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Putting the seafood in sustainable food systems

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ABSTRACT

Increasing attention by consumers to the social and environmental dimensions of the food they eat has generated many different responses, including certification programs, watch lists and local/slow food movements. This article examines the more recent entry of seafood into these consumer social movements. Although a concern with the family farm—as well as tendency to equate national security with food security—has long connected terrestrial food production with other cultural concerns, fisheries have tended to be regarded more as natural resources. Considering seafood as part of the "food system" would enhance the management of fisheries, while the long engagement in fisheries with co- and adaptive management and the politics of knowledge would enrich the debate in the agri-foods literature. The article also offers suggestions on how fisheries management could better govern for sustainable food systems, and provides further ideas about food, sustainability and governance.

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1. Introduction: fish, seafood, and sustainability

Consumer movements directed toward food systems have become increasingly prevalent as a way of merging social and environmental concerns. Many people have become increasingly troubled by the social and environmental implications of their food choices, and are trying to make new kinds of commitments through purchases while looking for criteria upon which to make these choices. Such concerns have found expression in a variety of different approaches, from certification programs that verify product standards to local and slow food efforts that reconnect communities with food and local businesses. Local movements, for example, have been seen as a way to reduce the spatial and social distance between producers and consumers, with a host of accompanying changes like fostering trust, enhancing community development and food security, and promoting ecological sustainability [1,2]. Certification programs have likewise sought to create relations of trust over longer distances, and to promote and reward ecologically sound and sustainable methods of production [3].

In fisheries reductions in stock levels and fishing opportunities, in the U.S. and around the globe, have pushed many fisheries to a critical crossroads. With pressure on fishermen[1] and fishing families to add value to products and find creative ways to sustain their livelihoods, some have started to adopt innovations that have primarily or originally developed in agricultural food systems. Yet at the same time, scholars in the agri-foods literature have begun to raise critical questions about how alternative these alternative food systems truly are [4]. Many lament that the best and brightest of these alternatives lack empowerment, are not participatory, and do not effectively confront systemic problems. Thus it is striking how, despite all the talk in the agri-foods literature of creating new relations, building trust, and embedding economies in communities, there has been no connection made to the literature on co-management and adaptive management that has developed especially in the context of common pool resources, such as fisheries. In this respect, it is especially informative to examine and compare seafood, with its more recent entry into these consumer social movements, with agricultural products. Of particular importance are the varying ideas about sustainability that have inspired these differing movements on the land and on the water. Equally important are different notions of governance, as addressing consumer concerns and producer livelihoods through, for example, eco-labeling, traceability, or slow food/local food, will also entail building new relations and institutions.

The aim of this paper is thus twofold. First, it intends to broaden the more prevalent understandings in fisheries by a comparison with their terrestrial counterparts, and vice versa. In particular, a long engagement in fisheries with co- and adaptive management and the politics of knowledge would enrich the debate over agricultural certification programs, at the same time that attention to fish as food and as part of food systems would deepen discussion in fisheries management. Second, it proposes to

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[1] This paper uses the term "fishermen" rather than "fishers," since it uses examples primarily from U.S. fisheries, where most men and women fishing commercially prefer to be called fishermen.

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distill from these broadened understandings a more specific set of criteria or thinking points about food, sustainability and governance for fisheries. After a brief introduction to the multiple guides that currently advise on what seafood to eat, discussion focuses on some key developments in fishing in the Northeast U.S., reviews issues that have arisen in the agri-food literature, and considers how the adaptive co-management model of fisheries helps incorporate a broader notion of sustainability that includes communities and social relations.

2. Fisheries and certification: learning from agriculture

2.1. Fish as resources

In a span of almost 20 years, numerous guides for seafood have appeared, marking what Roheim [5, p. 301] has called "the inception of the sustainable seafood movement". As a number of critics have argued, the existence of so many guides, sometimes with contradictory information, has been confusing at best. Oken et al. [6] note the lack of balance between potentially contradictory perspectives on contaminants, nutrition, and sustainability, but suggest as a solution "simple messages." Roheim [5], on the other hand, argues that guides painting too broad a picture do a disservice to those who fish sustainably, while too-detailed advisories may prove useless if consumers lack access to more information; she suggests instead greater reliance on eco-certification. Jacquet and Pauly [7], in another viewpoint, criticize both seafood guides and certification efforts in the context of global consumers and rogue fishing vessels; they suggest the need for greater global management and less consumption of seafood generally. Fisheries efforts have followed in the wake of agriculture's much earlier experiments with private governance (such as fair trade and organic labeling). Despite their longer history, however, lessons from agriculture are not clear. Busch [8, p. 351], for example, has called the "bewildering array of standards" in the private governance of agricultural products a "bizarre bazaar," which has avoided real reform and may increase concentration of ownership and control, at the same time as it transforms consumer choice into a "burden".

One cause for confusion in fisheries, explored in greater detail below, is the reliance that guides and standards have placed on different evaluative criteria. At the same time, however, seafood guides and standards do share a common tendency to regard fisheries primarily as resources.[2] At first glance, this may seem quite innocuous, for fish—like water, soil, forests, and air—exist in the natural environment in potentially renewable supply. What is meant is that dominant constructions of fish and fisheries, at least in the U.S., have tended to privilege issues of resource management and construct resource management as primarily biological (see also Refs. [9,10]). At the federal level, discussions of fish as food take place primarily in the context of food safety, health and nutrition, or import/export regulations, not in fisheries management per se; food is rarely mentioned as a guiding goal or objective in Fishery Management Plans or Amendments [11]. When food security is mentioned it is often in an international context[3] and/or related to bycatch reduction or aquaculture. Further, food security for fisheries is most commonly discussed only in relation to maintaining viable stocks of fish [12], or ensuring adequate nutrition [13], without specifically addressing the broader "food system" (with very few exceptions, e.g., a 2012 Community Supported Fisheries Forum co-sponsored by NMFS[4] ; [14]). The Magnuson–Stevens Fishery Conservation and Management Act (MSA) and its National Standards, the federal legislation that dictates U.S. fisheries management, contains three references to food supply[5] and one to food production, as well as several to seafood safety but appears at a casual glance to have little connection to food systems or community food security in the sense that will be discussed here.

Yet, the overarching standard governing fisheries management, National Standard 1, is on closer inspection tightly linked to the much broader idea of a "food system," one of relations and processes that go beyond growing and harvesting to include other components such as research, transportation and consumption, as well as such institutions related to food, such as markets and communities (see review in Ref. [15]). National Standard 1 states that the primary reason for conservation and management is to "prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry." Overfishing and optimum yield are subsequently tied to biomass stock size and growth rates, though the notion of optimum is also inherently social, defined later in the MSA's guidelines as "the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems".[6] Food is mentioned here first, the benefits of which are in a later paragraph noted as "derived from providing seafood to consumers; maintaining an economically viable fishery together with its attendant contributions to the national, regional, and local economies; and utilizing the capacity of the Nation's fishery resources to meet nutritional needs".[7]

Nonetheless, in practice, most subsequent proposed rule-making has focused on preventing overfishing, while fisheries tend to be managed for the health of the wild stock, and to a lesser degree as a source of income for harvesters, and occasionally processors—not for the wider community.[8] Of course, such issues are essential ingredients for the long-term health of a fishery. The point here is not to dismiss the importance of biological and ecological questions, but rather to redirect attention to other fundamental questions less commonly addressed in fisheries management. While questions of trade-offs may become more prominent with ecosystem-based management,[9] thinking about fish as food provides a different frame of interpretation, one that does not stop with questions about harvesting of fish but includes

[2] This is of course not true of those guides or warnings that focus on health, including toxicology (such as FDA warnings about mercury consumption in seafood) or nutrition (such as advice to increase omega-12 intake). See Ref. [6] for a review. The focus in this paper, however, is on fisheries management and the desire to achieve sustainable seafood choices to which many standards and guides aim.

[3] USAID has a Bureau of Food Security (http://www.usaid.gov/who-we-are/organization/bureaus/bureau-food-security; accessed 05.02.13).

[4] See http://www.nmfs.noaa.gov/stories/2012/06/06_04_12csf_summit.html [accessed 01.11.12].

[5] For example: "These fishery resources contribute to the food supply, economy, and health of the Nation and provide recreational opportunities" (16 U.S.C. 1801, Sec. 2(a)(1)).

[6] See http://www.gpo.gov/fdsys/pkg/FR-2009-01-16/pdf/E9-636.pdf [accessed 15.02.13].

[7] See http://www.nmfs.noaa.gov/msa2007/docs/acl_final_rule.pdf [accessed 11.12.12].

[8] For example, NMFS defines sustainability as "meeting today's needs without compromising the ability of future generations to meet their needs; for example, using a resource but leaving some for the future. In terms of seafood, this means catching or farming seafood responsibly, with consideration for the long-term health of the environment and the livelihoods of the people that depend upon the environment". See http://www.fishwatch.gov/buying_seafood/choosing_sustainable.htm [accessed 11.12.12].

[9] Food is a key ecosystem service according to the Millennium Assessment (see http://www.millenniumassessment.org/documents/document.300.aspx.pdf, accessed 07.02.13) and a societal goal of the Ocean Health Index (see http://www.oceanhealthindex.org/, accessed 06.02.13).