context of fisheries. The importance of attending to biophysical relations has been highlighted recently by agro-food and resource scholars, who have suggested that economic practice is not structured solely by the logics of accumulation, but is also influenced by the particular biophysical conditions (e.g., seasonality, fixity of location, or biochemistry) of the resource and its environment.[17] One way in which the significance of the biophysical is conceptualized is in terms of the ways natural processes present barriers to economic activity. Capitalists then try to overcome these barriers through technical and social innovations that lead to the appropriation and substitution of natural processes by industrial ones (e.g., chemical fertilizers and bioengineering) (Goodman, Sorj, and Wilkinson 1987; Goodman and Redclift 1991). Recently this view of barriers and obstacles has been turned around to see such constraints, instead, as opportunities, as biophysical properties of resources and agricultural processes create

new possibilities for economic innovation and investment (Henderson 1998, 1999; W. Boyd, Prudham, and Schurman 2001). "Natural processes are both invitation and barrier to capital . . . [There are] crucial ways in which capital is actually present . . . precisely because of 'nature'" (Henderson 1999, 33).[18]

The fact that fish are biological, "wild," and marine creates a unique combination of constraint and opportunity, and thereby influences types of privatization that are possible. Biological resources (fisheries, forests, agricultural products) are quite different from inanimate resources (minerals, oil) in that the stock of biological resources fluctuates and such resources are also self-reproducing. Biological (and biochemical) dimensions of the resource can also provide economic opportunities, such that biology can be manipulated to act as a productive force in itself (W. Boyd, Prudham, and Schurman 2001). Exploitation of wild, biological resources (fisheries or forests, but not agricultural products) can be "sustainable" if it both adapts to and facilitates the self-reproducing capacity of the targeted resource and its ecosystem.[19] But this need for adaptation and facilitation also indicates that biophysical dynamics, especially ecological and climatic variability, influence what kinds of economic activity are possible, as well as when and where they can happen. Finally, marine, wild, biological resources have their own dynamics, centering in particular around the fact that it is difficult to draw meaningful boundaries around populations of fish. As has long been noted by fisheries analysts (e.g., Macinko and Raymond 2001), fish are "fugitive," that is, they are difficult to see, study, count, or divide. Unlike in agriculture or forestry, in which resources are more easily monitored, located, and measured, fisheries biologists only indirectly observe fish populations. They estimate overall quantity and spatial distribution of pollock (and other species) from limited empirical sampling combined with mathematical manipulation (NMFS 2001a, App. A). Moreover, fish move; populations shift their location over both short and long time spans, making it difficult to place boundaries around populations of fish or divide them among different users.[20] Because of this problem of indivisibility—also described as a problem of exclusion—fish (along with wildlife and water) are particularly difficult to privatize and are thus conceptualized and treated as a prime example of a common property resource (Berkes et al. 1989; Burger et al. 2001). Fish in the water are treated as public; once caught, the very same fish become private property.[21]

Pollock present a particular case of a marine, wild, biological resource, a few aspects of which I address here. First, the timing of fishing activity during the year is related to the biology of the fish. The main fishing season is in the winter, when the fish are preparing to spawn. At this time, the fish are in peak condition, and the females bear roe (eggs), which is a valuable commodity in itself. Second, fishing in the North Pacific at this time is quite dangerous because the winter environment is harsh, and fishers face extremely cold temperatures, strong storms, ice build-up on vessels, and large waves. Third, biochemical processes that occur after the fish is killed alter the flesh to make it unsuitable for the main products for which it is used. As a result, pollock fishing and processing have to be spatiotemporally proximate, even though these fishing grounds are geographically distant from major population centers and ports (Mansfield 2003a). Thus, even the smaller vessels in the industry must be large enough to travel long distances safely in bad weather and rough seas and be able to come to shore often to deliver their catch in a timely fashion. The large, multimillion-dollar factory trawlers have the added advantages of safety and of only needing to come to shore to deliver finished, frozen products. Combined, these factors mean that being active in this fishery necessarily entails large capital investments.

At the same time, the biology of the fish combines with consumer tastes to influence the types of products for which it is used. Because the fish is relatively small, yielding only small filets, and the texture and flavor are relatively bland, it is generally not acceptable as a high-cost seafood product.[22] Yet, because it is so abundant, it is useful for large-volume products, and pollock is the main fish in such low-cost, mass-produced products as imitation crab, fast-food fried fish sandwiches, and frozen fish sticks and filets. The ex-vessel (preprocessing) value of pollock is under 10 cents per pound (Witherell 2000). Thus, large capital investments are necessary to catch a very low-value fish; this makes margins quite slim and also means that it is very easy for both individual firms and the industry as whole to overcapitalize. These characteristics also mean that the fishery is only profitable when large volumes of fish are caught, which can lead not only to overfishing, but to ecosystem effects, such as a negative effect on animals that depend on pollock for their livelihoods (e.g., Steller sea lions).

While it would certainly be erroneous to take the environmental determinist stance that these (and other) biophysical relations require the industry to have a particular structure or set of problems, it is also clear that these dimensions both constrain and provide opportunities for political economic practice. Biophysical relations make the industry possible, contribute to the potential for overcapitalization and environmental problems, and shape the options available for addressing

these issues. In particular, I suggest that quota allocations, co-ops, and closed classes of participants are a way to adapt privatization to the realities of this abundant, low-value, and fugitive resource. Enclosure of pollock, as with any move toward privatization, is about taking a public good and putting it in private hands. But the co-op structure does so by privatizing *access* to the resource on which the industry depends. Privatization of access is not about transferring ownership and control of specific fish in the water, as their "fugitive" nature makes this impossible. Nor is privatization of access about getting government out of the market, as the industry itself is already private. Instead, co-ops provide existing firms a guaranteed right to a certain share of the fish, the total amount of which fluctuates based on ecological and climatic (as well as political and scientific) conditions. Therefore, this system is quite different from privatization of publicly owned and operated industries. It is also quite different from privatization of land and land-based resources, such as pasture or forests, in which an area and the resources it contains are privatized (hence, the geographical term "enclosed"). In contrast, for pollock, even after privatization, the area is still public, and so are the fish the area contains. Instead, particular economic interests are given exclusive access to certain resources in this public area, while environmental management remains the purview of state regulators. This form of neoliberal privatization, then, does not "overcome" the characteristics of pollock such that they no longer matter; instead, enclosure takes specific forms because of how it interacts with these characteristics. When regulators privatized access to fish while retaining public ownership of the oceans and marine resources, they created a very specific type of neoliberal practice that addresses key socionatural dimensions of the industry.

Conclusion

Privatization in the form of enclosure of access, rather than enclosure of space, resources, or industry, ties back into my arguments about the contradictions involved in neoliberal practice in the pollock fishery of the North Pacific. The apparent contradiction is that a neoliberal plan to privatize and marketize the pollock fishery entailed drafting complex and highly detailed rules governing fishing and processing. These rules protect those who might be harmed by this privatization plan, but they also protect the market context of both the pollock fishery and other related fisheries of the region. The particular forms of "double movement" make sense given that factors specific to regional fisheries' biology and management shaped a form of privatization that relies on retention of public ownership. Even after implementation of the American Fisheries Act, the federal government still owns and ultimately regulates the waters of the North Pacific Ocean, and every year representatives of the government still set the total allowable catch from which quotas are calculated. Ultimately, given that privatized access is based not on rights to specific fish or even a specific number of fish, but rather to a specific proportion of the fish catch, the role of the state in calculating the total allowable catch is the entire premise upon which co-ops and quota allocation rest. The result is a privatized, decentralized, partially marketized pollock fishery that is still fundamentally marked by government regulation of both the macro-context and the micro-details of access and power relations in a competitive market. Understanding the particular aspects of the pollock fishery as a natural resource—the patterns of natural resource management, and the natural patterns of the resource itself—gives geographical specificity to the forms of contradiction. The form of contradiction is specific to this regional fishery, and the form of privatization is itself geographical, in that it is about controlling access to resources within certain areas.

In fisheries, proponents of neoliberalism—that is, all those who argue for "rights-based" fishery arrangements—are in a bind. To have a "free market" with no rules is essentially open access, the very type of fishery that neoclassical economics posits as fundamentally flawed. In this view, open access is treated not as the flowering of the free market in a noninterventionist environment, but rather as a distorted market in which the lack of private property leads to inefficiency and rent dissipation. Thus, private property institutions have to be created. Yet, of course, creating such institutions requires rules and regulations; in other words, it requires political intervention. This case also shows that privatization does not necessarily entail deregulation of any sort, as old-style regulation in fact continues. What the existence of both old and new rules shows, however, is that the market-based dimensions of these reforms are neither inevitable nor necessary. If regulators can design myriad rules to protect the competitive market, the crab industry, and Steller sea lions, then they can also design rules to manage the fishery without turning toward a neoliberal, market-based model that both justifies and works toward enclosing the world's oceans as a resource to which access is restricted to a chosen few, which increasingly limits the options for independent fishers of both today and the future.

Reforms involved in the American Fisheries Act are about restructuring the North Pacific Ocean along neoliberal lines of privatization, marketization, and

decentralization. But this case also shows that neoliberalism is not monolithic. It is not a single, coherent entity spreading across the land (and sea), either to the good or demise (depending on one's perspective) of people and environments everywhere. The particular forms that neoliberalism takes should not be taken as aberrant from an ideal, or as not really neoliberal. Instead, our understanding of neoliberalism needs to acknowledge that it is something created in practice, and that through practice, it becomes varied, fractured, and even contradictory. In this sense, neoliberalism is inherently geographical. It not only varies across space, but it is constituted through specific socionatural relations and practices. Real neoliberalism is not an unchanging and all-powerful force, but instead is a political project that incorporates, responds to, and shapes geographical, historical, sectoral, and even ecological variation. The "contradictions" of the American Fisheries Act are not really contradictions when neoliberalism is seen not just as a discourse to which reality can be compared but as a practice through which both people and nature are "rationalized."

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Notes

1. Overall fishing capacity comprises both total number of boats and their fishing power (e.g., horsepower, net size, fish-finding technology, and so on), yet the main policy goal is to reduce the total number of boats. Placing limits on fishing power is seen as inefficient and unnecessary government intervention, whereas market arrangements, such as leasing, can reduce numbers of vessels without direct government involvement.
2. The regional council system was authorized in the Fishery Conservation and Management Act of 1976 as a way to regulate fisheries in the new territory of the 200-mile zone. The North Pacific Fishery Management Council as a body with decision-making power has eleven voting and four nonvoting members, from Alaska, Washington, Oregon, and the federal government. The council is supported by a staff of 14, and by two advisory bodies: the 12-member Scientific and Statistical Committee, composed "of highly respected scientists," and the 22-member Advisory Panel, composed of representatives of user, environmental, and consumer groups. Unless otherwise specified, when I refer to "the council," I mean the actions and analyses of any of these bodies, not just the 15 members of the official council. The National Marine Fisheries Service is a branch of the National Oceanic and Atmospheric Administration, which itself is under the U.S. Department of Commerce.
3. Two of the more well-established and well-known individual transferable quota programs (ITQs) are those in Iceland (Arnason 1993; Eythorsson 1996) and New Zealand (R. O. Boyd and Dewees 1992). Supporters argue that transferable quotas are the market solution to fisheries management (Iudicello, Weber, and Wieland 1999; National Research Council 1999; Neher, Arnason, and Mollett 1989). For a general review of the implications of ITQs, see McCay (1995).
4. See Criddle and Macinko (2000) for a discussion of possible reasons that the rationalization of pollock did not go the route of individual transferable quotas. Whereas they suggest that the style of rationalization in the American Fisheries Act would supplant permanently a focus on individual transferable quota programs, recent efforts to expand rationalization to the crab fisheries of the North Pacific combine aspects of the American Fisheries Act with a quota program (NPFMC 2002).
5. The "mothership" sector is composed of floating processors (motherships) and the separate vessels that deliver fish to them. There are currently about twenty factory trawlers in the offshore sector, one hundred other fishing vessels and eight processing plants in the inshore sector, and three motherships.
6. The CDQ corporations can lease their quota to other sectors, and several of these native corporations have investments in factory trawlers in the offshore sector.
7. Actual dollar amounts of lease contracts are not available, but they have been estimated to total in the millions for the vessels combined. This group has been dubbed the "magnificent seven" because of the benefits it got from the American Fisheries Act (Loy 2000).
8. These approaches are outlined by Thomas Lemke in his discussion of several unpublished lectures by Michel Foucault (Lemke 2001; see also Rabinow 1997).
9. In contemporary scholarship, the perspective that markets and regulation go hand-in-hand is at the center of theory on the qualitative state. Drawing in part from Polanyi, work in this area highlights the impossibility of truly private, free markets, suggesting instead that state actions are crucial even in that "private" realm (e.g., Block 1994; O'Neill 1997).
10. After a series of lawsuits, NMFS now relies primarily on seasons and area closures to manage the pollock fishery to ensure that there is enough food for the sea lions. For more information, see Steller sea lion management and research web pages of the National Marine Fisheries Service, Alaska Regional Office at http://stellersealions.noaa.gov/.
11. Documents include council newsletters, minutes of meetings of the council and its subcommittees, analyses and discussion papers written or commissioned by the council, a report to Congress on the impacts of the American Fisheries Act written by the staff of the council, emergency rules and the proposed rule formally implementing provisions of the act (as published in the *Federal Register*), and environmental impact statements/ environmental analyses for the American Fisheries Act in general and for specific aspects of the act. The majority of these documents are available at the North Pacific Fishery Management Council web page at http://www.fakr.noaa.gov/npfmc.

12. The following quote from an analysis of these sideboard measures provides a sense of the type of detailed decisions the council had to make (TAC is an acronym for "total allowable catch"). "Sideboard caps could be based on the 1995–97 catch histories of the 20 eligible catcher/processors or the 20 eligible catcher/processors plus the nine ineligible catcher/processors. After deciding which vessel's history to include, the Council then had to decide whether to base the history on either their non-pollock target fishery catch or their catch in all target fisheries. These decisions yield the numerator for calculating the percentages of future TACs. The denominator for the calculation could use either total historic catch or the TAC available these years" (NPFMC 2000, xiv).
13. The options before the council included implementing these rules at three levels: all processors in aggregate, the individual sectors (inshore, mothership, or catcher-processor), or the individual entity. In any of these three cases, they had to decide which facilities to regulate: just the pollock plants and vessels; all facilities owned by companies that also own pollock plants and vessels; or all facilities that are associated through a 10 percent ownership rule, which was originally defined in the American Fisheries Act. This combination of three levels and three layers of facilities yields nine possible combinations, for which the council prepared a comparative analysis. One additional permutation was included in analysis, which is to apply the limits at the individual company level, but only include pollock facilities.
14. This "10 percent Ownership rule" means that "if a company has a 10 percent or more ownership stake in an AFA-eligible processing facility, then all other processing facilities in which that company has a 10 percent ownership will also be considered part of the AFA-entity. For purposes of the analysis, the lease of a facility will be considered ownership of that facility" (NPFMC 2000, 156). Even this 10 percent rule can be interpreted in different ways, yielding quite different on-the-ground entities (see NPFMC 2000, 235–37). This 10 percent entity rule is also used to restrict such entities from harvesting more than 17.5 percent of all pollock, or processing more than 30 percent of all pollock. These restrictions are designed to limit the ability of entities to consolidate, although the 30 percent limit relaxes the rule such that the industry could consolidate into just four processing firms.
15. These processing sideboards remain controversial, and they are currently in place only for the crab industry, not the groundfish industry. The reason they are so controversial is that crab fishers find them to be a problem, in that as processors reach their sideboard limit and are no longer able to purchase fish, fishers are limited in their options about to whom to sell fish, and therefore cannot bargain for higher prices. Protections for one sector (i.e., crab processors) can be detrimental to another (i.e., crab fishers), which unleashes a whole new round of council decisions and rule making.
16. It is important to note that these relaxed rules, as proposed by fishers, seem to give free reign to "the market," in that price mechanisms (offered by processors for fish), rather than regulations, would determine fisher-processor relations. The reality, however, is that a host of other factors, not just the market, may also influence this relationship, including location, provision of other services (e.g., fuel) by the processor, or vertical integration, in which the processor owns the vessel.
17. For example, Scott Prudham (2002) argues that subcontracting and flexible production systems in the Oregon logging industry cannot be attributed to the general trends of late capitalism, but can only be understood by examining the risks logging firms face from working in an extensive production area that is composed of heterogeneous landscapes that have highly variable weather. See also Gavin Bridge's (2000) work accounting for the ways that the natural environment creates unique conditions for production within the mining sector.
18. Although such views on economy-nature relations can easily shade into either environmental determinism (nature dominates society) or triumphalism (economy overcomes nature), agro-food and allied resource scholars have avoided these tendencies by approaching the significance of the biophysical as always already a socionatural relation. As David Goodman (1999, 18) puts it, "against these dualistic oppositions, relational concepts are used to bring nature and its materiality explicitly into the analysis."
19. While aquaculture, also known as "fish farming," accounts for a rapidly increasing share of seafood production, the majority (about 75 percent) of seafood globally still originates in "wild," self-regulating ecological systems (FAO 2000).
20. This is not simply a matter of fish moving across political boundaries (which is also a problem in fisheries), but that even when a population stays within a single country, it is still very difficult to divide particular fish among individual users. Unless done at the most gross scale (e.g., giving all the fish of the North Pacific to a single user), the dynamics of fish populations in a fluid, and not well-understood, environment make such divisions impracticable. In addition, emphasizing the difficulty in drawing boundaries around fish populations is not meant to imply that mapping other resources—forests, for example—is not also problematic, as recent case studies have emphasized (Robbins 2001; P. A. Walker and Peters 2001). There are differences, however: for forests, the issues are often over sociopolitical definitions of what counts as a forest, whereas in fisheries, in addition to such issues, the difficulty is drawing boundaries around a resource that moves, whose population varies yearly, knowledge of which is based on indirect observations, and the basic population ecology of which is not well understood.
21. This is not a new insight, as it was noted 400 years ago by Hugo Grotius, who is most noted for his insistence on the freedom of the high seas. Grotius says: "In Athanaeus for instance the host is made to say that the sea is the common property of all, but that fish are the private property of him who catches them. And in Pautus' Rudens when the slave says: 'The sea is certainly common to all persons,' the fisherman agrees; but when the slave adds: 'Then what is found in the common sea is common property,' he rightly objects, saying: 'But what my net and hooks have taken, is absolutely my own'" (Grotius, cited in Steinberg 2001, 93).
22. As my earlier work has highlighted, pollock, in the form of *surimi* (a fish paste) is used in high-value seafood products in Japan, and it was for these products that Japanese firms originally started the fishery (Mansfield 2003a, b, c). Yet, even then, the pollock itself is relatively low cost, and gains significant value during processing.

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