

**A New England Dilemma:**  
**Thinking Sectors Through**

Final Report

to

Massachusetts Division of Marine Fisheries

by

Seth Macinko

and

William Whitmore

Department of Marine Affairs  
University of Rhode Island

Revised June 2009

## Preface

This report was commissioned by the Massachusetts Division of Marine Fisheries (DMF) but the assessments expressed herein are solely those of the authors. DMF sought an “outside” consideration of the current policy process playing out in the New England Fishery Management Council arena regarding the multispecies groundfish fishery and the movement towards a management tool known as sectors. The authors thank the many people who contributed their thoughts on sectors. Without exception, the comments received were candid, thoughtful, and passionate. Management of New England groundfish fisheries appears to be in crisis and at a crossroads. The established management approach appears to be thoroughly broken, and it is hoped that this report can contribute to further discussions about the future of groundfish management in New England.

## Erratum

As originally released, this report contained an error on page 63 where we stated that Johnston and Sutinen (2009) did not acknowledge the termination of the Chignik Salmon Co-op as a result of a decision by the Alaska Supreme Court. These authors do mention the termination of the co-op in an endnote (see Johnston and Sutinen 2009:19 n. 8). To accurately reflect this acknowledgment, we have edited the relevant text on page 63.

## Table of Contents

<b>Executive Summary</b>	<b>5</b>
<b>I. Introduction</b>	<b>8</b>
a) Context and Methods	8
b) The Context of “Sectors” and Fishery Management in New England	8
<b>II. Sectors: Definitions, Features, and Supporting Theory</b>	<b>11</b>
a) Definition of a Sector	11
b) “Potential Sector Contributions”--- Why Sectors are not LAPPs	12
c) The Common Pool	13
d) The Permit Market Under Sectors	13
e) The Theory Behind Sectors	13
1) Private Property Rights and the Stewardship of Self-Interest	14
2) Devolution, Deregulation, and Self-Regulation	15
3) Theoretical Extremes and Recent Crescendo	15
4) From theory to practice in New England	17
<b>III. Gauging and Understanding Support for Sectors</b>	<b>19</b>
a) Sectors were the only alternative	20
b) Uncertainty over Council commitment to sectors	21
c) Commitment required while details still vague	23
d) Support for sectors is influenced by feelings about ITQs	24
e) Sectors as the “Allocation Amendment”	24
f) Enrollment in sectors obscures concerns about the fairness of the process	25
g) Summary	26
<b>IV. A Policy Evaluation of Sectors</b>	<b>27</b>
a) Conservation vs. Stewardship	28
1) Conservation	29
2) Stewardship	32
b) Addressing Bycatch	34
c) Promoting/Preventing Consolidation	35
d) Impacts on Communities	37
e) Devolution vs. Abdication	39

<b>V. Discussion: Confusion, Omission and Oversell</b>	<b>43</b>
a) Sectors as Policy Goal vs. Policy Tool	43
b) More about the Market for Permits	43
c) How Voluntary are Sectors?	45
d) A Question of Money and Influence	45
e) The Curious Case of the Costello Paper	46
f) Bad for Banks, Good for Fish?	49
g) How Model is the Hook Model?	50
h) Where is the Community?	52
i) Is this Privatization? Why Words Matter	54
j) Hype does not Help	61
<b>VI. Conclusions and Recommendations</b>	<b>66</b>
a) Recommendations applying to the existing approach to sectors	67
b) Recommendations applying to a new approach to catch shares	68
<b>References</b>	<b>70</b>
About the Authors	78
Appendix I: NEFMC Sector Timeline	79

## Executive Summary

- The current push for sectors obscures the fundamental policy decision at stake: whether to pursue catch shares via a model that emphasizes “privatization” of public resources or a model consistent with public ownership of fishery resources. The privatization model carries with it known inequities while the public ownership model could offer equity for all interests involved. Sectors can occur via either route but there has been no public recognition or discussion of this choice.
- Sectors hold great promise to improve the conservation of key stocks because they are predicated upon total allowable catch limits (TACs). However, the conservation benefits of sectors are not guaranteed; instead, they rest on the ability to set, monitor, and enforce sustainable TACs. This is going to be a challenging task in the context of a multispecies trawl fishery, but it is not insurmountable.
- The current approach to sectors appears to be driven by an extreme faith in privatization, deregulation, and devolution of authority. Mere faith that private ownership promotes stewardship *will not* contribute towards solving the monitoring and enforcement challenges on which conservation truly depends, and could spell disaster for sectors.
- Many fishers believe that sectors and the adoption of a quota system will create a market that will address all the problems associated with bycatch. But trawling, the dominant fishing method for New England groundfish, will still result in significant bycatch, and when a TAC is reached, under current law, the fishery will close. We are doubtful that sectors will “solve” the bycatch problem.
- In general, we found a sharp difference in support for sectors between a managerial class within industry (those that represent industry associations and/or sectors) and rank and file fishers within the fleet. Our interviews suggested that many in industry lack detailed knowledge about how sectors will work in practice, and thus greater and more impartial outreach is called for. While current permit holders and some captains are familiar with the idea of sectors, many fishers, particularly crew, are unaware of the potential changes and impacts associated with the switch to sectors.
- Our interviews found that there is a belief among some members of industry that sectors will render in-season closures unnecessary. If this belief is widespread, there could be substantial unrest when TACs are attained and closures are triggered.
- While arguments can be made either way, on balance the available evidence suggests that sectors are likely to accelerate the consolidation that is already happening in the groundfish fleet. In addition to affecting sheer vessel numbers, consolidation will likely have a geographic component, shrinking the number of ports actively involved in the fishery.

- Though many individuals involved in the creation of the sector program voice concern for communities, there is nothing in the current approach to sectors that specifically addresses community impacts. Sectors and the planned “community banks” are fully mobile corporations that have no explicit or permanent tie to municipalities. If communities are important to policy makers, they should be addressed specifically. For example, the Council should consider mandating that details of community banks be explicit and assure that these details favor communities (e.g., distribute benefits to communities).
- In view of the Council’s expressed concern for adverse impacts on communities, as well as the statutory mandate to reduce such impacts (National Standard 8), the relationship between sectors and community benefits warrants closer consideration. Community benefits cannot be just assumed to happen via a trickle-down process.
- Sectors are private clubs. One potential benefit of this characteristic is that the club becomes a “vehicle” for exerting peer pressure on all members of the club. In this way, sectors may present opportunities for collective action that are not present under a catch share system featuring only individual allocations. This peer pressure may be applied for good or bad purposes. One obvious potential concern is the possibility for domination by a local elite. There is no certainty that sectors will be run on a democratic basis.
- Although limiting impacts to the dayboat/smallboat fleet is an expressed goal of the Council, besides allowing them the option to create their own sector, we see little being done to protect these fishers.
- In our interview sample, we encountered widespread belief that sectors are simply an interim stage in the movement towards ITQs (individual transferable quotas). If this belief turns out to be true, it is highly likely that much, if not most, of the critical characteristics of a future ITQ program are being preconfigured *without* informed public debate.
- There is a disconnect between managers’ and fishers’ expectations of monitoring requirements. In order for sectors to be successful, an accurate recording of catch and enforcement of the TAC is absolutely essential. We anticipate monitoring expenses will be significant.
- In many ways, we see little difference between sectors and an ITQ system in terms of conservation and other benefits. There are however, similarities in their disadvantages. The proposed rules and regulations for sectors allow trading of quota both within and between sectors and there is no established limit on quota holdings, so that consolidation effects under sectors may be similar to, or even more pronounced than those associated with an ITQ program. Sectors as planned, however, have an additional disadvantage: sectors will have markets that are less transparent and relatively inefficient and inflexible featuring fixed links between groundfish permits, vessels, and potential sector contributions. Market-based programs function best with open, transparent, and active

markets.

- There is a leadership role for DMF to play in the sector process. The constituency of the Commonwealth is different than the constituency of the Council, and DMF is the logical party to represent these broader interests. DMF can enhance the focus on meaningful conservation benefits. DMF can play an important role in the much needed outreach effort. DMF can also work to insure that communities (as municipalities) directly benefit rather than relying on endowments to individuals in the industry to provide benefits that trickle down to the community as a whole. Finally, there is an urgent need for DMF to contribute to the restructuring and improvement of the relationships between the groundfish industry, the Council, and the National Marine Fisheries Service.

## **I. Introduction**

### **a) Context and Methods**

As described in the Preface, this report was commissioned by the Massachusetts Division of Marine Fisheries (DMF) as an “outside” perspective on a pressing fishery management issue of relevance to the Commonwealth. Specifically, this is *not* a DMF report, but rather *our* report to DMF. We set out to learn more about the nature and extent of support for a management tool known as sectors. We wanted to think about sectors in the larger context of groundfish management in New England and indeed within the context of contemporary fishery management (particularly, but not exclusively, within the U.S.) in terms of the possible advantages and disadvantages offered by sectors. Ultimately, we were curious if the aspirations for sectors are likely to be realized given their current design.

To accomplish these goals, we employed the technique of ethnographic interviews primarily focused on the fishing industry—divided into those who would be managing/running sectors *and* those that would be fishing as a member of a sector. We emphasize that we specifically did not focus on members of the New England Fishery Management Council (the Council), choosing instead to let official Council documents and recordings of Council meetings provide us with documentation of Council members’ interests. We also did not consult with known proponents of sectors (unless they fell into the industry category already discussed) because our interest was in how the actual participants in sector management think about sectors. We also surveyed others (non-industry) providing direct support to the formation and running of sectors.

We held formal conversations with thirty people—most were from the commercial fishing industry but, as noted, we did speak with members of non-governmental organizations (NGOs) directly engaged with sectors. In particular, we spoke to representatives from seven different sectors as well as members of industry umbrella groups representing multiple sectors, thus covering the majority of the existing and proposed sectors. In addition to these formal conversations, we had impromptu conversations with others while at meetings and on the docks. We augmented our review of Council tapes and documents by speaking with key state and federal fishery managers. Finally, we consulted the literature on fishery management, particularly that associated with the use of “catch shares.”

### **b) “Sectors” and Fishery Management in New England**

The title of a recent article in *National Fisherman* succinctly sums up the state of play in fishery management in New England: “New Englanders pin hopes on fishing sectors [Smith 2008].” Going by such popular accounts or by the sense that is “in the air,” it seems that everyone is counting on “sectors” to save them. But *what* they are being saved from varies. For example, in the recent history of the New England Fishery Management Council (Council) some supporters see sectors as the only way out of continued purgatory under the current days-at-sea (DAS) input control regime; some see sectors as a way to head off strict catch limits and catch-accounting as required by the revised Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) which governs fishing in federal waters in the U.S.; some see

sectors as an alternative to individual transferable quotas (ITQs); some see sectors as a way to simplify management and devolve authority to industry; some see sectors as a means to promote stewardship; and some seemingly see sectors as a goal unto themselves. These perceived benefits of sectors are not mutually exclusive.

Yet these perceptions alone do not explain the avid embrace of sectors. The environment of despair and anxiety under which advocacy for sectors has taken place has played an important role. As the New England Fishery Management Council (the Council) notes in its Draft Environmental Impact Statement for Amendment 16<sup>1</sup> (Amendment 16 is the management package that includes an expansion of the currently limited use of sectors for groundfish management):

Several groundfish stocks are either overfished, have been declared overfished in the past, or are experiencing overfishing and are currently rebuilding under programs that do not meet the requirements of the M[agnuson]-S[tevens] Act. While many stocks will continue to increase under current fishing mortality rates—indeed some will increase to levels not observed in the last thirty years—most stocks will not achieve levels that will support maximum sustainable yields [A16DEIS 2008:18].

Thirty years of managing groundfish stocks off New England under the system of regional management created by the Magnuson-Stevens Act has, in many popular accounts, failed for both the fish and the commercial fishing industry (see, e.g., NRC 1999a). Things are bad and a recent fishery stock assessment presented even bleaker news (Rago 2008). Thus, the embrace of sectors is occurring in a context that is ripe for salvation-seeking.

At the same time that hopes are pinned on sectors, many individuals are reported to “have serious and valid concerns about sector management and the challenges of implementation [Smith 2008:8].” These hopes and concerns have special relevance for the Commonwealth of Massachusetts. The Commonwealth has a considerable stake in the outcome(s) produced by a shift to management featuring sectors, and not only because of the overfished status of many groundfish stocks. Whether sectors succeed or fail in delivering any or all of the anticipated benefits, the outcome will disproportionately fall on residents of the Commonwealth. Of the 1,271 federal groundfish permits, 646 are associated with vessels home-ported in the Commonwealth; of these permits 574 (total)/300 (Massachusetts) were “active” permits.

The background sketch offered above captures the context we were presented with as we began our inquiry into sectors for the groundfish fishery. Given the combination of despair, hope, residual concerns, and high stakes, it is important for all parties to take a closer look at sectors and to scrutinize the process associated with their construction and implementation.

We believe there is much to consider and to understand in order to thoroughly “think through” the policy options regarding sectors. We have endeavored to be complete in our

---

<sup>1</sup> Note that all references to the Draft Environmental Impact Statement for Amendment 16 [A16DEIS 2008] are to the June 1, 2008 version—the version that was current at the time the bulk of the work on this report was in process.

presentation but the pace of what is clearly turning out to be a media campaign promoting sectors is accelerating and we will invariably not be able to address all of the claims made as part of that campaign.

We begin, in Section II, by presenting a working definition of sectors and consider key features of sectors as being contemplated under Amendment 16. In addition, we present a brief survey of the theory behind sectors (derived from a larger body of work on “catch share” programs). We think it is important for all those involved in the consideration of sectors to possess a basic familiarity with the lineage (and future direction) of the ideas and concepts involved. Recent advocacy for catch shares is clearly derived from an older literature on property rights and “rights-based fishing” and we characterize recent events as a crescendo in this movement. We note how events in New England are consistent with these larger trends and how many of the same players shaping the discussion at the national level are involved in the regional consideration of sectors.

In Section III, we discuss the result of the interviews we conducted (described above). It was immediately obvious that what we were being told was different than the popular perception of support for sectors and so we walk through a variety of factors that we think are critical in influencing the patterns of support and opposition we encountered. We then shift in Section IV to a policy analysis of the plan for sectors under Amendment 16, considering sectors from the standpoint of the declared goals and objectives for sectors.

In Section V we present a discussion of particular aspects of sectors having implications that run counter to popular perceptions. We also discuss areas where we think the policy process is ill served by some of the recent promotions of catch shares and sectors. We think it is important to reject the portrayal of the choice facing the Council (and the nation in the larger debate over fishery management in the U.S.) as one between catch shares and ruin. We argue that the real choice concerns *how* to structure catch shares. Finally, we close in Section VI and present two sets of recommendations. One set focuses on the existing approach to sectors. The second set of recommendations is focused on a completely different approach.

## **II. Sectors: Definitions, Features, and Supporting Theory**

The sector concept was introduced under Amendment 13 to the Northeast Multispecies Fisheries Management Plan (NEFMC 2003) and two sectors were subsequently formed under the guidance of the Cape Cod Commercial Hook Fishermen's Association (CCCHFA) based in Chatham, MA. To date, these are the only two sectors in existence and they have figured prominently in regional and national interest in the sector concept. While other forms of "catch share" programs exist (both nationally and internationally), none share the precise characteristics of sectors as they are understood in New England.

### **a) Definition of a Sector**

A sector is a group of fishers pursuing a shared specified total allowable catch (TAC). The relatively simple concept of fishing up to a TAC is actually a radical departure from past management practices by the Council. In the past, the Council has preferred what are known as "input" or "effort" controls, management measures that control industry inputs into the productive process of fishing. Restrictions on fishing gear, the number of days a boat may fish, and the number of fish a boat may catch per trip, are part of the bundle of input controls that the Council has applied to the groundfish fishery. In contrast, sectors bind participants to fixed limits on total catch, an example of what are called "output controls" because it is the output of fishing -- the catch -- that is directly regulated. While trip limits (used in New England in conjunction with effort controls) do constrain catches of some species for a given time period (e.g., daily or weekly landing limits), they do not limit the aggregate catch of a vessel or the fleet over the season. Sectors, in comparison, do feature a limit on the participating fleet's aggregate catch.<sup>2</sup> The formal definition of sectors is provided in the Council's policy statement on sectors:

*A sector means a group of persons holding limited access permits who have voluntarily entered into a contract and agree to certain fishing restrictions for a specified period of time, and which has been granted a TAC(s) [total allowable catch] in order to achieve objectives consistent with applicable FMP [fishery management plan] goals and objectives [NEFMC 2007:1].*

This definition is augmented by critical sentences found in Amendment 16 providing key details of how sectors are constructed:

In the formation of a sector, sector participants can select who may participate. Only vessels with a limited access multispecies permit are eligible to join a sector. [A16DEIS 2008:41].

---

<sup>2</sup> We are aware that the Council has at times talked of an option for sectors that is based on days-at-sea rather than a total allowable catch (TAC) approach but in this report we focus exclusively on the TAC-based version of sectors. We do so because we think that is mostly likely to be the option pursued by the Council and because it is the option that is consistent with new mandates in the Magnuson-Stevens Act to utilize strict catch limits.

The share of the annual TAC for a stock that is allocated to a sector will be calculated based on the history attached to each permit that joins the sector in a given year [A16DEIS:43].

Note that catch history would be allocated to the sector as a whole and not necessarily to individual vessels within the sector. The self-selecting sector would then have to develop its own set of rules to distribute the sector's allocation among its membership [A16DEIS:45].

These sentences highlight critical features in the sector concept being contemplated by the Council. First, while a fisher may decide to join, actual admission to a sector is controlled by the sector, *not* the individual seeking to join. Merely holding a qualifying permit does not guarantee entry into a sector since the sector itself controls entry. It is not clear specifically who within the sector controls entry into a sector; acceptance could be determined by all sector members, strictly the initial founders, or some other subset of members.

The second sentence quoted above illuminates details of the market in access privileges that will be associated with sector management. This market will involve bundled combinations of vessels/permits/qualifying sector history.

The final sentences quoted above concern how the TAC for a sector is determined. A sector's dedicated TAC allocation is based on the catch histories brought into the sector by fishers who have been accepted as members by the sector. Notice that the individual catch histories do not translate into a fishable share of the TAC *unless* they are brought into/committed to a sector.

*b) "Potential Sector Contributions"---- Why Sectors are not LAPPs*

An interesting nuance is involved in the characterization of sectors presented above. Because allocations are not technically granted to individuals, sectors are not legally considered Limited Access Privilege Programs (LAPPs) under the Magnuson-Stevens Act, which defines LAPPs as catch shares assigned to individuals. With sectors, as opposed to LAPPs, an individual has a verified catch history,<sup>3</sup> not a catch share. While catch shares are granted to the individual and are usable upon issuance, sector allocations are based on verified individual catch histories of sector members. The critical feature here is that the actual *allocation* is to the sector, not to any individuals. Individuals simply pledge their catch history to the sector and the aggregate of these pledges becomes the allocation to the sector. A new term has been coined in the vocabulary of the Council process to reflect this distinction between the role of qualifying catch history in a LAPP versus in a sector; verified qualifying catch histories are known as "potential sector contributions."

---

<sup>3</sup> The draft Amendment 16 refers to "catch history," "permit history," and "landings history" (see, for example p. 45) and although these terms sometimes have distinct meanings, we will use the term catch history to mean the qualifying catch history associated with a permit that becomes the "potential sector contribution."

### c) The Common Pool

Since allocations are only to sectors, an individual who does not elect to join a sector or is not accepted by a sector cannot access their potential sector contribution. Such individuals remain in the “common pool” fishery. The common pool fishery targets the residual TAC that is not allocated to sectors. Note that in addition to the TAC-based option, the Council has considered a days-at-sea option for the common pool but we will not consider that option here because we do not think it will prove to be consistent with new mandates in the Magnuson-Stevens Act requiring catch limits. In any case, while the exact nature of how the common pool will be managed and what regulations will be applied is unclear, the common pool is the default option for those not in sectors.

Assuming that the common pool fishery is a TAC-based fishery, there is an opportunity cost to participating in the common pool fishery: effectively, an individual who is not in a sector (whether by choice or by rejection by the sectors) donates “his” catch history/potential sector contribution to the common pool where it is then available to all fishing in the common pool under whatever rules the Council elects to apply to the common pool. Of course, a fisher may do better in the common pool, catching more than his potential sector contribution, but most people we have talked to seem to fear the prospect of fishing in the common pool because of the possibility of a derby fishery developing as participants race for the common pool TAC.

### d) The Permit Market Under Sectors

Regardless of whether a fisher joins a sector or opts for the common pool, all permits will be denoted with a potential sector contribution (and a fisher can fish in the common pool one year but attempt to join a sector in the following year). At present, it appears likely that all sector participants' catch histories will be based on a common and fixed set of years: “Unless changed by a future action, once a permit’s [potential sector contribution] is calculated in accordance with the selected [potential sector contribution] option, that [potential sector contribution] is permanent [A16DEIS:45].” This means that as time passes, the catch history used to determine the TACs of sectors will be based on an increasingly distant past. In this sense, there will be an “archaic” nature to sector management as time passes.

There is an interesting distinction here between sectors and other forms of catch share-based fisheries. Under sectors, there will be fixed assemblages of vessels/permits/potential sector contributions and the initial allocation freezes the fishery at the point of the qualifying years into these bundles. In contrast, other catch share programs use a qualifying period merely to *launch* the catch shares but then freely divisible allocations are traded, so the future does not necessarily resemble the past.

### e) The Theory Behind Sectors

Sectors can be regarded as part of a global movement in fisheries management towards output controls, and more specifically toward catch share-based programs. Catch share programs feature two critical components. First, there is an overall limit on the amount of each managed target species that can be harvested by the fleet in aggregate, commonly known as the total allowable catch (TAC). Second, the TAC is then subdivided into allocations granted to

individual fishing operations. Hence, as the name implies, each vessel pursues its own “catch share.” Fishers in catch share systems enjoy greater operational flexibility than in fisheries managed through undivided TACs, since they are no longer in direct competition with each other to catch an unspecified portion of the TAC. Notice that in TAC-managed fisheries that do not contain a catch share component, it is this competition that often gives rise to a frenetic “race for fish” (the “derby”).

The simple explanation of catch shares offered above does not adequately convey a sense of the vast literature that has built up in support of such systems. To fully understand the force behind the trend towards catch shares, one has to understand this larger literature and, in particular, the emphases on private property rights and devolution of authority that dominate this literature and current catch share discussions. In the sections below, we present a synopsis of this literature and its emphases. We believe all parties interested in sectors should know the basics of this literature and aim here to just present an overview. We reserve critical comment until later in this report.

### *1) Private Property Rights and the Stewardship of Self-Interest*

A diagnosis of missing property rights is crucial to the entire field of fisheries economics and is central to the theoretical support for sectors: “From the start, it was recognized that fishery problems were related to the absence of individual property rights in the fish stocks. . . [Copes 1986:278].” While a voluminous literature has built up over a half-century regarding the importance of property rights and the need for “rights-based” fishing regimes (Gordon 1954; see, generally, Neher *et al.* 1989; Shotton 2000), the central content has not changed and is succinctly stated:

From an economic theory point of view, the major source of the overfishing problem is the lack of property rights [Anderson and Holliday 2007:9].

Note that the dominant causal model in the literature for over fifty years stresses the absence of property rights, not the absence of careful limitation of how many fish are caught, as the reason too many fish are caught (*c.f.*, Bromley 2009). Rather than framing the problem as a management problem—how to set appropriate catch limits and then enforce them—the prevailing literature instead frames the problem as a problem of ownership—since no one allegedly owns the fish, there is allegedly no incentive to conserve fish stocks. Ownership, it is argued, promotes stewardship. Stewardship, in turn, *would* bring management into play, because stewardship would presumably require adoption of sustainable catch limits.

The rationale for sectors, as a form of catch shares, thus rests on the circular reinforcement between beliefs about individual property rights and stewardship. It is a theory of self-interest—private owners will become stewards because of their long-term interest in protecting their property. While the National Research Council [NRC 1998:32] has noted that the entire theory (linking private ownership and stewardship) rests on “faith,” the argument is so ubiquitous that it now is taken as an established fact and presented to readers as something close to an immaculate chain of events:

[S]hares in a collapsed fishery are worth as little as shares in a collapsed bank. But shares in a thriving fishery command high prices and represent real wealth for their owners. Suddenly, fishermen have an incentive to preserve a fishery for the future, as preservation

will be reflected in a higher value of which they ‘own’ a share. Each fisherman has an incentive to lobby for the optimal TAC [Heal and Schlenker 2008:1045].

### 2) *Devolution, Deregulation, and Self-Regulation*

The second emphasis that pervades contemporary discussions of catch share programs focuses on catch shares as an alternative to what is perceived to be excessive or “heavy government involvement in fisheries management [Johnston and Sutinen 2009:11].”<sup>4</sup> It is no exaggeration to say that much of the rights-based/catch share literature features a marked anti-government tone. Perceiving a failure of government-based management that is regarded as top-down, this literature advocates putting fishermen in charge of management (Evans 2005; see also Fahn 2005). Notice that the emphasis here is on user *self-regulation* (Townsend *et al.* 2008), not *co-management* (understood as *shared* power and authority between users and government, see Pinkerton 1989).

### 3) *Theoretical Extremes and Recent Crescendo*

As mentioned above, the fisheries economics literature began with a focus on a property rights diagnosis. Still, the focus on property rights (and devolution) has become more pronounced over time. It can be argued that this evolution has created an extreme position. As a noted economist commented when he surveyed the literature in fisheries economics:

Actually, I would have to go much further in saying that I was shocked at learning the degree to which the regulatory agenda in this area had already been captured by some fisheries economists with an extreme "property rights" interpretation of harvesting quotas, which essentially preempts a serious consideration of [other standard economic tools] from the discussion table [Weitzman 2002:326 n.2].

The intense, and exclusive, focus on property rights as the causal force in what makes catch share programs “work” carries with it some implications that many people may indeed find extreme. For example, because holders of catch shares do not in fact “own” much that they could husband (were they so inclined), the leading theorists in fisheries economics have noted that if ownership promotes stewardship, it is important to own the correct thing(s). Thus we see statements such as the following from these theorists:

[Beyond] the property rights quality of the harvesting rights embodied in the quotas another important issue is the quality of *the property right in what really counts, i.e., the resource itself and its environment*. [Catch shares], being extraction rights, form only an indirect property right in these underlying resources. Consequently, they provide the individual quota-holders with little control over the fish stocks and the marine environment . . . [Arnason 2000:23-24, emphasis added].

---

<sup>4</sup> Note that Johnston and Sutinen make this comment in the context of the current days-at-sea regime which *is* a cumbersome management scheme. We would only note that this regime arose through the Council process as a direct result of industry, and hence Council, rejection of strict catch limits (output controls) in the first place, it was not imposed from Washington, D.C.

[I]ndividual permanent catch quotas of a regulatory-determined TAC are *only a stage* in the development of management from licensing to private rights. This evolution can be expected to continue until the owner has a share in management decisions regarding the catch; and, further still, *until he has an owner's share in management of the biomass and its environment...* [Scott 1989:33, emphasis added].

The logic train that leads to these conclusions is straightforward. *If* one believes that ownership promotes stewardship and the resource in need of stewardship are fish, then “owning” a permit that entitles one to catch a share of an annually variable TAC is somewhat removed from owning the particular fish in need of stewardship. Further, even owning the fish would not be fully adequate to protect them since they are free-swimming and exposed to an environment that could be alternately benign or harmful. From this viewpoint, to exercise full care over the fish, one needs to exercise full care over the marine environment itself.

Our point here is not to challenge the logic employed above (we take up that challenge later) but to establish the facts of what is in the fisheries economics literature. In our view, all participants in ongoing debates over fisheries policy must understand that in the rights-based fishing literature, catch shares are not the *end* point of some logical imperative but merely a necessary *starting* point of a hoped for and inevitable evolution toward complete private control of coastal fisheries and their habitats by the fishing industry. Thus, we now see serious works openly calling for “the privatization of the oceans” (see, e.g., Hannesson 2004).<sup>5</sup>

The extreme emphasis on privatization and private property rights found in the fisheries literature is matched by the extent of the devolution to industry envisioned in that same literature—as noted, self-regulation is the desired goal. Perhaps most extreme is the occasional tone directed at the current management system in the U.S.: “‘Communism isn't dead... Central planning is still thriving in our fisheries management’ [Pressman 2006].”<sup>6</sup>

In contrast to the steady emphasis on property rights in the fisheries literature, the reports of two national ocean policy commissions did not focus on, nor present, rights-based prescriptions (POC 2003; USCOP 2004). In fact, one of the commission reports carefully discussed catch shares as *privileges* (see USCOP 2004:289) and the distinction between privileges and rights was drawn in Congressional treatment of catch share programs in both the 1996 and 2006 reauthorizations of the Magnuson-Stevens Act (P. L. 104-297; P.L. 109-479). But 2008 saw a marked escalation of emphasis on privatization and property rights. Most notable was a publication in the journal *Science* and the subsequent press coverage it received worldwide. Costello *et al.* (2008) contrasted the performance of fisheries around the world with and without catch share systems by looking at data but *explained* the results they observed in

---

<sup>5</sup> Others, including one of the main authors in the EDF/Reason/PERC partnership, call for private ownership of whales (see, DeAlessi 1997).

<sup>6</sup> Pressman is quoting a well-known fisheries economist, active in the discussion of sectors. We think the regional council system is a far cry from communism as a political system and even the most cumbersome assemblage of input controls is hardly a planned economy.

terms of the standard assumptions regarding the causal properties of property rights and the assertion that ownership promotes stewardship.

This rights emphasis in Costello *et al.* (2008) was then amplified in announcements of their findings, both in the same issue of *Science* (“Privatization Prevents Collapse of Fish Stocks, Global Analysis Shows [Stokstad 2008]”), and other outlets such as *The New York Times* (“Privately Owned Fisheries May Help Shore Up Stocks [Dean 2008]”) and *The Economist* (“Scientists find proof that privati[z]ing fishing stocks can avert a disaster [Economist 2008]”). Shortly after Costello *et al.* was released, a companion and derivative article appeared in the journal *Nature* repeating the ownership explanation (Heal and Schlenker 2008).

As is evident in the discussion above, academic economists have played a central role in developing the literature emphasizing property rights and devolution of authority. But the recent crescendo is due to the complementary influences of philanthropic foundations and other NGOs with a conservative, if not libertarian, political ideology. Among the most influential forces appears to be a partnership between the Environmental Defense Fund (EDF), the Reason Foundation, and the Property and Environment Research Center (PERC) known as “IFQsForFisheries” supported by funding from the Alex C. Walker Foundation, the Bradley Foundation (funds passed through the Sand County Foundation), the Charles G. Koch Foundation, and the Wilkinson Foundation.<sup>7</sup> More recently, other foundations have joined in the promotion of catch shares including the Walton Family Foundation, the Gordon and Betty Moore Foundation, and the Paul G. Allen Family Foundation.

#### 4) *From theory to practice in New England*

The current interest in sectors under Amendment 16 is occurring in an environment influenced by the theoretical emphases and players reviewed above. Perhaps the most striking evidence of this influence is the suggestion reported in *The New York Times* that the Obama administration is interested in “privatizing” U.S. fisheries (via sectors):

The National Oceanic and Atmospheric Administration, the federal agency that regulates ocean fishing, is taking preliminary steps toward privatizing fisheries in New England, the agency’s administrator said Wednesday [Dean 2009].

The emphasis on devolution and deregulation in the fisheries literature is also evident in the approach to sectors under Amendment 16:

---

<sup>7</sup> The current project website ([www.ifqsforfisheries.org](http://www.ifqsforfisheries.org)) downplays the participation of EDF but a search of the Web Archive locates a 2004 entry that clearly describes the partnership as does the linked article in *Philanthropy*, see: <http://web.archive.org/web/20040417023615/www.ifqsforfisheries.org/about.html> <http://web.archive.org/web/20040415025947/www.philanthropyroundtable.org/magazines/2004/january/Adventures+in+Philanthropy.htm>

The three-party partnership continues as evidenced by recent publications such as Leal *et al.* (2008).

Still in the making, the ‘catch share’ system is to be based on a series of cooperatives known as ‘sectors,’ which shift much responsibility from government to the private structures [Gaines, 2009a].

The New England situation is also consistent with, and reflective of, the national picture in terms of the private funds and partnerships involved. The principals in the EDF/PERC/Reason partnership are active in the movement towards sectors (see, *e.g.*, Leal 2006), as is the Sand County Foundation (see, Petruny-Parker 2007). The Moore Foundation has given significant amounts focused on the adoption of catch shares in the region.<sup>8</sup> The widely touted Costello *et al.* (2008) and the related Heal and Schlenker (2008) papers are influential in the New England setting— for example, both papers were cited as part of the supporting rationale for approval of a sector program in state waters in Rhode Island (Sullivan 2009).

Sectors are thus a home-grown concept being debated within a context that is inextricably linked to national events and a half-century of fisheries literature. With this background in hand, we turn now to our interviews with stakeholders in the New England consideration of sectors.

---

<sup>8</sup> See: [www.moore.org/marine-conservation.aspx](http://www.moore.org/marine-conservation.aspx) ; and [www.moore.org/init-grants-awarded.aspx?init=112](http://www.moore.org/init-grants-awarded.aspx?init=112)

### III. Gauging Support for Sectors

The previous section documented our understanding of sectors as they are being contemplated under Amendment 16. We used this understanding as our background for conversations with industry members, sector managers, and state and federal managers. Almost immediately, we encountered what, to us, was an unexpected state of affairs. Support for sectors was much more varied than we anticipated given popular accounts regarding the embrace of sectors. In some cases, people were both notably dismissive of sectors and yet resigned to their apparent inevitability.

It was also clear that there is a rough division in New England between what might be called a “managerial” class and the “rank and file” fishers of the groundfish fleet. The former includes those most closely involved with the Council process whereas the latter includes people who may have very little knowledge of, or exposure to, the Council, yet ultimately may be very affected by Amendment 16 (however it is finally constructed and implemented). Generally, the support for, and outright promotion of sectors rests most clearly in the managerial class whereas the rank and file display the most diverse views on sectors. When reviewing the tapes of Council meetings associated with sectors, we found a segment of industry testimony that nicely captures this dichotomy (see Text Box 1).<sup>9</sup>

From our conversations, it also appears that understanding of sectors is highly varied across both industry and non-industry. “Sectors” for some represent something quite specific, while for others they are just anti-matter—an alternative to the status quo and therefore, almost by definition, an improvement. As a gross generalization, we have found that the firmest grasp of the sector concept is held by certain sector organizers, sector managers, and government fishery managers. Some, but clearly not all, boat owners are also quite knowledgeable about sectors, as are *some* hired captains. Crew are often totally unaware of what sectors are, beyond a new noun in the lexicon of fisheries management. This wide range of familiarity with the concept regarded as the last best hope for New England groundfish is cause for concern.

Most critically, we think it is important to have an accurate picture of how people are thinking about sectors *and* to understand reasons why those thoughts might depart from the popular depiction of broad support for sectors. As noted, our exchanges with industry in particular suggest that the embrace of sectors is not as emphatic or as universal as might be inferred from popular accounts. Our sense is that support for sectors reflects a fragile coalition of differing interests rather than a uniform conviction in the superiority of sectors. Below the surface appearance of widespread support, we found a more complicated picture of reasons for both support and doubts about sectors (and for some people these are not mutually exclusive categories).

**Text Box 1: The rank and file vs. the managerial class:**

“The rank and file fishermen are not so interested going off, jumping over the sector cliff as are maybe some folks in this room.”

---

<sup>9</sup> Source: Public testimony from industry recorded at the January 24, 2008 meeting of the NEFMC in Danvers, MA.

In the sections that follow, we provide several reasons why industry support for sectors may be more complicated than many in the managerial class seem to think is the case. We focus on factors that may be contributing to this divergence. We stress that we are reporting on what people told us.

*a) Sectors were the only alternative*

One reason sectors are attracting so much attention is because they represent the only alternative offered by the Council during most of the development of the Amendment 16 package to the status quo management regime based on controlling days-at-sea. Early in the Amendment 16 process, proposals for individual transferable quotas (ITQs), a “points system” (featuring tradable biologically referenced points rather than pounds of fish, see NESCS 2007), and a proposal for area-based management were all dropped from further evaluation.

In one sense, the widespread embrace of sectors is thus driven by the elimination of alternatives, rather than by an independent preference on the part of industry for sectors over all alternatives. The status quo management regime seems increasingly politically unacceptable to many managers and industry participants.<sup>10</sup> In this situation, people are desperate for *any* alternative to the status quo. In this context, if the Council is only considering one alternative to the days-at-sea regime, it is not surprising that there is widespread “support” for that alternative.

We think that caution is warranted when interpreting this apparent support for sectors. All that the current embrace of sectors tells us is that people prefer sectors to the status quo (or to what they imagine will be the horror of the common pool fishery). It tells us nothing about how they feel about sectors versus other potential alternatives. Based on conversations with industry, our sense is that some, perhaps many, people are settling for sectors while knowing that sectors are not what they really want (see Text Box 2).<sup>11</sup> Sectors end up as the preferred alternative by default.

It must be acknowledged that the Council was facing, or acting under the influences of, external pressures when it eliminated other alternatives early in the Amendment 16 planning process. For example, consider the fate of an alternative based on individual transferable quotas (ITQs):

The Council decided not to pursue an ITQ proposal because recent changes to the M-S Act impose a requirement for an industry referendum before an ITQ can be implemented. The Council does not believe there is enough time available to develop a proposal and

**Text Box 2:  
Supporting  
Sectors, but....**

Q: From what you are saying... are you saying that you are investing enormous amounts of human and financial capital in pursuit of a system [sectors] you do not really want?

A: Yes.

---

<sup>10</sup> Although we note that one manager did suggest to us that the unpopularity of days-at-sea is only recent and wondered aloud whether this newfound unpopularity reflected the fact that the allowable days-at-sea had been reduced down so far that the reductions were actually having an impact on fishing mortality (i.e., on the total catch of individual operations and the fleet in aggregate).

<sup>11</sup> Source: Interview with industry member/sector organizer.

complete the referendum in time for a May 1, 2009 implementation date [A16DEIS 2008:23].

Supporters of an ITQ alternative noted the irony in this rationale: subsequent to the decision to eliminate any ITQ alternative, it was decided that sectors themselves could not be implemented by the May 1, 2009 date. But sectors remain the only alternative to the status quo under consideration by the Council.

*b) Uncertainty over Council Commitment to Sectors*

While sectors represented the only alternative to the status quo, the Council approach to sectors was marked by a kind of “on again, off again” pattern, especially in the earlier stages of the process. The table below (Table 1) illustrates this aspect through a partial chronology of Council actions regarding sectors in Amendment 16 (Table 1 is excerpted from a more complete chronology presented as Appendix I to this report).

**Table 1: NEFMC SECTOR TIMELINE—key events in bold**

February 22, 2007 - Sector Omnibus Committee (first meeting)	- Debate over sectors as LAPPs - Role of hard TACs in a sector
March 29, 2007 – Sector Omnibus Committee	- Sectors will establish ACLs and AMs - Sector shares allocated a % of ACLs - Discuss sector size and “sideboards”
April 20, 2007 – Groundfish Committee	- Debated over whether to do DAS alternatives in Am. 16 or 17, tabled the debate until May 31. - Requested the Council include changes to specific groundfish sector guidance in Am. 16
May 31, 2007 – Groundfish Committee	- <b>Recommend that sectors and other DAS alternatives belong in Am. 17</b>
June 19, 2007 – NEFMC	- Approves a “Sector Policy”
June 21, 2007 – NEFMC meeting	- <b>Vote to include sectors and allocations to sector members in Am. 16</b> - Other DAS alternatives, including IFQ, points system, and area management remanded to Am. 17 - No more sector proposals will be included in Am. 16 - Sector omnibus committee disbanded
September 18, 2007 – NEFMC meeting	- <b>Work on sectors is suspended</b> until the groundfish committee completes a plan for May 2009 biological targets that include: DAS modifications, annual catch limits, accountability measures, recreational measures. - Groundfish committee directed to consider a hard TAC backstop for the common pool.
November 7, 2007 – NEFMC meeting	- Council approved recommendations by the groundfish committee for DAS modifications and a hard TAC backstop to help meet the ACL/AM requirements, as well as alternatives to mitigate fishery problems with the hard TAC.

	<ul style="list-style-type: none"> <li>- Council agrees that ACL/AM process requirements will be in Am. 16</li> <li>- <b>Council votes to direct the groundfish committee to continue work on sectors</b>, DAS modifications, recreational measures, and ACL/AM processes for Am. 16.</li> </ul>
December 7, 2007 – NMFS letter to NEFMC	<ul style="list-style-type: none"> <li>- NMFS NERO sends a letter to the Council expressing concerns that Am. 16 and sectors development will not be completed on time. <b>The letter suggests delaying sector implementation until 2010.</b></li> </ul>
December 13, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Discuss the letter from NMFS</li> <li>- <b>Debate whether to push back sectors, possibly IFQ until Am. 17</b></li> <li>- It is revealed that confidentiality/ownership issues are slowing the permit history process.</li> <li>- Recommend sector baseline alternatives</li> </ul>
April 16, 2008 – NEFMC meeting	<ul style="list-style-type: none"> <li>- Discussed sector allocation, ACL/AM issues</li> <li>- Proposed AMs for common pool remanded back to the planning development team</li> <li>- <b>Start date for sectors delayed until 2010</b></li> </ul>
June 4, 2008 – NEFMC meeting	<ul style="list-style-type: none"> <li>- <b>Am. 16 development put on hold</b> due to changing rebuilding targets associated with less productive stocks and concern that the draft effort control measures in Am. 16 may not be targeting the correct stocks.</li> </ul>

The pattern of the Council’s consideration of sectors resulted in influences on support for sectors that cut both ways. On one hand, the wavering Council pursuit of sectors can clearly be interpreted as less than full support for sectors, and it seems likely that this may have influenced some individuals to be similarly hesitant. On the other hand, some fishers may not have been paying close attention given the sense that the Council was not fully committed to sectors. The high demands in terms of time and attention on the average member of industry trying to stay informed on sectors are not conducive to broad participation in the policy process. In essence, because of the Council’s wandering approach to sectors, we sense that some people in industry may have stopped paying close attention to the developing sector policies (even if they had enrolled in a sector), and it is not clear whether this detachment should be interpreted as support, opposition, or indifference.

We are not saying that the sector process in the Council is particularly unique or different in this regard than other management regimes constructed by the Council. It is likely the case that for many, if not most, Council actions, many people do not express their opinions until after the Council has reached a final decision and an actual change in the status quo regulatory structure is incipient. This seems to be the nature of fishery management in our experience. Our point is simply that the process itself is one in which it is often hard to accurately gauge support and the stop/start nature of the sector development process may have augmented this ambiguity. See the

industry testimony to the Council presented in Text Box 3 for a vivid example of how some in industry discounted the Council’s commitment to sectors.<sup>12</sup>

*c) Commitment Required While Details Still Vague*

The National Marine Fisheries Service initially required industry members to sign up for (or in the vocabulary used by the National Marine Fisheries Service and the Council, to “enroll” in) sectors by March 1, 2008, *before* the details of sectors and sector implementation had been determined.<sup>13</sup> Originally, industry was told there was a fixed, and quite limited, window of time in which to apply for entry into sectors. This limited window helped create a sense of fleeting opportunity because there was no time for individuals to wait for full details or to develop a complete understanding of sectors. Our impression is that people perceived they were being “forced” (get on the train now or miss it) to choose between the common pool (which they feared) and sectors (which seemed new and attractive if not fully understood). Thus limited time (to decide) compounded the effect of only a single alternative. Our point is that the early, large, rapid enrollment in sectors cannot necessarily be interpreted as deep support for sectors.

Due to the delay in implementing sectors (see Table 1), the original enrollment cut-off date was relaxed, and the sense of a rushed, less-than-fully-informed choice will be eliminated if the Council determines sector program specifics before any new enrollment cutoff date is set for fishing in the first year under sectors (note that there will be an enrollment cutoff date for each subsequent year). At present, however, knowledge of sector program details remains slim for much of the fleet and many fishers did go through the enrollment process with little to no knowledge of sectors. Not only are portions of industry unaware of key program details, many individuals also do not yet know what their qualifying catch history will be because of difficulties in obtaining history verification from the National Marine Fisheries Service.<sup>14</sup>

Furthermore, individuals enrolled through sector organizers and in some cases these organizers were industry associations overseeing multiple sectors. It is our understanding that some individuals who enrolled in a sector will not know which sector they belong to until these associations assign them to a specific sector. Thus the mere act of enrollment cannot be interpreted as strong support for sectors.

Clearly people have a responsibility to inform themselves about critical decisions in their lives and our point here is not to suggest that lack of detailed familiarity with sectors is somehow a result of Council actions. Rather we merely want to emphasize that our interviews suggest that

**Text Box 3: Not taking the Council Seriously on Sectors...**

“I just talked to three people actually who are out at sea today, a guy on my boat, and some friends on other boats, and we talked about this issue and they said nothing is going to happen. What the rank and file don’t realize is that this decision today is a huge thing.”

<sup>12</sup> Source: Public testimony from industry recorded at the January 24, 2008 NEFMC meeting in Danvers, MA.

<sup>13</sup> There was also a drop-out or bailout date set for June 1, 2008.

<sup>14</sup> It is our understanding that the difficulties have to do with obtaining legal releases from all previous vessel owners during the qualifying period.

there are serious limits to how informed many people were (and are) about sectors (for example, concerning the relationship between sectors and TACs). Some, perhaps many, fishers may not know what they are supporting and we think there is a real possibility for explosive reactions within the fleet once the reality of fishing under TACs, albeit under sectors, plays out.

d) Support for Sectors is Influenced by Feelings about ITQs

Support for sectors is critically influenced by feelings (on the part of industry, Council members, and others involved in the discussion of sectors) about individual transferable quotas (ITQs). Both proponents *and* opponents of ITQs support sectors, but for opposing reasons. On one hand, our conversations with industry and managers suggest that there is more support for ITQs than is publicly acknowledged. But in the face of the Council decision to drop consideration of ITQs (itself influenced as mentioned above by recent changes to the Magnuson-Stevens Act), some proponents of ITQs have reluctantly accepted sectors as their next-best alternative.<sup>15</sup> Additionally, some ITQ proponents view sectors as a stepping-stone in an inevitable march to ITQs.<sup>16</sup>

Opponents of ITQs, on the other hand, embrace sectors because they regard them as an antidote to the trend towards ITQs. While ITQs focus on the individual, many believe that sectors provide a community oriented alternative. Some proponents of sectors claim they are a form of community-based fisheries *management*. Thus both opponents and proponents ironically embrace sectors because they believe sectors will be associated with a trajectory away from/towards ITQs. There is a real possibility that both some proponents and opponents of ITQs may feel substantially disappointed by sectors if their expectations are not met—and by definition, the expectations of both groups cannot be met, as they are mutually exclusive.

e) Sectors as the “Allocation Amendment”

Regardless of how people feel about ITQs, many people we talked with feel that sectors will establish what they call “the allocation,” meaning that they think some additional form of rationalization program *is* most likely coming, and that the initial allocation established now, in the debate over sectors, will be the basis of that future program. Publicly, there is disagreement between Council members about whether they are in fact establishing the allocations for any rationalization program in the future (beyond sectors). Industry members on the other hand, are far more wary of the implications of sectors for the future (see

**Text Box 4: The Allocation Amendment:**

“What I do find problematic, is the way the Council is going with this here now, we’re doing the allocation to support the sectors under the sector guise. The way I follow this here now, is we are going to reallocate in this amendment under the guise of sectors...”

---

<sup>15</sup> Within this group we note that there are some who would prefer a modified version of the present DAS system over even ITQs but feel that the new Magnuson-Stevens Act requirements for strict catch limit preclude that option and thus they have turned to ITQs.

<sup>16</sup> We did encounter some ITQ proponents who, while accepting sectors as a stepping-stone, are concerned that sectors might stall movement towards what they regard as the superior tool (ITQs).

Text Box 4 for an example from industry testimony to the Council).<sup>17</sup> As reviewed above, many see that future as involving ITQs and there is thus an inherent link between concerns about “the allocation” for sectors and ITQs (see Text Box 5 for an example of industry testimony to the Council featuring this linkage).<sup>18</sup>

Some of those who were not in favor of sectors in principle told us that they signed up for sectors because they thought it was the way to preserve their allocation under future management scenarios they suspected were coming. We were told that some people accepted sectors to avoid “being left behind.”

No doubt this statement may strike some readers as implausible or illogical: how can an individual be “left behind” by not supporting sectors? But this is an issue of feeling, not logic *per se*. We are reporting what we encountered and we have no doubt that this concern, even fear, was real in the minds of those expressing it. To us, this emphasizes just how uncertain and confused some people are regarding sectors.

Whether or not an individual supports sectors or enrolls in a sector, every groundfish permit will be marked in the future with a potential sector contribution. In this sense, no one will be left behind and regardless of whether they initially join a sector or not, individuals’ potential sector contributions will be established by the initial allocation scheme crafted by the Council. If the Council picks some new rationalization plan in the future but carries forward these potential sector contributions, they will carry forward for all. However, if the Council were to base future allocations on new, post-sectors catch history, it is possible that some people in the common pool could have lower catch histories (than the potential sector contributions on their permits) due to competition for the TAC in the common pool.

While we have confirmed our understanding of how potential sector contributions will be attributed to permits (regardless of the sector enrollment status of the permit holder) with NMFS staff, we do not know if this has been established in writing anywhere. We emphasize that people are not making up these fears (of being left behind by a future allocation). There *is* confusion surrounding this aspect of the sector debate, and people are taking action based on this confusion.

#### f) Enrollment in Sectors Obscures Concerns About the Fairness of the Process

As we have cautioned above, the mere fact that large numbers of the fleet have signed up to enroll in sectors is not necessarily evidence of broad support for sectors. Not a single industry member out of those we

#### **Text Box 5: Sectors as ‘backdoor’ ITQs?**

“I think we’re talking about allocation and there is not a person in this room that doesn’t believe that what allocation we do for a sector is not eventually going to carry forward into an ITQ system. The points that I have written down apply to sector allocation and they also apply to the ITQ, which we are basically developing right now. . . we are in a backdoor way getting into ITQs by allocating to the sectors in a given manner, and the Council is not going to revisit this thing and fight the battle twice...”

---

<sup>17</sup> Source: Public testimony from industry recorded at the January 24, 2008 NEFMC meeting in Danvers, MA.

<sup>18</sup> Source: Public testimony from industry recorded at the January 24, 2008 NEFMC meeting in Danvers, MA.

interviewed expressed confidence in the fairness of the process (for example, see Text Box 6).<sup>19</sup> While there is widespread dislike, even fear, of continuing with the present days-at-sea system, the feeling that sectors are being pushed on people is no less pervasive.

Concern for the process extended across both supporters and opponents of sectors. For example, we talked with people who were very supportive of and invested in sectors but told us they felt that various management bodies (e.g., DMF or NMFS) had a vision for sectors that was not fully supportive of how these individuals saw sectors. These individuals reported feeling frustrated by what they saw as their inability to influence the process to fully support their vision. The general point here that spans across all the people we talked with is one of perception: we encountered strong beliefs about the unfairness of, and lack of equal access to, the policy process. We suspect that this verdict on the process reflects an amalgamation of the concerns reviewed individually above in this section. Undoubtedly, individuals weigh the various aspects of the overall process differently but we are struck by the unanimity of the assessments on the overall process.

g) Summary:

A variety of factors have resulted in a sort of “stampede” effect and we think it is important to acknowledge from a policy process standpoint that support for sectors may be much more varied than appears to be believed by those in the managerial class.

**Text Box 6: A  
Conversation with  
a sector manager**

Q: What is your view of the appeal of sectors?

A: They suck, but it is better than what is going on now. [Because of the other sectors] [w]e were forced to join one.

Q: Was the process fair that lead to sectors?

A: No.

Q: How do sectors compare to ITQs?

A: An IFQ would be better, and that's what the majority believe.

Q: Do most people have a good understanding of sectors, what they are, how they will work?

A: Not at all.

---

<sup>19</sup> Source: Interview with a sector manager.

#### **IV. A Policy Evaluation of Sectors**

Sectors are a management tool that must, like all tools, be evaluated on the grounds of how well they meet their goals. We sense that much of the push for sectors seems to be propelled by a belief in sectors as a goal in themselves rather than as a tool that can be used to reach a fishery management goal. Nonetheless, the Council has stated that “the goals and objectives” of Amendment 16 “remain as described in Amendment 13 [A16DEIS 2008:24].” The goals and objectives described in Amendment 13 that are particularly relevant in terms of sectors are:

Goal 1: Consistent with the National Standards and other required provisions of the [Magnuson-Stevens Act], manage the northeast multispecies complex at sustainable levels.

Goal 2: Create a management system so that fleet capacity will be commensurate with the resource status so as to achieve goals of economic efficiency and biological conservation and that encourages diversity within the fishery.

Goal 4: Minimize, to the extent practicable, adverse impacts on fishing communities and shoreside infrastructure.

Goal 6: To promote stewardship within the fishery.

Objective 3: Adopt fishery management measures that constrain fishing mortality to levels that are compliant with the Sustainable Fisheries Act.

In addition to these statements pertaining to Amendment 16 in general, the Council has articulated specific goals for sectors [A16DEIS 2008:40].<sup>20</sup>

- \* Address bycatch issues
- \* Simplify management
- \* Give industry greater control over their own fate
- \* Provide a mechanism for economics to shape the fleet rather than regulations (while working to achieve fishing and biomass targets)
- \* Prevent excessive consolidation that would eliminate the day boat fishery.

---

<sup>20</sup> A review of the tapes of Council sessions reveals that these goals were *not* intended to be goals for sectors on the whole, but goals for the *initial allocation* mechanism used to determine the “contributions” a vessel brings to a sector (see, <http://www.nefmc.org/actions/index.html>, link for Jan 24, 2008, Audio Recording #2). We ignore this distinction because we do not understand it (for example, it does not make sense to speak of an initial allocation option that gives “industry greater control over their own fate”), but this strange episode *does* serve to highlight just how hard it is at times to follow the Council consideration of sectors.

In the discussion that follows, we will walk through these goal statements (grouping them based on thematic similarity and not distinguishing between goals and objectives), considering how sectors might contribute to attaining each goal and whether the goals themselves are consistent with the context of fisheries management under the Magnuson-Stevens Act.

a) Conservation versus Stewardship

The Council has articulated both conservation and stewardship goals for Amendment 16 (see Goals 1, 2, 6 and Objective 3 above). We think it is important to consider these goals individually.

*1) Conservation*

Goals 1 and 2 and Objective 3 relate to the desire to curb overfishing. However, it is not clear how sectors *per se* will accomplish these goals. The Council talks of sectors as “additional tools to meet mortality objectives,” and there is a suggestion that sectors are regarded as “accountability measures” (themselves a new mandate in the reauthorized Magnuson-Stevens Act) that will help to end overfishing (see for example, A16DEIS:19). At other times, the Council’s consideration of sectors seems motivated mostly by an interest in sectors as a business planning tool for industry: “sectors are primarily formed to realize efficiencies in the use of vessels out of the consolidation or redistribution of sector vessel effort. . . [A16DEIS:124].” Ultimately however, in this report we regard it as self-evident that sectors *have* to be about conservation (stopping overfishing) in light of mandates from both Congress and the courts that propelled first Amendment 13 and then Amendment 16.

As we noted earlier in Section II, sectors as a form of catch share program feature a TAC that is subsequently divided into catch shares. While the subdivision of the TAC into individual catch shares provides undoubted economic benefits to fishers, the *primary* conservation benefit in such systems derives from imposition of the TAC itself rather than the subdivision of the TAC. Nonetheless, the subsequent division of the TAC into catch shares *does* provide additional conservation benefits. For example, assigning catch shares enables finer attainment of the TAC with less likelihood of over-shooting the TAC and protects against a derby fishery. In addition, there is less lost gear (particularly in fixed-gear fisheries) and thus less ghost fishing. However, these are additional benefits and are relatively small compared to the conservation benefits derived from the existence of a TAC – a fact often overlooked in discussions of catch share programs, where the assumption often seems to be that catch shares themselves hold the primary conservation promise inherent in such systems (see, e.g., Costello *et al.* 2008).

We believe that the success of sectors will depend in large part on understanding and careful attention to the role of TACs in catch share systems. Recall the assertion that the primary cause of overfishing is the alleged lack of property rights (Anderson and Holliday 2007). Ironically, these same authors contradict their property rights analyses by acknowledging the central conservation role of TACs:

A TAC that conforms with other parts of the MSA [Magnuson-Stevens Act] will ensure that there are no problems with overfishing [Anderson and Holliday 2007:24].

The point is that *overfishing is caused by overfishing*—catching too many fish—and this is addressed by the imposition of catch limits that—limit catch. Thus, the primary conservation benefit of sectors will come from the underlying introduction of TACs. Of course the confident pronouncement quoted above should be qualified by recognition that successful TAC management requires both the ability to set the TAC “correctly” *and* the ability, commitment, and political will to monitor and enforce attainment of the TAC. Setting the TAC “correctly” is a critical matter to be sure, but the challenge is not insurmountable. The Magnuson-Stevens Act sensibly calls for the best effort possible (in terms of setting catch limits) under given circumstances. Present circumstances surrounding stock assessments of groundfish off New England seem far from ideal, but this unfortunate situation does not endorse the alternative of fishing without strict limits on the aggregate fishing mortality inflicted on the target and by-caught stocks.

We sense that the some of the conversation about sectors verges on a form of denial regarding the reality that sectors *will*, by definition, involve TACs. That is, sectors seem to be regarded as a way to cope with new mandates in the Magnuson-Stevens Act regarding TACs in a way that will somehow make TACs less like TACs. Here it is useful to place the current interest in sectors in the larger context of recent evolution of the Magnuson-Stevens Act.

A brief history would note that with the Sustainable Fisheries Act (SFA, P. L. 104-297) amendments of 1996, the U.S. Congress signaled a new commitment to address chronic overfishing in many regions of the country—including New England. A decade later, the Magnuson-Stevens Reauthorization Act of 2006 (MSRA, P.L. 109-479) could be interpreted as Congress saying “no, we really meant it in the SFA, you have to stop overfishing,” and, with perhaps a nod in the specific direction of the NEFMC, Congress *mandated* that all regional councils must adopt strict “annual catch limits” (i.e. TACs<sup>21</sup>).

Our conversations with industry and managers confirm a well-known disdain for TACs throughout much if not most of the New England groundfish community that extends to some managers. This attitude appears to be both deep-rooted and longstanding, dating back to a very early failed attempt at introducing TAC management to New England (see, *e.g.*, Pierce 1982). The “problem” with TACs appears to be that fishing must cease when the TAC is reached. The specter of having to tell the fleet to stop appears as haunting anathema in Pierce’s (1982) account of the early formative (negative) experience with TACs. Related to the disdain for TACs is an article of faith in New England that “TACs don’t work.”

There is thus a contradiction involved in New England’s embrace of a tool that requires TACs—a tool whose conservation promise lies in the fact that a TAC is established (and presumably adhered to). Ironically, what some individuals like least about sectors, and what may pose the greatest challenge to sector management, is the enforcement of the TAC. The puzzle is, then, how can people reject TACs while embracing sectors?

Council documents and discussions suggest a belief that this conundrum is to be resolved by just turning the problem over to industry:

---

<sup>21</sup> The MSRA introduced a new acronym into the lexicon of fisheries management: ACLs (annual catch limits). Though there is much clever wordplay involved in distinguishing between ACLs and TACs, for the purposes of this report we will treat the terms as synonymous.

By not mandating the commitment time to a sector and allowing the sectors to set their own rules, the sector might be more successful in the long-term. This success will be realized, while working within their allocation (hard TAC), the group will be largely self-regulating [A16DEIS:43].

In this quote, we see an emphasis on devolving management to industry, and a logic that seems to suggest that devolution itself will make TACs more palatable (or perhaps just less noticeable), easier to conform to, and thus, more likely to succeed. In essence, devolution has been positioned as being equivalent to conservation by virtue of the belief that the sectors “will be largely self-regulating” (most notably in terms of staying within their TACs). As we noted in Section II, belief in devolution features prominently in the movement towards sectors (and reflects a similar emphasis in the fisheries literature). Without challenging the belief in devolution on ideological grounds, it should be noted that the operational problems inherent in determining and then implementing and enforcing TACs are not necessarily made *any* easier by assigning these problems to industry. Shifting the incidence of the problem is not the same as solving the problem.

Hopefully, there will be conservation gains under sectors, but this reflects the conservation that can, potentially, be realized by TAC management, not some inherent benefit of putting industry in charge. But there will be additional expenses and work over and above a TAC-only system. As reviewed above, assigned catch shares are generally expected to produce less overruns of the TAC in comparison to the simpler case of a fleet-wide TAC (without assigned catch shares). But the finer control over attainment of the TAC under catch share systems is due to the fact that enforcement (and accountability) has been brought down to the *individual* vessel level. Under a simple fleet-wide TAC there is no such thing as holding an individual vessel accountable for “catching too much.” There is no basis to think that the monitoring and enforcement needs are lessened by the additional partitioning of the TAC into individual catch share assignments. In fact, the opposite is more likely:

Problems with enforcement of quotas apply equally to ‘global’ quotas and to individual quotas and may even be greater in individual quota- managed fisheries because of the additional surveillance requirements to monitor quotas at an individual vessel level [Morgan 1997:4].

This quote highlights what we call the “individual accountability challenge” posed by catch share programs. Under sectors, this burden of monitoring and enforcing individual vessels has not gone away, it has merely been shifted to the sector managers. It is true that sectors allow harvest overages by individual vessels to be compensated for by reallocations within the sector. Thus, sectors provide a measure of flexibility compared to an individual quota program (where the only way to adjust is to buy or lease additional quota on the open market) and this cooperative flexibility may be appealing to both industry and managers. However, individual vessel catches must still be tracked with accuracy and we sense that the cooperative flexibility of sectors may only be deflecting attention away from the individual accountability challenge.

Under sectors, federal regulators will focus on whether a particular sector stays within its aggregate share of the overall TAC. But accountability at the individual vessel level is still necessary. Sector managers will thus have to confront the enforcement and accountability (not to

mention liability) problems that are ultimately focused on the individual vessel level. In a multi-species fishery prosecuted with relatively non-selective fishing methods, these accounting problems are expected to be substantial. Conservation depends on the ability to “solve” the individual accountability challenge. Devolution merely devolves, it does not solve, the individual accountability challenge.

In our view, more time should be devoted to thinking through the challenges of TAC-based catch share management. *Any* form of catch share-based management carries with it a substantial enforcement and monitoring challenge that must be addressed with realism. The past record of TAC management in New England suggests that the management infrastructure and cultural commitment to enforcement that is necessary for effective TAC management is lacking. Sectors will fail on the conservation front unless this situation is addressed.

A report on monitoring and enforcement needs associated with sectors by consultants contracted by The Gulf of Maine Research Institute drew upon experiences with catch shares within the British Columbia multispecies trawl fisheries. This report underscores the central importance of monitoring:

The primary tool used to sustainably manage groundfish fisheries is the total allowable catch (TAC). TACs are generally set at a level where the annual fishing mortality will not decrease the standing stock. This requires knowledge of the true annual catch and mortality. *It is extremely difficult to ensure catch mortalities are kept within TAC limits when all mortalities are not accounted for.* Specifically, managers need an accurate accounting of the total catch and release mortality on a stock specific basis [Turris and McElderry 2008:2, emphasis added].

Our conversations with industry suggest that many people are attentive to the scale of the monitoring challenges. However, some key industry members indicated a belief that monitoring and accountability will be relatively easy to accomplish. It is not clear to us that the National Marine Fisheries Service is preparing to alter or augment its existing data collection and catch monitoring programs to meet the challenges posed by sector management. We believe that sectors will be a management failure (perhaps spectacularly so) with respect to conservation *unless* the monitoring and enforcement problems are taken more seriously. As is true of any form of catch share program, monitoring will involve *substantial* costs and we do not agree with industry members who dismiss the cost estimates provided by the outside consultants as being too large to be credible.

Finally, there is a distributional dimension to providing for conservation that may not be fully understood by all participants in the sector discussions. Because sectors shift the burden of monitoring at the individual level from federal regulators to sector managers, they shift costs away from the federal government towards industry. Of course, the actual funds for monitoring could still come from federal sources. However, the determination that sectors are not limited access privilege programs (LAPPs) under the Magnuson-Stevens Act may have important implications for who will pay the bulk of these substantial monitoring costs.

Under the Act, cost-recovery from LAPP participants is capped at 3% of ex-vessel value of the catch. But since sectors are not LAPPs (at least under present interpretations), there is effectively no limit on industry contribution to monitoring costs (and estimates of these costs run as high as 20% of ex-vessel value). We are not arguing for or against public subsidies to cover

the costs of monitoring, but we do believe that many participants in the sector debate are not fully aware of the implications sectors hold for who pays for what, and how much they pay.

## 2) *Stewardship*

Often the public rhetoric of sectors invokes “stewardship.” Stewardship appears as both a goal in itself (recall Goal 6 above: “to promote stewardship within the fishery”) and as a mechanism that will deliver the goal of conservation. The two concepts appear intimately intertwined in the minds of those involved, so that when we have asked directly about conservation, we have often been met with replies such as: “well, if sectors work the way we think they will and promote stewardship.....”

Though the two terms seem to often be used interchangeably in discussions of fishery management, stewardship is different from conservation. Stewardship is an ethic, an attitude, a responsibility. Conservation is an outcome. Though stewardship often motivates conservation, one can have successful conservation without stewardship. In the context of conversations surrounding sectors, the concept of stewardship appears to be understood as less volitional than an individual or societal ethic, something that is somehow inherent in certain management structures. Participants in these conversations often refer to stewardship as if it (and conservation) will spring forth if only the Council designs the right system.

The expectation of an apparently automatic appearance of stewardship is tied to reliance, in the rhetoric surrounding sectors, on the conviction that ownership promotes stewardship. This conviction is widespread in a contemporary movement emphasizing privatization of natural resources. Examples of the ownership-promotes-stewardship thesis in the context of catch shares and sectors often invoke the legacy of Aldo Leopold in support of the idea that ownership is critical to stewardship (see, *e.g.*, Petruny-Parker 2007; Fahn 2005).

But Leopold did not advocate the conversion of public resources to private ownership (nor the reverse). Leopold concentrated on the difficult issue of how to get private owners to treat their land better. Leopold wrote that the essential problem in land conservation “is to induce the private landowner to conserve on his own land... [Meine 1988:321].” Note the complete undermining of the ownership-promotes-stewardship thesis explicit in this quote—Why would Leopold take it upon himself to “induce the private owner to conserve land” if private ownership inherently causes private owners to conserve land? There is nothing in Leopold’s legacy to suggest, much less assure, that sectors will promote stewardship.

The confusion between stewardship and conservation and the suggestion that a movement to sectors will on its own lead to greater conservation (as a result of sectors inherently fostering stewardship) must be understood as part of a larger uncritical emphasis on ownership that has begun to permeate the marine conservation literature generally. Consider for example the following statement from the National Research Council Committee on Marine Protected Areas:

The failure of communities to limit use of the commons by individuals in the cause of overall community interest and sustainability has led to a shift in most countries to private or government ownership of most land areas. This shift imbues property owners with a strong incentive to protect the land and its resources from overuse and destructive activities, thus empowering the owners to act as stewards of the land [NRC 2000:20].

If the logic of the above quote were sound, one has to wonder why any terrestrial conservation problems exist, given the near-universal ownership of land, whether private or public. The simple truth is that ownership does not *ensure* stewardship *or* conservation. We know (from Leopold among many other sources) that both private and public owners may either care for natural resources or abuse them. If hopes of conservation are pinned on a voluntary attitude change, the expectation that sectors will induce conservation is reckless.

We note that the currently existing sectors *do* seem to be associated with an ethic (or at least a rhetoric) of stewardship, but our understanding is that this ethic derives from the founders of those sectors, and was possessed by those individuals *before* founding the sectors, not acquired as a *result* of running these sectors. That is, stewardship can be introduced to sectors, but sectors will not automatically induce stewardship.

All the speculative emphasis on ownership as an incentive to stewardship detracts from a focus on the important issue of conservation and what makes conservation work. At one point, the authors of a recent, highly influential, report on catch shares emphasize “well-designed catch shares [Costello *et al.* 208:1680]” but they do not elaborate on what constitutes good design. We think the elaboration of what truly matters in catch share systems (beyond the fact that they assign catches thus removing the incentive to race) is to be found in another recent study. Branch and Hilborn (2008) also invoke the rhetoric of “rights” as “incentives,” but ultimately do not stress this point in their analysis of what makes for successful management of TACs in the challenging context of multispecies trawl fisheries. Instead, these authors describe the key causal mechanism as follows:

The B.C. fishery is managed under an ITQ system *that provides incentives* for skippers to match their catches to individual-species quotas and also minimizes misreporting, high-grading, and discarding *by placing observers on board each vessel and deducting discard mortality of marketable fish from quotas* [Branch and Hilborn 2008:1442-43, emphasis added].

Notice that the critical “incentives” come not from ownership, but from placing observers on board. What Branch and Hilborn call “incentives” look to us like old-fashioned deterrents or *disincentives* in the form of strict monitoring backed up by the certain penalty of stopping fishing when a TAC is reached for either a target species or a bycatch species.

We think the assertions of catch shares unleashing stewardship are inflated rhetoric. If stewardship flowed from the mere conversion in ownership (from the public to private hands), then why are the enforcement costs associated with catch share programs so high (perhaps the highest of any management system, see Beddington *et al.* 2007), why do Chilean scholars publish studies of cheating under catch share programs (Chavez *et al.* 2008), why is the largest factory trawler company operating in the Alaskan pollock fishery (featuring the exclusive “ownership” conveyed by Congress in statute under the American Fisheries Act) under investigation for tampering with the onboard scales that form the basis of monitoring in that fishery,<sup>22</sup> and why was the chief opposition to substantial scientifically recommended TAC reductions in the

---

<sup>22</sup> See , “Scale Scandal” at <http://community.adn.com/adn/node/128915>.

Icelandic cod fishery from catch share owners?<sup>23</sup> All of these examples are illustrations of the contest between short term economic gain and long term conservation that is familiar to any serious discussion of the economics of conservation (the classic work on the discount rate in conservation is Clark 1973; in the fisheries context, see, e.g., Macinko and Bromley 2002, 2004; Morgan 1997). There is *never* a guarantee that individual preferences for immediate economic gains will not trump long-term considerations.

In summary, in order to assess the prospects for sector management, it is important to separate the hard realities of effective conservation from dreams of stewardship. If sectors are to succeed in biological terms, it will be only because of a collective commitment to monitoring and enforcement, not because of faith in the power of privatization to promote stewardship.

### b) Addressing Bycatch

The Council has articulated a specific hope for bycatch reduction (see Objective 10 listed earlier) and we have encountered great hopes on the part of both industry and managers that sectors will solve “the bycatch problem.” There seem to be several dimensions to the problem. On the one hand, the current management regime (featuring low trip limits for some species) combines with a multispecies fishery and the dominant mode of harvest by bottom trawling (which is relatively unselective) to produce *bycatch* (the unintended capture of particular fish) and, in turn, *discards* (fish thrown overboard at sea, in this case because they exceed the trip limit). From this perspective, the problem is one of excessive regulatory discards. On the other hand, there is open talk of a “culture of discarding” recognized by industry and said to be growing worse (Turris and McElderry 2008:1). This appears to be delicate phrasing recognizing that industry practices, along with the regulatory regime, are contributing to the problem of excessive discarding.

Of course, one partial solution to the problem is to adopt more selective modes of fishing. One example of this approach is the development of the Eliminator/Ruhle Trawl. Attacking the problem from the other end involves changing the regulatory regime -- and this is where sectors come in to play. At first glance, sectors would seem to offer significant improvement: the current trip limits would be eliminated. But, sectors will not do away with the all forms of catch limits that lead to discarding of overages. Individual vessels will presumably have limits (their catch shares assigned by the sectors), sectors as a whole will have limits, and there will be overarching TACs (in compliance with the new Magnuson-Stevens Act and the basis of sectors as discussed earlier).

The hope expressed to us by some sector managers is that sectors will feature trading within sectors and between sectors and these adjustments will make the overall TAC limits easier to accommodate. Still, whether these adjustments are done through the “point system” (NESC 2006) or through poundage trades, the underlying foundation of sectors is a TAC. Some of these TACs may be quite small and it is certain that there will be a need to make adjustments (in an individual fisher’s or a sector’s total collection of catch shares). The need for adjustments arises because of the problem of catching fish in exactly the right amounts to stay within limits and this is a challenge regardless of whether the catch shares in question apply to targeted *or* non-targeted

---

<sup>23</sup> The cod TAC was reduced by about 30 % in 2007, see, <http://news.bbc.co.uk/2/hi/science/nature/6992938.stm>.

(but by-caught) species. A boat that goes over any of their assigned amounts is going to have to “pay” in one form or another (for points or pounds) even within a sector arrangement. At this point, the owner/operator must decide whether the cost of securing additional catch quota is less than the “cost” of discarding. Clearly, there will be a temptation to use discarding to avoid payment, *so long as the likelihood of detection remains low*.

Our interviews with fishers suggest that many believe that there will always be a market and demand for *any* fish they catch and that there will always be quota available to obtain (via purchase or trade) to insure that the sector as a whole never runs into the problem of exceeding its annual allocation. Even with external trades between sectors, there will not be an endless supply of quota, and eventually the fleet-wide TAC will be reached and then fishing must stop. We are concerned that the actual conditions of fishing in sectors under strict TAC management may come as a rude shock to some sector participants and cause more rancor and frustration with management in the future.

The issue of bycatch underscores the importance of credible monitoring to the biological integrity of sector management. A suggestion we heard from some sector managers -- that dockside monitoring will be sufficient -- seems to be at odds with worldwide experience with catch share systems. In our view, there is reason to be concerned about the casual attitude toward monitoring that we encountered in some of our conversations with both industry *and* managers. Catch share systems are known to present enhanced incentives to highgrade and otherwise discard at sea. Again, we emphasize the central finding by Branch and Hilborn (2008): extremely strict monitoring and enforcement programs are needed to overcome the bycatch problem inherent to multispecies trawl fisheries and make TAC-based catch shares work in these fisheries.

### c) Promoting/Preventing Consolidation

Goals 2 and 4, Objective 7, and two of the sector-specific goals articulated by the Council all address aspects of consolidation. However, there is a certain schizophrenia surrounding fleet consolidation in the context of sectors. On one hand, in its endeavor to facilitate conservation and improve the financial condition of remaining fishers, the Council embraces the idea that there is some correct size of the fleet that will be “commensurate” with the resource (see Goal 2 above). Toward this end, the Council notes that sectors “also provide a mechanism for capacity reduction through consolidation [A16DEIS 2008:40].” On the other hand, the Council is concerned about the potential for “excessive consolidation that would eliminate the day boat fishery.”

The contradiction between desiring consolidation yet fearing its impacts on the existing structure of the industry is not unique to the New England Council. Catch share programs around the world are associated with consolidation. Though policy-makers often express after-the-fact concern, even outrage, over the level of resulting consolidation, there should be no genuine surprise because consolidation is what catch share programs are designed to do (see Bromley and Macinko 2007). Sectors are no exception, they are *designed* to promote consolidation and this fact is clearly expressed by the Council. Recall the quote from the environmental impact statement presented above:

[S]ectors are *primarily* formed to realize efficiencies in the use of vessels out of the *consolidation* or redistribution of sector vessel effort . . . [A16DEIS:124,emphasis added].

The pace of consolidation in catch-share programs can be breathtaking: in the first year of the ITQ/co-op fishery in the Alaskan red king crab fishery, the fleet was reduced from about 250 to 89 vessels (Knapp 2006)<sup>24</sup>; in the South Atlantic, a consulting firm estimated that 75%-90% of the fleet would exit the snapper-grouper fishery following the introduction of an ITQ program (Redstone 2007). While it is hard to say in advance what level of consolidation might result from the widespread introduction of sectors in New England, we see no reason not to expect consolidation to be swift and extensive (see Text Box 4 for what may be an extreme prediction). Consolidation under sectors can reasonably be expected to be greater than under an ITQ program because the group nature of sectors allows, even encourages, pooling of catch onto fewer vessels to a greater degree than under an ITQ program.

Of course, consolidation is already occurring and will continue to occur, with or without sectors. For instance, it is well known that one member of industry currently owns in excess of 20 restricted groundfish vessel permits, and this has occurred without sectors. Independently of sectors or any other Council action, depressed stocks and once-again rising diesel fuel prices are powerful forces leading to a restructuring of the fleet. We think it is worth speculating about the combined effect of sectors, high fuel prices, and low TACs on future consolidation and fleet structure. On one hand, within the context of the trawl fleet, we have heard talk that smaller to mid-size vessels are better able to cope with high fuel prices.

On the other hand, the initial allocation formulas being contemplated by the Council would seem to favor larger vessels (particularly those options that blend catch history with some measure of the capital investment in a vessel). The irony here is obvious if overcapacity really is the problem. It seems likely that these large vessels can only cope with continued rises in fuel prices by increasing their throughput. That is, given increasingly high input costs, they cannot operate at anything near an “efficient” level unless they increase their catch. The owners of these large vessels could opt to downsize (scrap the vessels and move to smaller vessels able to cope with smaller catches) but it seems just as likely that they will press to consolidate even further in an attempt to “stack” catch shares on fewer vessels. We have even heard talk of constructing factory trawlers to stay at sea and cut steaming costs while increasing catches. We have not heard the Council contemplate what sort of future fleet structure it might be facilitating by adopting of sectors.

If the Council is concerned about consolidation, then it should address these concerns directly to meet specific goals. There are clear examples of this in other rationalization programs such as the vessel size categories established by the North Pacific Fishery Management Council for the ITQ program in the halibut fishery off Alaska. The vessel size classes in halibut ITQ program were just one of many “bells and whistles” that were once derided as “social

**Text Box 7: A conversation with an owner of multiple vessels.**

**Q.** How extensive do you think consolidation will be under sectors?

**A.** It’s going to be like clamming—you’ll have six operations left in the industry.

---

<sup>24</sup> Knapp (2006) states that about 15% of the observed consolidation in crab vessels was attributable to a buyback program, not the IFQ/co-op program.

engineering.” But now that program is held up as the example of socially responsible ITQs precisely because of the policy decisions made to temper the inevitable consolidation unleashed by the program.

Instead, the Council focus has been on the desire to “provide a mechanism for economics to shape the fleet rather than regulations.” This is an odd statement, for shaping by economics is exactly what is happening now under the conditions of low fish stocks and rising fuel prices. This statement by the Council (curiously articulated by the Council as a goal for the initial allocation mechanism, as mentioned above) reflects a belief that sectors will be “natural.” This attitude is consistent with larger assumptions in fisheries policy (and literature) in the U.S., where catch share programs are associated with markets that are thought to be natural. Discussions of catch share programs are often imbued with the sense that they are an *alternative* to government intervention. In the context of sectors, Council members emphatically state that they do not want to engage in “social engineering” and that the Council does not want to “micromanage” sectors. This language surfaces in discussions of placing restrictions on consolidation and related attempts to ensure fleet diversity.

But fisheries management *is* social engineering. The purpose of the Council is to engage in social engineering — the Council has been assigned that task by Congress. For example, National Standard 8 of the Magnuson-Stevens Act compels the Council to consider management impacts on fishing communities. And sectors are no exception to this “rule” of social engineering being the norm. In creating sectors, the Council is stepping in to an existing regulatory landscape and changing it, selecting winners through initial allocation qualifying schemes and deciding whether to address key implementation features via private industry or government oversight.

Regarding the Council’s desire to “create a management system so that fleet capacity will be commensurate with the resource status,” the idea appears to be that there is a “correct” fleet size for a given level of stock. In response, it must be recognized that this involves forever-moving targets, the resource and the catching power of the fleet are never constant. Moreover, this belief places too much emphasis on effort and too little on mortality: given the level of technology employed, and the relevant stock levels, overfishing can occur with 20 boats or 200 boats, if there is no effective way to contain fishing mortality. Of course with sectors, there will be a cap on fishing mortality, the TACs, but again, given a sufficiently advanced level of technology, TACs can be taken by 20, 200, or 2000 vessels (particularly with relatively low TACs). The determination of the “right” fleet size is an exercise in social engineering.

#### d) Mitigating Community Impacts

To a large degree, the Council’s concerns over the possibility of what some might consider extreme consolidation are expressed in terms of concerns for impacts on traditional fishing communities and ways of life. As noted above, the Council has expressed an interest in minimizing adverse impacts on communities (see Goal 4). In addition to the formal goal statement to this effect, we have encountered frequent expressions of concern by both managers and industry for communities in the groundfish fishery as well as widespread hope among these groups that sectors will help address these concerns. However, few details of sector management focus on place.

While many of the sectors are informally associated with places (for example many of the existing and proposed sectors use place names in the name of the sector), there is nothing in sector management as currently envisioned that prevents a sector from moving to a new location. Regardless of how they are named, sectors are simply placeless legal corporations. Sectors are thus “virtual” communities — clubs of permit holders that may or may not be associated with any particular place-based community. Since sectors receive the allocations, the sector management — not individual members — controls where a sector is based. In the absence of any externally imposed formal requirement, a sector’s location (if it even has one) is a private business decision of the kind that the Council has stated it prefers not to “micromanage.”

The Council is also silent on the concept of so-called community banks (permit banks). In general terms, the concept involves “communities” purchasing and holding permits for subsequent lease to fishers. This kind of approach responds to the widespread concern that consolidation could leave entire communities without access to fisheries that have long been part of their social and economic fabric. There is a very thoughtful document on the subject of community banking in the context of New England groundfish (see Holland 2007), but we know of no discussion or acknowledgment of this document in the Council arena. As currently structured, community banks are private holding companies and we see no explicit tie between these private companies and the communities presumably of interest to the Council. The entire subject of “community” warrants closer attention and we present a more detailed discussion in Section V (see “Where is the Community?”).

A repeated theme in our industry interviews was that the geography of the groundfish fleet has been consolidating as much as the sheer count of vessels. Individuals are leaving the fishery, selling their permits to ever fewer permit “collectors” based in an ever-smaller number of communities. Sectors are thought to facilitate this process because of the attractiveness of pooling catch onto fewer vessels, an option enabled in sectors. Among our industry respondents, the most popularly held view was that the future consisted of three ports — Gloucester, New Bedford, and Point Judith. However one key individual suggested that even Gloucester was ultimately at risk.

We are not endorsing any of these speculations but rather emphasize that sectors will not provide protection to communities unless such protection is built in. Rather than providing protection to communities, as some proponents seem to believe, sectors may disadvantage many communities. This is a predictable result of combining the potential of sectors to accelerate consolidation with a laissez-faire approach to placement of conditions on sectors in order to protect communities (in this case place-specific conditions).

Finally, we think there is an additional “community” dimension to sectors that has not received the attention it warrants and this concerns the larger community of the Commonwealth itself. It is not clear to us what happens in state waters under sectors. As a result, it is not clear that the Commonwealth is not inadvertently ceding an important state interest to the Council that in turn is ceding a tremendous amount over to the private sectors. Hypothetically, it is conceivable that an entire TAC could be allocated to sectors (if no one opted to fish in the

common pool) because there is no limit to how much of the TAC can be assigned to sectors or indeed to a single sector:

There will be no limit on the share of a stock's TAC that can be allocated to a sector [A16DEIS:43].

Under these terms, the state waters fishery could cease to exist by definition. It appears that the Commonwealth either needs to apply for its own sector or a dedicated portion of the overall TACs (or both) in order to fully protect the interests of *all* its citizens as opposed to those who are or will be enrolled in sectors. We understand that there is some informal arrangement to reserve part of the TAC for state waters, but surely if selected individuals in the present generation are having their share in groundfish formalized, the Commonwealth should be acting to formalize its share.

#### e) Devolution versus Abdication

The Council's specific goal statements for sectors speak of an interest in simplifying management and giving industry greater control. We have remarked above on the pronounced emphasis on devolution of authority (from the Council to industry) that pervades much of the conversation about sectors. The extent of the Council's planned devolution forebodes one of the most critical aspects of the shift to sectors. By devolution, we mean the Council's expressed interest in "simplifying" management by turning many key management functions and decisions over to the sectors. There is a companion emphasis on deregulation.

The emphasis on sectors as a path to devolution is evident in comments such as the following, from the draft Amendment 16:

One of the major benefits of self selecting sectors is that they provide incentives to self-govern, therefore reducing the need for Council-mandated measures [A16DEIS 2008:40].

In addition, a marked reluctance to provide oversight of sectors once they are up and running is evident and frequently heard at Council meetings in phrases such as: "we don't want to micromanage," "we don't want to get into social engineering," and "that is a private business matter." These expressions are evidence of the emphasis on deregulation. The Council seems so eager to hand over its traditional job as guardian of a public resources to privately run sectors, that it is worth asking: Does the current approach to sectors represent devolution of authority or the Council's abdication of its Congressionally assigned duties?

As noted in our review of the theory behind sectors (see Section II), the emphasis on devolution in the Council is consistent with a larger trend in fisheries policy towards devolution of authority (see, e.g., Pinto da Silva and Kitts 2006 for an example focused on New England). In the international arena, devolution has been embraced most noticeably in the principle of "subsidiarity" which essentially says that decisions should be made at the most local level practicable (see, e.g., Bavinck and Jentoft 2008). Devolution is also a long-standing theme or even ideal in American political culture. From the founding forward, our nation has been engaged in a giant experiment in devolution known as federalism. However, the extent of the devolution

rhetoric in fisheries goes beyond the balanced approach to devolution adopted by the framers of the Constitution and by Congress when it established the regional fishery management council system in the Magnuson-Stevens Act.

We believe that the emphasis on devolution deflects attention from important public policy issues such as consolidation and impacts on communities, and that there are reasons for concern over devolution on both biological conservation and social grounds. Our unease here is not with the concept of devolution, but the extent of its application.

To begin, we challenge the conceptual link that some proponents implicitly make between devolution and conservation. Although we do not reject the conservation potential of sectors (especially given the fact that they represent a vehicle for introduction of TACs), what actual evidence supports the idea that giving more management power to industry will inspire them to make the sacrifices necessary to reverse the overfishing trends of the last thirty years? This is bound to be a controversial question, but the condition of many key fish stocks suggests that it is time to try to have a conversation about some inconvenient truths of groundfish management in the region.

To examine the argument that devolution of power leads to sound biological management it is instructive to ask who has been in charge of groundfish management in New England the last thirty years? Ostensibly, the answer is the Council, and since the Council is mostly made up of industry members, it can be argued that industry *has been* in charge these thirty years – and that devolving more power to industry would hardly improve the chances of successful management.

Other studies argue that the commercial fishing industry is in charge, as it occupies a preponderance of the voting seats on the Council (Okey 2003; Eagle *et al.* 2003). Moreover, of the seventeen votes on the Council prescribed by Congress, only one is allotted to the federal government. Five votes *do* belong to the fishery agencies of the member states, but this does not alter the preponderance of votes held by industry and we suspect that often the state representatives are under considerable pressure from industry (more so than from other constituents). In addition, while it is true that the Secretary of Commerce has final authority to accept or reject Council plans, it is more relevant that, in practice, there are few instances of the Secretary using this power in New England.

Nonetheless, it is only fair to consider differing perspectives on what the Council represents. Supporters of the devolution/deregulation approach emphasize the fact that Congress gave the Secretary of Commerce final authority to approve or disapprove Council plans. This design feature permits an argument that the National Marine Fisheries Service (NMFS) is in control and that the regional council system is in fact an exercise in top-down management, not co-management (Pinto da Silva and Kitts 2006). Proponents of this argument counter that the Secretary does not, in practice, *have* to overrule the Council, because NMFS signals impending disapproval *before* Council approval, thus steering the process away from outcomes that the Secretary would not favor (Pinto da Silva and Kitts (2006) present a version of this critique).

In our view, the Council is functioning as the experiment in co-management that Congress clearly intended it to be (see, Young 1982). There *is* room to be concerned about the *representativeness* of the Council system (e.g., does it represent all of industry, does it represent consumers, does it represent the general citizenry, etc.) but it seems clear that management of groundfish has been controlled for the most part by industry since the inception of the council

system and that this conclusion presents a serious challenge to the belief that *more* industry control will produce better results for the stocks. Proponents of further devolution and deregulation are thus in the position of having to argue that management has failed not because industry has not been in control but that they have not been in *total* control.

While conceivably it may be argued that a shift of the power balance in one direction is as or more likely to improve management as a shift in the other direction, we see no convincing evidence or logic to support the claim that giving industry more control will improve the status of fish stocks. Supposing the charge of the proponents of further devolution is true—that conservation has not been achieved because NMFS is thwarting the wishes of the industry-controlled Council—it would be necessary to cite examples where NMFS has struck down *more* conservative plans from industry in favor of laxer plans that resulted in overfishing. We know of no such evidence.

Given what we feel is a dubious link between devolution and conservation of fish stocks, the most critical aspect of the conversation about sectors is the sheer extent of the devolution envisioned. In our view, the Council is taking a tremendous gamble on the idea that conservation is somehow a matter of management structure—and more specifically, that giving industry more power will lead to greater, not less, stewardship and thus, most importantly, conservation.

This is dangerous for two reasons. First, devolution may just as easily lead to *less* conservation, for what seems like an obvious reason: some fishers may see it to their short-term advantage to over-exploit the resource. Second, in placing its bets on devolution as a route to conservation, the Council is bypassing other measures that might have a more assured chance of cultivating both effective conservation and a stewardship mentality.

We have commented earlier on the faith in the idea that ownership-promotes-stewardship. In the extreme, this belief is nothing short of reckless. It seems irresponsible for managers charged by Congress with the responsibility of managing and conserving our public fishery resources to assign these problems to industry and then effectively look the other way buoyed only by the hope that private industry can and will care for the resource.

The view from the social perspective on fishery management points to additional problems inherent in devolution. Handing off difficult social issues (like allocations) to what are essentially locally controlled private clubs does not take any of the gravity out of the decisions—it merely shifts the decision point to a lower level. One of the time-tested lessons of political science is that it is the role of *higher* levels of authority to protect the rights of minorities. In all the Council's talk about devolution, we have seen no consideration of the likelihood of domination by local elites, yet the club-like nature of sectors is ripe for just such domination.

Nor has there been any discussion of what happens in the future in terms of how the sectors will operate in regards to ensuring fairness and equity in operations. For example, not only internal allocations, but entry to and exit from sectors as well, will be controlled by the handful of industry members in charge of each sector. Domination by a select and powerful few could become a serious impediment to individual fishers' attainment of benefits from the sector system. Unlike an ITQ system, where fishers may purchase the ability to fish what and how they want on a transparent and open market, under sectors they will be restricted not only by the rules of the game but by the whims of other fishers who have acquired, through sector membership or leadership, the power to open and close doors to remaining fishers.

No matter how wise, compassionate and fair the particular individuals controlling the present administration of sectors are, there is no guarantee that their successors will be so. The Council has not designed mechanisms to ensure fairness and transparency into the future. At bottom, the devolution embedded in current plans for sectors, which involve little to no oversight, could result in anti-democratic structures. Viewed from this perspective, the Council's expressed disdain for "social engineering" is disturbingly ironic. Whatever its faults may be, the present Council system is based on an open democratic process, open markets, and statutory protections subject to judicial review. In contrast, the Council is proposing to replace this system with a largely non-transparent reliance on private business arrangements. Surely, this is a substantial exercise in social engineering.

Earlier, we noted that pushing difficult decisions down to the local level does not in itself resolve those issues. We think it is worth considering the position that sector management is going to be in relative to the enforcement and monitoring needs for *successful* conservation under sectors. Sector managers will in a sense be local cops and small town policing presents particular challenges in terms of potentially awkward if not explosive social dynamics. The social environment can be particularly intense if there is a culture of "sticking it to the man" as the man is now local, a neighbor, and, often, a relative. We do not know if this particular culture exists in the context of New England groundfish but we do know that past experiences with trying to enforce groundfish catch limits were volatile (see, e.g., Miller and von Maanen, 1979).

Finally, we think it is important to note that the extreme nature of the talk of devolution of authority to sectors contains an implicit challenge to the future of the Council. *If* the Council does not wish to undertake the full responsibilities assigned to it by Congress but instead prefers to hand these off to industry, then why should the Council continue to exist at all?

## V. Discussion: Confusion, Omission and Oversell

We are struck by the sense of oversell associated with the advocacy for sectors and how this oversell is occurring in an atmosphere of conceptual confusion and omission. In this section of our report, we want to walk through some of the areas where we think more careful consideration of sectors (or aspects of the debate over sectors) is called for. We begin with some observations on characteristics of sectors as envisioned under Amendment 16 that have important implications. We then turn to some of what we regard as the more egregious examples of oversell—in all cases, our primary concern is that good public policy formulation depends on accurate information, not on what amount to advertising and public relations campaigns.

### a) Sectors as Policy Goal vs. Policy Tool

A visit to the Moore Foundation's Marine Conservation Initiative web-page (<http://www.moore.org/marine-conservation.aspx>) indicates that over the course of a year, the Foundation gave approximately \$3 million to groups in New England active in the development of sectors. Notably, the focus of these grants is on a management *tool* not a management *outcome*—as the Foundation's summary of the purpose of the grant to Environmental Defense Fund states: "This grant supports implementation of Dedicated Access Privileges (DAPs, also known as "catch shares") in the entire groundfish fishery. . . Environmental Defense will help to make DAPs the default management mechanism for New England fisheries."<sup>25</sup> The focus is clearly on a tool (catch shares) as a policy goal in itself. Subsequently, the funding recipients (EDF) refined that focus onto a single form of catch shares, sectors. Walker Foundation funding to CCCHFA is similarly focused on "ensuring catch share implementation in New England's groundfish fishery."<sup>26</sup> We think this focus on sectors as a goal unto themselves has clearly spilled over into the larger management process itself.

### b) More about the Market for Permits

It is interesting to contemplate the future market for the boat/permit/potential sector contribution bundles that will result from Amendment 16. Managers have told us that in practice the catch histories are likely to be forgotten and an amount (stated in either pounds or a percentage of the TAC) will simply be denoted on each permit, whether or not this permit has joined a sector yet. It seems certain that these permits will be bought and sold based upon the perceived value of these "attachments," not only inside of sectors but in the common pool fishery as well, in anticipation of what they will be worth if and when they join a sector. But if sectors are not LAPPs by virtue of the fact that there is no allocation to an individual, it is hard to envision exactly how permits can be issued with amounts attached to them and then bought and sold into the future based on the value of this amount.

The National Marine Fisheries Service has produced a Q&A sheet on sectors and one entry on the sheet notes: "Unlike an IFQ fishery, there is no individual vessel allocation made by NMFS, nor is there a permanent allocation that could be fished *or transferred* [NMFS 2008,

---

<sup>25</sup> [www.moore.org/init-grants-awarded.aspx?init=112](http://www.moore.org/init-grants-awarded.aspx?init=112)

<sup>26</sup> <http://Walker-Foundation.org/net/org/project.aspx?projectid=54847&p=54846&s=0.0.69.5316>

emphasis added].” Since the amounts attached to permits are not allocations, it is simply the *specter* of a “potential sector contribution” that will be denoted on the permit and will undoubtedly acquire a market value, all without being a true allocation. Whatever the legal technicalities involved, it seems certain that the future market will regard these denoted amounts as allocations and that these “allocations” will come to be regarded as shadow ITQs or even (as some industry members have explicitly stated and some managers have hinted) as the basis for eventual ITQs.

There has been little discussion of how cumbersome this process could become as future participants search through the market for permits with the desired clump of attached “potential contributions.” Permits will feature “clumps” of potential sector contributions because the fishery is a multispecies fishery. There is no flexibility, no easy way to adjust one’s holdings (as there would be if there was a market for species specific catch shares) because these amounts are fixed to each permit, frozen forevermore in the clump first established by the initial allocation scheme (and associated qualifying years) chosen by the Council to establish these “non-allocations.”

In a way, this cumbersomeness provides a self-fulfilling rationale for sectors. Picture an entrant into the fishery who has managed to raise the funds to purchase a boat and a permit with a clump of “potential sector contributions.” Inevitably, this clump of various amounts for various species will not contain the right ratio to mirror the actual species composition of the new fisher’s catch. There are many reasons for the likelihood of a mismatch between the ratio of species amounts on the permit and the actual catch, among them being that the qualifying catch history occurred under a different set of rules (governing retention limits) than will presumably exist into the future. So, the new fisher will need some way of obtaining access to more of a particular species. But it is hard to obtain more on the open market because the market is only for complete bundles of permits, associated vessels, and attached potential sector contribution amounts; if the new fisher purchases an additional license to acquire the catch history he desires for some particular species, he will also acquire a whole additional clump along with it, making the desired species ratio virtually unattainable. Sectors, however, can adjust and transfer amounts freely and with divisibility; *only* by joining a sector can our hypothetical new fisher unclump his catch histories and mix and match until he has the desired species ratio. It would seem that sectors thus have a certain amount of leverage over fishers. The decision to admit a new member to a sector could turn on the attractiveness of the clump of potential sector contributions (possessed by an aspiring entrant) to a particular sector. In turn, the market value of clumped sector contributions will surely reflect changing strategic calculations by sectors managers.

But why maintain the existence of permits tied to vessels once the sector program is implemented? While it may seem natural to continue with the restricted entry permits, from a conservation perspective they are not completely necessary under a catch share regime. Once the fishery is operating under the output control regime, continuation of the licensing input control is superfluous from the standpoint of protecting the stocks. Unless the purpose is simply to maintain the market value of the previous licenses, it is hard to understand the rationale for maintaining the obsolete licensing scheme instead of phasing out the licenses and just operating the sectors on the basis of potential sector contributions (or indeed explicit catch shares).

### c) How Voluntary are Sectors?

Sectors are uniformly referred to as voluntary. Sectors are considered voluntary because no one is forced to participate; fishers choose to join a sector based on their own assessment of the potential benefits from joining. Thus, sectors are referred to in the Council arena as being “self-selecting.” However, as shown in Section III, there are reasons to question just how voluntary sectors are or will be for some in the fishing industry. How voluntary is the decision to join sectors when the only alternative is to join what is now being called the “cesspool” (*i.e.*, the common pool, see, Gaines 2009b)? An analogy may help to see why we question the voluntary label. Suppose the only items at the grocery store were sand or canned beans. Would we pronounce that people were happily choosing beans as if it were an indication of their true thoughts regarding beans?

It is clear that there are people who have signed up for sectors who are not happy volunteers. It is also clear from our conversations with industry that many are also relatively uninformed volunteers (*i.e.*, uninformed about sectors). What would make a sector program truly voluntary in our minds is if everyone had an individual allocation and *then* they could choose to form sectors *if* they so desired. If the Council thought there were advantages to the sector approach, they could even build in incentives to join sectors, but this is different than the all-or-nothing choice currently being presented to industry.

### d) A Question of Money and Influence

In Section III, we noted how the people we interviewed reported having a sense of an external push for sectors. The level of funding from private foundations and environmental groups devoted to ensuring that sectors are implemented in New England is substantial. For example, the funding from a single foundation in one year devoted to the pursuit of sectors was approximately equal to the Council’s annual operating budget. As discussed above, the focus of this funding is on sectors as a policy *goal* rather than a tool. We have several concerns with private foundations promoting sectors. First, we believe that while the environment (the fish stocks) may certainly benefit from the implementation of a TAC and sectors, there will be an unequal distribution of costs and benefits from both a social and economic perspective. The private groups most heavily involved in advocating for sectors have shown little interest in this aspect of sectors as currently envisioned.

Second, money is being given to promote a *specific* vision of catch shares that, according to the language used by the foundations and groups, involves privatizing public resources with no return to the public. The amount of money involved can reasonably raise concerns about swamping the process with one particular view. Much of the public is trusting of the environmental lobby, and we understand that all private groups have the right to lobby for objectives they deem important. However, we feel that the general public is likely unaware of both the ideology and distributional consequences associated with sectors as currently designed.

The announcement of a new pass-through arrangement whereby NOAA is “working with the National Fish and Wildlife Foundation to provide additional resources to the councils to help break through any financial bottlenecks you experience in moving 'catch shares' forward [Gaines 2009c]” only exacerbates our concerns. We think there are time-honored reasons to be concerned about the influence of private funds on the performance of the public duties of government. When there are a multitude of interests and potentially affected parties involved and the subject

of the funding is fundamentally a political allocation (and that is what fishery management allocations are), we think this is a very slippery slope indeed regardless of how benevolent the intentions of the current suite of potential financial donors might be. Obviously, there *are* ways to fashion effective private/public partnerships but particular care must be taken when political (and possibly permanent) allocations are at stake. We also worry about the potential for management agencies to be inadvertently compromised if (1) key components of their programs currently benefit from private funding that has no involvement with resource allocation issues and then (2) the same donors direct funds to contentious allocation issues.

*e) The Curious Case of the Costello (et al.) Paper*

One of the most influential factors in terms of both the national enthusiasm for catch shares and the regional push for sectors in New England is the paper by Costello *et al.* (2008) mentioned earlier in Section II. The confusion over ownership, stewardship, and conservation that afflicts contemporary discussions of marine conservation is reflected in, and has been exacerbated by, this paper (recall it has been billed as providing scientific “proof that privati[z]ing fishing stocks can avert a disaster [Economist 2008]”). Clearly, this paper is the referent in the new NOAA administrator’s comments to the Council about “compelling global evidence” regarding catch shares<sup>27</sup> and this paper (along with the more sensational claims for “privatization” that accompanied it) are prominently featured in the EDF campaign for catch shares/sectors.<sup>28</sup>

We think the Costello paper is seriously flawed, in ways anybody interested in catch shares should become familiar with. In essence, the Costello paper is two papers in one. The first paper is about the observed effects (or performance) of catch share programs around the world. The second paper is about a *causal* explanation for the results observed in the first paper. We think both “papers” have serious flaws that have not been widely commented upon. We begin with the first paper. Clearly, catch share systems work. However this conclusion is not new, Costello *et al.* merely provided more rigorous support (grounded in a statistical analysis) for a conclusion reached nearly a decade earlier in a similarly broad analysis that is well-known to proponents of catch shares in the U.S.:

The scientific evidence is quite clear on these achievements. The Organization for Economic Cooperation and Development (OECD 1997) reviewed management experiences in more than 100 fisheries in 24 member countries. This is the only study I know of that systematically compares [catch shares] with more traditional approaches to fisheries management. The evidence shows that [catch shares] are an effective means of controlling exploitation, of mitigating the race-to-fish and most of its attendant effects, of generating resource rent and increased profits, and of reducing the number of participants in a fishery [Sutinen 2001:4].

We agree, catch shares work. But the rather, by now, mundane conclusion that dividing a TAC into subsequently assigned shares provides benefits is itself less potent than it could be because

---

<sup>27</sup> Tape of NEFMC meeting, April 8, 2006, “Audio Track: Dr. Jane Lubchenco, NOAA Administrator” available online at: [www.nefmc.org/actions/index.html](http://www.nefmc.org/actions/index.html)

<sup>28</sup> See, [www.edf.org/article.cfm?contentID=8446](http://www.edf.org/article.cfm?contentID=8446).

of a significant flaw in the methodology behind the Costello paper. In the language of science, the authors did not “control” for the presence of a TAC. This means that they cannot separate out the beneficial effects of the TAC from the beneficial effects of subdividing that TAC into individual assignments. The severity of the confusion is on display in this quote from the lead author following publication of the paper:

‘Under open access, you have a free-for-all race-to-fish, which ultimately leads to collapse,’ says lead author Christopher Costello, an economist at the Bren School of Environmental Science and Management at the University of California, Santa Barbara. ‘But when you allocate shares of the catch, then there is an incentive to protect the stock—which reduces collapse. We saw this across the globe. It's human nature.’  
[<http://esciencenews.com/articles/2008/09/18/new.study.offers.solution.global.fisheries.collapse>]

Assuming that the lead author speaks for the entire team, the problem here is we have no way of knowing what the authors mean by “open access.” Do they mean truly unmanaged, un-owned fishery resources in the sense of the legal concept *res nullius*? Or do they mean “common property” that is left unregulated by an oblivious management body? Or do they mean “common property” that features a TAC? If the latter, surely some management bodies with a proud record of sustainable management under TACs (*e.g.*, both the North Pacific Fishery Management Council and the International Pacific Halibut Commission had long records of sustainable TAC management *prior* to augmenting TACs with catch shares) will surely be surprised by the assertion of inevitable collapse. Unfortunately, since the authors did not distinguish between a fishery with a TAC and a fishery with a TAC *plus* catch shares, we (and they) have no way of sorting out the additional benefit provided by the introduction of catch shares. This is a serious shortcoming of the Costello study and one that is lamentably not commented on in the subsequent publicity afforded the study.

The authors’ interpretation of the data is further weakened because they mistake a correlation for a cause. That is, Costello *et al.* attributed any post-implementation improvement in stock status to the catch share program. But by this logic, any downturn in stock status would be evidence of “failure” of catch shares. Are we thus to conclude that the IFQ program in the halibut fishery off Alaska has recently failed because of the substantial reductions in TACs in the past few years?<sup>29</sup> Similarly, when Iceland cut the cod TAC by 30% in 2007,<sup>30</sup> is that to be interpreted as a sign the Icelandic ITQ program was failing? Or, to name one final example, when the TAC for pollock in the Bering Sea was recently reduced to an all-time low for the domestic fishery,<sup>31</sup> does this mean that the cooperatives in that fishery have also failed? By the correlation logic employed in the Costello *et al.* paper, the answer to all these questions is presumably “yes” but, we think it is far more likely that what is being observed are natural fluctuations in fish stock populations.

---

<sup>29</sup> The halibut reductions are most sizable in management area 2C where the TAC was reduced 28% in 2008 and a further 19% for the current 2009 season. See,

<http://community.adn.com/adn/node/134949> ; and <http://community.adn.com/adn/node/136750>

<sup>30</sup> <http://news.bbc.co.uk/2/hi/science/nature/6992938.stm>

<sup>31</sup> <http://community.adn.com/adn/node/135590>

At least the “first” Costello paper has data upon which the correlation-as-causality error is committed. The “second” Costello paper introduces a causal model, an explanation for the post-catch share stock conditions they observed, for which they have no data whatsoever. We are referring to the private property/ownership-promotes-stewardship explanation of catch shares that dominates the economic literature on fisheries and is prominently featured in the Costello paper (see particularly, Costello *et al.* 2008:1679 for emphasis on the link between “secure rights” and “stewardship incentives”). The lead author provided further explanation of their causal explanation during the PR blitz accompanying the paper’s release:

‘The difference is comparable to renting an apartment versus the house you own,’ says Costello. ‘if you own something, you take care of it—you protect your investment or else it loses value. But there’s no incentive for stewardship when you don’t own the rights to it.’

[<http://esciencenews.com/articles/2008/09/18/new.study.offers.solution.global.fisheries.collapse>]

But notice here how we are simply presented with an assertion, not a research question: if you own something, you take care of it. This assertion could be rendered into a testable hypothesis (or several) for which data could be collected, but Costello *et al.* did not do that, all they tested was what they clearly articulated they were going to test: “We tested the hypothetical causal link between the global assignment of catch shares and fisheries sustainability [Costello *et al.* 2008:1679].” This hypothesis says nothing at all about “ownership” and presumed ties to “stewardship.”

Costello *et al.* simply *assumed* the link between ownership and stewardship without testing. They took no account of the prevailing legal status of the ITQ programs for which they had performance data. Under U.S. law (i.e., the Magnuson-Stevens Act), rights are not involved in catch share systems (see the related discussion below under “*Is this Privatization?*”). Beyond this specific definition in law, the success of catch share programs does not rest on the exercise of enforceable claims (the essence of a right, see, Macinko and Bromley 2002, 2004). The success of catch share programs, as discussed above, lies simply in the fact that a TAC has been established (and credibly enforced) and then each vessel fishing pursues a subsequently assigned share of the TAC. Rights are not involved, but rationality is—the assignment of catch transforms fishing from a competitive exercise focused on maximizing catch (i.e., gross revenue) into a rational planning exercise focused on maximizing net revenue for a given (assigned) catch.

When it comes to statements of a *causal* nature (in other words why stocks might have improved following introduction of ITQs) the authors simply have no data upon which to base conclusions beyond the just-mentioned jumbled presence of a TAC+ITQ package. That is, they have no evidence to support statements about whether it was a sense of “ownership” that led to the stock changes they observed or whether privatization is necessary to obtain beneficial results. There is no data, for example, from standard social science-style survey work asking the participants whether they felt more like taking care of the resource after they had ITQs. There is not even any research to support a claim that ITQ holders felt that they “owned” the resource.

In fact, there is no data whatsoever to suggest that *any* “privatization” is necessary at all. Costello *et al.* made no distinction between shares that were “owned” and shares that were leased. This is an important point because leasing permeates many catch share programs worldwide. Given the prevalence of leasing in “successful” programs, we seriously doubt

whether there is anything in the data Costello *et al.* relied upon that would suggest that such leasing imperils the conservation gains offered by catch share programs. And it is unlikely that there is anything in the data to suggest that private lessors are somehow necessary instead of public lessors to produce the results they observed.

In summary, the Costello *et al.* paper has been oversold in ways that unfortunately truncate the discussion of options for fisheries policy. There is no basis in the data for jumping from the quite reasonable position that catch shares work to the completely ideologically-based position that catch shares work because people feel they own the resource and thus have a long term interest in preserving the resource – in other words, because ownership promotes stewardship.

#### *f) Bad for Banks, Good for Fish?*

In the comparison between apartment dwellers and home owners presented above, we see again the reliance on the presumed natural tendency to protect investments, a presumption that pervades the causal explanations of why catch shares work and that leads to the belief that catch shares must be thought of as private property rights. Recent events in the larger world outside of the fisheries literature have dramatically highlighted the substitution of ideology for analysis that is involved here. Recall the quote presented earlier that epitomized the standard causal explanation of catch shares:

[S]hares in a collapsed fishery are worth as little as shares in a collapsed bank. But shares in a thriving fishery command high prices and represent real wealth for their owners. Suddenly, fishermen have an incentive to preserve a fishery for the future, as preservation will be reflected in a higher value of which they ‘own’ a share. Each fisherman has an incentive to lobby for the optimal TAC [Heal and Schlenker 2008:1045].

About the time the paper containing this statement was being published in *Nature*, all too many banks did indeed collapse and many people (even entire nations such as Iceland) learned painful lessons about the limitations of the presumed linkage between self-interest and sustainability and the difference between ideology and reality. The irony here is that just as former Federal Reserve Chairman Alan Greenspan was telling Congress that he had found a “flaw” in his ideological belief in the self-sustaining powers of self-interest—“Those of us who have looked to the self-interest of lending institutions to protect shareholders’ equity, myself included, are in a state of shocked disbelief [as quoted in Andrews 2008]”—the self-interest explanation of catch shares was being pushed harder than ever.

Alarmingly, we see no signs that the proponents of the ownership-promotes-stewardship explanation of catch shares are aware that outside of fisheries, as the world’s financial systems are teetering, the reliance on self-interest as an adequate form of regulation for long-term sustainability is being thoroughly questioned even by former stalwart champions of this belief: “The movement to deregulate the financial industry went too far by exaggerating the resilience—the self-healing powers—of laissez-faire capitalism [Posner 2009, as quoted in Solow 2009:4].” We think the parallels are clear. The issue is one of personal discount rates on the part of entrepreneurs be they engaged in finance or fishing. As we have discussed, the quest for short-term profits can overrun concerns for long-term sustainability. Given a high preference for

profits now rather than later, it can always be “rational” to effectively liquidate the very basis of those profits.

Just as personal value differences can lead to substantially different assessments of how much to discount the future, different values can produce dramatically different interpretations of what is “optimal.” Thus the statement suggesting that under catch shares “[e]ach fisherman has an incentive to lobby for the optimal TAC [Heal and Schlenker 2008:1045]” brings to the fore the question of optimal for whom? We suggest that the events known as the Framework 42 lawsuit and the pursuit of a “mixed stock exception” provide vivid evidence that there is no reason to suggest that industry will have the same concept of the “optimal” TAC as society at large. Making industry “owners” and talk of property rights may only exacerbate this disagreement.

*g) How Model is the Hook Model?*

It is no exaggeration to say that the two sectors associated with the Cape Cod Commercial Hook Fishermen’s Association (CCCHFA)<sup>32</sup> have become the poster child for the sector concept, both regionally and nationwide (for evidence of the influential role of the CCCHFA sectors, see, *e.g.*, Fahn 2005; Pinto da Silva and Kitts 2006; Petruny-Parker 2007, 2008). Some industry respondents *did* emphasize reasons that the CCCHFA may be unique---they are based on fixed gear fisheries and originally involved an allocation for only a single species in contrast to the multi-species and predominantly trawl gear groundfish fisheries involved in the current sector discussions--- but this uniqueness, and several issues within the CCCHFA lead us to question whether “The Hook” should serve as the benchmark for sectors and groundfish management.

The CCCHFA sectors are represented as exemplars in at least three important dimensions. The CCCHFA sectors are said to show the promise and ability of the sector concept to accommodate strict TACs, are claimed to preserve traditional fishing communities,<sup>33</sup> and to provide “a working model of community management for others to follow [Leal *et al.* 2008:12].” But we caution that the CCCHFA sectors, in our view, provide at best an incomplete test of the sector concept on both of these dimensions for reasons that are likely to be important when planning for wider application of sectors in the groundfish fishery.

First, it is our understanding that the CCCHFA sectors have never reached their assigned TACs and in fact routinely fall far short. Thus, experience with the CCCHFA sectors has not provided a test of the enforcement system necessary for successful TAC management via sectors. Neither NMFS nor the sectors have had to face a situation that tests the ability of the

---

<sup>32</sup> We say “associated” because we are aware of the fact that on occasion, representatives of CCCHFA (or the sectors) take pains to distinguish between the two sectors and the CCCHFA. We are also aware that at other times, these same representatives blur the distinction and speak on behalf of the sectors (see, *e.g.*, Nickerson 2009). We admittedly ignore the distinction (such as it is), noting that all of the entities/subsidiaries associated with CCCHFA (included the community bank) share a central office location, a central phone, and are distinguished in ways that a corporate lawyer could understand but we cannot.

<sup>33</sup> The CCCHFA website states that the sectors are “protecting a resource, a tradition, and a way of life.” See, <http://www.ccchfa.org>.

NMFS/sector partnership (inherent in the sector concept) to respond to the need to promptly stop fishing once the TAC is reached or to deal with overages should they occur. It is also our understanding that the contractual documents regarding internal “policing” of catches are far more vague for the CCCHFA sectors than, for example, equivalent contracts for the pollock cooperatives fishing off Alaska. We stress that this does not mean the sector concept will not work, but that sectors are untested in this most important and fundamental aspect of fishery management based on TACs.

Second, the CCCHFA experiences are ambiguous in terms of tempering the consolidation expected from catch share programs, particularly ITQs. The CCCHFA has struggled to maintain active participation levels in one of their sectors. Out of dozens of original enrollees, only a handful of boat owners are now fishing in the “hook” sector. While the exact number fishing full time may vary,<sup>34</sup> and while the reasons for the low participation rate seem to have more to do with the sheer inaccessibility of cod to the small boat fleet than consolidation *per se*, the fact remains that the participation level is very low and it is hard to see how this can provide strong comfort that sectors will succeed at limiting consolidation and “saving” communities. The CCCHFA experience is also tied to a very specific fleet and community structure that cautions against generalizing too much from the CCCHFA experience to other trials of the sector concept.

Third, we doubt the broader applicability of the CCCHFA experience in terms of the sustainability of sectors as business operations and thus of the sector concept itself. The CCCHFA enjoys a generous level of external funding—literally millions of dollars in grants from foundations and environmental groups. This level of funding and the sizable front office staff that it supports are unlikely to be repeated across all of the subsequent sectors anticipated under Amendment 16. In this sense, the CCCHFA sectors may represent a false model that cannot be replicated elsewhere. Unrealistic initial hopes for the financial condition of sectors as organizations may lead to dashed hopes later.

In summary, the CCCHFA experience is unique and there is much about the CCCHFA experience that is pioneering and/or laudatory. CCCHFA were the first industry group in New England to ask for and receive a TAC. The sectors are also very involved in at-sea monitoring programs. The CCCHFA collaborates with other environmental NGOs and has established several outreach programs. But these positive accomplishments do not erase the need to be cautious about extrapolating from the CCCHFA experience. For the reasons discussed above, we question whether the CCCHFA is the proper benchmark for the sector-management concept.

---

<sup>34</sup> We were present at a February 12-13, 2008 meeting of the LAPP Exploratory Workgroup of the South Atlantic Fishery Management Council when the Workgroup received a presentation from Paul Parker and Eric Hesse of CCCHFA (see, [www.safmc.net/Portals/6/SocioEcon/IFQs/Final%20LAP%20Workgroup%20Report.pdf](http://www.safmc.net/Portals/6/SocioEcon/IFQs/Final%20LAP%20Workgroup%20Report.pdf)). In the Q&A that followed, members of the Workgroup asked how many fishers were fishing full time in the hook sector and were told that there were four vessels fishing full time.

#### h) Where is the Community?

One of the most touted features of sectors is that they are community-based and offer hope for sustaining the iconic fishing communities of New England. This is in part, the hope we saw expressed above in terms of the CCCHFA sectors as a model. The CCCHFA has established a permit bank, called a fisheries trust, "to protect depleted fisheries resources, reinvigorate fishing businesses, and revitalize coastal fishing communities on Cape Cod."<sup>35</sup> While the CCCHFA trust is managed by a Cape Cod development corporation, how the community members residing in local communities and municipalities are involved is unclear. Under the Amendment 16 approach to sectors, there are *no* rules or regulations mandating a connection between sectors and communities.

We question claims that sectors go beyond community-based and assert community *management*:

The existing sectors are among only a few successful community-managed fisheries in the nation [Nickerson 2009].

The goals of sector management are to . . . preserve traditional fishing communities, and *provide a working model of community management for others to follow* [Leal *et al.* 2008:12, emphasis added].

Where is *the community* in all of this? Where is the community in what amounts, first and foremost, to an *allocation* of economic opportunity<sup>36</sup> to selected *individuals*? The answer lies in the definition of "community" which proponents of sectors supply with clarity: "Participating fishermen manage their catch as a community instead of under complex and often-ineffective federal restrictions [Nickerson 2009]." According to this view, a group of boat owners is a community--- the sector *is* the community. Of course, any group of people can be labeled a community in the sense of some shared interest. But this is not what most people mean by "community" in everyday language.<sup>37</sup>

It might be useful to consider some analogous uses of the terms "community" and "community-managed"--- supposing the Forest Service were to consider gifting perpetual timber harvest rights to the public forests to selected timber companies who agreed to form a cartel, or supposing the Minerals Management Service decided to stop leasing our public offshore oil supplies and instead decided to just give permanent oil extraction privileges to groups of oil executives? Would we be talking of these plans in terms of "community-based forestry" or "community-managed oil production"?

It appears to us that the actual benefits back to the larger community, the town, from sectors seem to rest almost entirely on a "trickle down" theory. If boats owners benefit,

---

<sup>35</sup> <http://www.ccchfa.org/trust/>

<sup>36</sup> Almost all fisheries management can be reduced to actions that effect allocation or conservation. All rationalization programs, be they ITQs, sectors, co-ops, community development quotas, etc. are decidedly the former (allocations of economic opportunity) though they may often be dressed up as the latter (see, *e.g.*, Macinko and Schumann 2008).

<sup>37</sup> Elsewhere, we have explored the contest between place-based communities and communities of interest in the context of fisheries management. As is the case with sectors in New England, the implications for real towns can be profound (see, Macinko 2007).

presumably some of this financial gain will trickle down through the rest of the community. While a sector may be beneficial to a community, they do not represent community-based fisheries management as we envision it. We are unaware of any non-fishing residents who are directly involved in the management decisions of local sectors.

Similar trickle-down arguments are made for the community benefits from ITQs but support for sectors at least partially rests on the sense that somehow sectors are inherently more community-friendly than ITQs: “[In comparison to ITQs] harvest cooperatives or sectors are often perceived to be more equitable and community-friendly [Johnston and Sutinen 2009:17].” In our view, the aversion to ITQs is so strong in some portions of both the fishing industry and the environmental community that sectors are romanticized simply because sectors appear not to be ITQs. A misunderstanding has developed. In reality, we see little difference between sectors and ITQs from the community (in the “butcher, the baker and the candlestick maker” sense of the word) perspective.

As we have noted above, sectors are *not* tied to municipalities. The holders of the permits with qualifying potential-sector-contributions are free to lease their permits, to sell them, and most of all, to move to Mazatlan, just as holders of ITQs do. Similarly, we noted earlier that the so-called “community” permit banks are private holding companies. These private holding companies are potentially as footloose as the sectors themselves. The involvement of a “local community development corporation” is perhaps promising but it is also another private corporation. The problem here is the potential distance between a private corporation and an actually place-bound community in terms of overall goals. As the National Research Council noted (in the context of the Community Development Quota Program in Alaska), “the corporation is not the community” and goal displacement can result (NRC 1999b:104-105). We do not see any direct links between local municipalities, lending institutions, and fishers. We believe a transparent, formal connection is required to generate the most equitable results. The CCCHFA effort may be pointed in this direction. We see no such similar effort associated with the other 17 proposed sectors.

We think there has been a serious misappraisal of sectors on the community front. In the analogous cooperatives in Alaska, there have been clear indications that sectors/co-operatives are preferred by the advantaged boat owners precisely because sectors/co-operatives permit *greater* exclusion of other “community” interests compared to ITQs (see, Criddle and Macinko 2000):

[T]here is a fundamental policy to think about for IFQs vs. co-ops. IFQs in future programs have a trail of people who want a piece of the pie—environmentalists, crewmembers, and communities. Co-ops do not have these restrictions in place for the needed giveaways that would occur [NPFMC 1999].

There is a close connection between consolidation (discussed earlier in Section IV) and concern for community impacts. We have seen this connection play an important role in several debates over catch share programs in Alaska and sense it is important in the New England context. The Alaska experience suggests that the environment provided by sectors is even more conducive to consolidation and leasing than under ITQs (especially compared to those ITQ programs with an owner-onboard provision---a provision that seems highly unlikely under sectors since it fundamentally goes against the sector concept). We think categorical statements suggesting that “there are fewer concerns about quota consolidation by corporations or individuals [Johnston and Sutinen 2009:17]” under cooperatives (and by extension, under

sectors) are simply misleading and are not grounded in the facts. In Alaska, it is the consolidation under cooperatives that has been considered extreme.<sup>38</sup>

This is going to be a very tricky issue to “get right.” In New England, we have seen that it is openly recognized that sectors are “primarily formed” to realize efficiencies through consolidation (AS16DEIS 2008:124), and many if not most people seem to want consolidation in New England. But not too much, or not too much in their favorite port. We do not think that simply setting the stage for sectors to form and then looking the other way is likely to produce the balance that people seem to be striving for. The group nature of sectors *could* be used to protect a community by keeping permits in the local area. This seems to be along the lines of the original strategy behind the formation of the CCCHFA sectors. It *could* happen, but we do not see strong evidence to believe it will. For those communities and individuals with a strong commitment to seeing that it does happen, we see no reason to think that this preference could not be exercised under a number of different arrangements for catch shares.

Unfortunately, all the loose talk about “community” detracts from serious consideration of an important policy question. *If* actual fisheries dependent places are important to policy-makers, we think the record of rationalization programs (of *any* form) is clear: the community impacts of rationalization programs can be quite pronounced, in some cases severe, especially for smaller more remote communities and it is hard to address these impacts after the fact. But the Council is not doing this, preferring instead to adopt a laissez-faire approach and place all decisions about consolidation, the fate of crew, and the well-being of communities in the hands of the private clubs of boat owners known as sectors. This can *only* be a successful strategy for the broader community if the interests and goals of the boat owners in the sector are exactly the same as the interests and goals of the broader community (see NRC 1999b:105 on the potential problem posed by substituting a community of interest for a community of place *if* the place is the intended beneficiary). Communities involve everyone; they are not “self-selecting” like sectors. Community-based management involves citizens (including non-fishing) who make fishery management decisions. We do not see this occurring in the sectors that are currently operating or in the management plans of future sectors.

#### *i) Is this Privatization? Why Words Matter*

As reviewed in Section II, theoretical support of catch shares rests squarely on the belief that private ownership promotes stewardship, that fisheries are afflicted by the lack of private property rights, and that catch shares provide these missing rights. We think this foundation is beyond debate and hardly the subject of controversy. Thus, we have been surprised to find people quite closely associated with the push for sectors that express surprise or concern that they might be establishing private property rights in the oceans. Yet there are suggestions by the advocates of sectors that no privatization is involved. For example, the Environmental Defense Fund has clearly stated that “catch shares are not a property right. Catch shares are a privilege to access a public resource subject to law and regulation [EDF n.d.:2].” But the position of Environmental Defense Fund is not that easy to pin down for in another publication there is the suggestion that catch shares are indeed property rights, just not to the fish themselves. The

---

<sup>38</sup> For example, the rapid consolidation in the Bering Sea red king crab fleet in the first year of the “crab rationalization” program was a function of the cooperative structure in that program more than the IFQ component.

IFQsForFisheries partnership involving EDF, the Reason Foundation and PERC produced a policy brief that commented on:

. . . a misguided fear that IFQs will result in “privatization” of a public resource. This fear reflects a fundamental misunderstanding of IFQs. IFQs are at best, as in New Zealand, usufruct rights; that is, they do not convey a property right in the resource itself but in use of the resource [Leal *et al.* 2004:7].

We find these assertions puzzling and imagine that the general public must be confused as to what the proponents of catch shares really mean and understand when it comes to the question of private property rights. What comfort is it to those concerned about privatization to learn that what is being transformed into private property is not the resource itself but the *use* of the resource? The importance of the distinction is never explained and is seldom mentioned. For example, on the previous page in the brief by Leal *et al.* (2004:6) they note that “[i]n New Zealand, . . . IFQs are considered property rights and not privileges.” Moreover the *long* publishing history by the principals in the IFQsForFisheries partnership is full of clear, unambiguous emphasis on “the case for property rights in U.S. fisheries” (Leal 2000) and “evolving property rights in marine fisheries” (Leal 2004). The privatization emphasis of the Costello *et al.* paper is still prominently displayed on the web-pages championing that paper.<sup>39</sup> Statements made in the specific context of advocacy for catch shares in New England (in this case in the Providence Journal) seem quite clear:

Without private-property rights to fish stocks, fishermen have little incentive to conserve, so they tend to take too many fish, jeopardizing future catches and income [Leal 2006].

We think it is an outright contradiction to advocate for sectors on the basis of ownership-promotes-stewardship and an emphasis on private property rights and then assert that privatization is not intended.

As a matter of *law* it turns out that in the U.S. there is in fact no privatization involved. Under the Magnuson-Stevens Act the legal status of catch shares is clear, catch shares are mere privileges, convey no right to the fish prior to harvest, *and* provide no *legal* basis for claims of compensation should they be revoked or modified. We note that protection via compensation is what it means to have a property right in the U.S. That is, property *is* whatever is protected under the Fifth Amendment. But in order for the entire causal model upon which fifty years of fisheries economic theory is based, to “work,” catch shares *have* to be private property rights and so we see the proponents of catch shares continue to assert that they are indeed private property rights,<sup>40</sup> just not to the fish themselves. Even here, the legal situation is clear, there is no protected property right in the “use of the resource” either. This has recently been made dramatically clear for all manner of permits to fish in the court case of *Palmyra Pac. Seafoods*,

---

<sup>39</sup> [www.edf.org/article.cfm?contentID=8446](http://www.edf.org/article.cfm?contentID=8446) [featuring links to Economist (2008) and Dean (2008)]

<sup>40</sup> “*Are IFQs private property?* We contend that IFQs are property [Grafton *et al.* 2009:292].”

Given the clarity of the legal status of catch shares, one might think that the issue would die there and there would be no talk of “privatization” and the need for “property rights.” But as we all know, there is indeed such talk. And it is growing. Words matter, some words are *ideas*. As noted, reports indicate that the Obama clearly administration thinks they are privatizing fisheries (see Dean 2009). We think the NOAA Administrator’s comments are a candid reflection of the intellectual foundation supporting sectors/catch shares, a foundation based on fifty years of fisheries economics literature and the offspring of the property rights movement in western public lands debates. We question why the administration would want to embrace this language, endorse it, and advance it. We are also alarmed because there appears to be a total absence of public concern over the news that we are about to privatize our public fisheries.

We wonder if the suite of downstream implications from such talk has been fully thought through. For example, we think the growing interest in ecosystem services and broader societal valuations of the oceans is likely to be impeded by the granting of a clear priority to users of one particular service out of the entire spectrum of services. Granting commercial fishers “property rights” is granting them a priority or privileged status against all other users of ocean ecosystem services. Of course, how one regards this priority status depends on one’s interests and vantage point. It is good for the entitled fishers and bad for everyone else. So for example, *if* the policy objective is to provide embattled fishers some protection against what are seen to be the unwarranted claims of environmental advocates, then one might want to grant commercial fishers rights. How much protection is provided may be an open question but the basic priority conferred is not in doubt:

[Catch shares provide] equally small protection from the *interference* of others (quota holders, marine predators and *other users* of the marine environment such as mining companies, polluters etc.) in these resources [Árnason 2000:23-24, emphasis added].

Obviously the “other users” may not feel so appreciative of such a policy choice. We can imagine for example some concern on the part of recreational fishers. And there are “other users” who cannot speak directly for their interests. Again, we think the implications are clear. Consider how one prominent proponent of rights-based fishing regards non-human elements of the marine ecosystem:

[Limits were put on the fleet] so as not to interfere with the foraging of Steller's sea lions, an animal claimed to be endangered, but of no use to humans and if anything a competitor for valuable fish resources [Hannesson 2004:137].

Granting “rights” to one user in a multi-user world is taking sides, and, if not thought out, can lead to a quagmire of unintended consequences. We wonder if this is the position the administration really wants to take at this time. The experience in New Zealand (where catch

---

<sup>41</sup> 2009 U.S. App. LEXIS 7447 (Fed. Cir. Apr. 9, 2009).

shares were specifically defined as property rights) is instructive:

Currently, all competing fishing rights and legislative obligations to protect the marine environment cannot be simultaneously upheld to the extent possible and to the satisfaction of all parties. With hindsight, perhaps the recognition of particular fishing rights and protection of the marine environment could have been accomplished in ways that provided greater integration of competing rights and less social and economic upheaval in the recognition and exercise of the rights at different timeframes [Bess and Rallapudi 2007:728].

We note that in the extreme, one of the parties disadvantaged by the prioritizing of the industry may be management itself. While the economic literature seems to celebrate the industry takeover of management (see, *e.g.*, Townsend *et al.* 2008), quieter voices point to the broader public interest management responsibilities that are submerged when the industry “owners” displace the public owners (Wallace and Weeber 2005).<sup>42</sup>

The lessons of the *Palmyra* case mentioned above are relevant here and cut both ways. The opinion in *Palmyra* emphasized that exclusive fishing privileges *are* fully revocable without compensation, but in so doing the opinion implicitly emphasized how much our management flexibility might be constrained if in fact there were to be a private property right in use of the resource.

We think the talk of privatization and property rights is reckless. More importantly, we wonder if all involved understand how unnecessary it is. *It is not necessary to speak of, much less grant, rights in order to attain the desired catch share solution.* For some reason, fisheries policy in the U.S. is poised on the edge of a decision that runs contrary to how we manage other public resources. These other public resources present management challenges to be sure. But we do not see calls to privatize them, to simply give them away in exchange for imposing sound harvest limits on the industries involved.

For example, forest management and park management are not without their challenges. But imagine if the head of the Forest Service was quoted in *The New York Times* as saying the Service was taking steps to privatize our public forests, or if the Park Service announced it was going to permanently give away, for free, shares of Yellowstone and our other national parks to adjacent landowners. We cannot imagine that such news would be met with silence or even support. As we alluded to above, we *have* catch (harvest) shares in forestry on public lands, *without* a word about missing private property rights and we do these (timber) harvest shares in a way (royalty lease auctions) that provides a return to the current owners of the resource (the

---

<sup>42</sup> We are fully aware of the dicta in *Douglas v. Seacoast Products, Inc.*, 431 U.S. 265 (1977) regarding ownership of fish. We are also fully aware of Presidential Proclamation 5030, 3 C.F.R. 22 (1983) claiming sovereign rights over the resources of the U.S. Exclusive Economic Zone (EEZ). For a discussion, see, Macinko and Bromley (2004).

U.S. public). Only in fisheries is it assumed to be *necessary* to have the harvest shares be associated with private property rights and assertions of ownership induced stewardship.

The fact that we are talking about a public resource seems to have disappeared from the dialog over sectors and catch shares. For example, public ownership was not mentioned or recognized in the *Oceans of Abundance* report<sup>43</sup>. Yet members of the task force who produced that report were on the U.S. Commission on Ocean Policy when that body recognized the public ownership issues involved and recommended that catch share programs should:

... assign quota shares for a limited period of time to reduce confusion concerning public ownership of living marine resources, allow managers flexibility to manage fisheries adaptively, and provide stability to fishermen for investment decisions [USCOP 2004:290].

Notice that the Oceans Commission saw a need to reaffirm public ownership, not lessen it by talking of privatization and private property rights, yet the commission was clearly aware of the benefits of assigning catch shares.

Finally, we think it is important to consider the public trust dimension. There is both the formal Public Trust Doctrine applicable in state waters and the sense of the U.S. government as guardian of the sovereign rights over fishery resources claimed in the EEZ proclamation. We do not understand why there is so little discussion and recognition of the fact that we are talking about the disposition of a public resource. We note that even when the extreme property rights proponents have called for the privatization of the public lands, they at least recognize public ownership and are not so bold as to just call for a free divestiture of a public asset (see Text Box 8).

In contrast, the plan for sectors replicates the “standard” approach to catch shares around the world: catch shares are issued to the original recipients for free, in perpetuity, and are fully tradable (sale or lease). The “in perpetuity” description warrants a brief elaboration. We have heard people stress that the sector allocations are issued annually, leading some to refer to a “renewable privilege” (Johnston and Sutinen 2009:13). But these are the same theorists who argue that catch shares need to be secure property rights, of long duration, in order to unleash the magic properties of ownership to induce stewardship. In reality, the potential sector contributions *are* a permanent<sup>44</sup> award, they will acquire value and be bought, sold and leased and they are analogous to the permanent award of

**Text Box 8: Why are Fisheries So Different from Other Public Resources?** How PERC talks about privatizing public lands:

Since our concern is with resources now held in the public domain, which in principle belongs to all citizens, it is desirable to permit the broadest possible participation in any divestiture proceedings. If public lands belong to all citizens, then all citizens have a legitimate claim to share directly in the wealth created by divestiture.

[From: “How and Why to Privatize Federal Lands.” T. Anderson, V. Smith and E. Simmons. *PERC Policy Analysis* 363(Nov. 9.1999):8.]

<sup>43</sup> [www.edf.org/article.cfm?contentID=8765](http://www.edf.org/article.cfm?contentID=8765)

<sup>44</sup> The recent contention by Harte *et al.* (2009) that in the U.S. catch shares are of limited duration because they are good only so long as the overarching fishery management plan is in place is disingenuous in our view. By this logic, fee simple tenure in the U.S. is also of limited duration because such property rights are only good as long as the U.S. Constitution is in place.

quota share in the Alaska halibut/sablefish IFQ program. The annual allocation to the sectors is equivalent to the annual issuance of the individual fishing quota to quota share holders.

We do not think there is a serious objection to the characterization of catch shares (to date) as free, permanent, tradable awards. This combination means that the original recipients receive the wealth of the (formerly) public fishery in a process known as the “transitional gains trap (Copes 1986:287) in which all subsequent generations of fishers are saddled with high entry costs. The full impact and import of this process is perhaps not often expressed or widely understood but is succinctly captured in the following statement:

The overall fishery may benefit economically from [catch shares], although the cost of buying the quota of exiting fishermen may consume much, if not the majority, of the fishery’s overall gains [Redstone Group 2007:1].

This wealth transfer amounts to a substantial privileging of the initial recipients over all other participants (in current and future generations) and in essence is a transfer from the current public owners of the resource. This transfer and privileging occur as the result of government action and present the basis for a little known (in the U.S at least) challenge to the conventional design of catch share programs. In December of 2007, the Human Rights Committee (HRC) of the United Nations publicly released its determination that the Icelandic ITQ system constituted a violation of the non-discrimination principle in the International Covenant on Civil and Political Rights (CCPR) to which Iceland is a signatory (HRC 2007).<sup>45</sup> Several facets of the HRC’s approach to this issue are relevant to discussions of catch shares and sectors in New England. Above all, the HRC saw the issue as one of privatization of a public resource. Yet the HRC was careful to note that catch shares in and of themselves were *not* the issue, nor was there any question of the need to manage Iceland’s fish stocks responsibly. The only issue was the particular design of the Icelandic ITQ system, and on this point the HRC was clearly most concerned with the free, perpetual gifting of tradable catch shares to selected individuals with no return to the owning public. The HRC noted that under this scheme, the catch shares acquired a property-like character but that under Icelandic law the fish stocks were the common property of the Icelandic nation. Summarizing the plaintiffs’ argument, the HRC decision communication noted:

[F]ishing quotas are treated as a personal property of those to whom they were distributed free of charge during the reference period. Other persons, such as the [plaintiffs], must therefore purchase or lease a right to fish from the beneficiaries of the arrangement, or from others who have, in turn, purchased such a right from them. The [plaintiffs] consider that Iceland’s most important economic resource has therefore been donated to a privileged group. *The money paid for access to the fishing banks does not revert to the owner of the resource, the Icelandic nation, but to the private parties personally* [HRC 2007:6, emphasis added]

---

<sup>45</sup> The Committee’s decision is called its “View” and the document is not easily accessible (we have a copy) but a short synopsis may be found on the web-site of the Icelandic Human Rights Centre: [www.humanrights.is/english/news/nr/2225](http://www.humanrights.is/english/news/nr/2225)

Then, in stating their decision on the matter, the HRC noted:

Allocated quotas no longer used by their original holders can be sold or leased at market prices *instead of reverting to the State for allocation to new quota holders* in accordance with fair and equitable criteria. The [Government of Iceland] has not shown that this particular design and modalities of implementation of the quota system meets the requirement of reasonableness [HRC 2007:20].

What we see is a questioning of the wisdom, the fairness, and the necessity of the government imposing the transitional gains trap to the benefit of only a select few citizens at the expense of all others (fishers and non-fishers alike). The HRC viewed this extent and character of this government advantaging of some citizens as the essence of government sponsored discrimination. The Government of Iceland's response to the HRC determination is also instructive. The Icelandic government responded (IGR 2008) by saying that the language in the national fisheries legislation declaring the fishery resources to be the common property of the Icelandic nation was essentially meaningless in terms of any property content. In contrast, the government argued that the real property interests in need of protection were those associated with owning catch shares, interests that had built up over the many years the ITQ system had been in existence.

The Icelandic government made this latter argument despite acknowledging that the national fishery legislation established that catch shares did not convey any property right and were fully revocable. We think this is a clear "tail wags dog" spectacle that should give pause for all involved in the discussions of catch shares in the United States, particularly those using a rhetoric of privatization and property rights. These programs may not, as the government of Iceland suggested, be revocable in practice.

We think it would be a mistake to write off the HCR decision as somehow inapplicable to U.S. experience and sensibilities. We say this for two reasons. First, there is increasing attention to the human rights dimension of fisheries "rights" discussions (see, *e.g.*, most of the entries in Volume 51(November 2008) of the *Samudra Report*). While this attention is noticeably *not* present in the U.S., we think the trend is clear and irreversible. Second, the core of the HCR decision does resonate with U.S. experience where public trust issues and common use clauses regarding fish and wildlife are enshrined (either in statutes or constitutions or both).<sup>46</sup> Again, we think the trend is towards, not away from, careful attention to such principles.

---

<sup>46</sup> A particularly strong example of the parallels with the core issues in the HRC decisions is to be found in an Alaska Supreme Court case that, while not a fisheries case, does make extensive reference to Alaska's long judicial history with various forms of exclusive access to fisheries resources, see *Owsichuk v. State, Guide Licensing and Control Bd.* 763 P.2d 488 Alaska, 1988. Just as in the Icelandic human rights case, the key attributes the court found to give rise to a sense of offense in *Owsichuk* were the free, permanent gifting of a subsequently tradable natural resource-based asset with no return to the owning public.

One way to address the intertwined concerns about free gifting, permanent conveyances and no return to the owning public is via leasing. Leasing is common in the management of other public natural resources in the U.S. Such leasing is between public lessors and private lessees. In New England, under sectors, there *will* be leasing. Most likely a lot, as is the pattern in most catch share programs worldwide. Leasing is desirable from the point of view of economic theory as it facilitates consolidation and the migration of shares to those considered the most economically productive operations. But the leasing envisioned for sectors is between private parties, *all* of the lessors will be private entities. We question why.

The projected path in New England looks to us something like the following: The American taxpayer is being asked to sanction the permanent, free gifting of a public resource (one might use the word “privatization” here) to a select group of individuals. Other individuals (in the current and future generations) will be put at a competitive disadvantage. Depending on one’s perspective, public trust principles or human rights, or both, may be violated. There will be leasing and this will advantage the initial recipients further. In response to concerns about access, private holding companies will solicit large donations from private parties to buy back some of the catch shares that were freely given away, and then these private holding companies will lease these shares back to fishers, perhaps to those who were disadvantaged by the original allocation. In all cases of leasing, the disposition of lease proceeds is under private control and perhaps unknowable to the general public. On top of it all, taxpayers are being asked to pay to ease this transition to private ownership (\$16 million in 2009 plus an additional \$18 million announced for 2010).

The obvious alternative to all of the above is to follow the suggestion of the U.S. Oceans Commission and use leasing to reaffirm public ownership and eliminate a lot of intermediaries in the process. To repeat, *there is going to be leasing*, so why not have public leasing? We know that public leasing will not destroy the economic benefits people associate with catch shares (Ledyard 2008). And we know that actually using the market in an active, open, and transparent way can provide important equity gains over the government give-away approach (Morgan 1995, 1997; Gylfasson and Weitzman 2003). Notably, the equity gains can apply to *all* fishers (current and future generations) *and* the general public. Public leasing could be done by local municipalities thereby ensuring real community benefits and involvement (Macinko 2007). There are a variety of ways such a system could be designed (Weitzmann 2002; Bromley and Macinko 2007). The investments of current participants can and should be addressed in the transition to such a system and again there are a variety of ways to do this (see, *e.g.*, Bromley and Macinko 2007).

#### *j) Hype does not Help*

Earlier, we addressed what in our view is the significant overselling of the Costello *et al.* (2008) paper and the emphasis on “privatization” that paper was said to “prove” was beneficial to saving fish stocks. But oversell is not new when the subject is catch shares. One of the more severe examples concerns the IFQ program in the halibut fishery off Alaska. We are told, in a brochure put out by Environmental Defense (Fund) that the program produced “a comeback in Alaska,” that prior to the program the fishery was “an environmental disaster,” and that “IFQs

have stimulated a rebirth of the halibut fishery off the Alaskan coast” (ED n.d.:3-4). Upon hearing such news, we think the general public might fear for the survival of the halibut stock in the absence of IFQs. We know they would given the caption for a photo in the promotional piece in *Science* announcing the Costello *et al.* paper: “In the bank. Transferable quotas helped save the halibut fishery in Alaska, which was threatened by overfishing in the early 1990s (Stokstad 2008:1619).” The problem with these restoration accounts is simply that they are inaccurate revisions of history. Addressing the first World Fisheries Congress, in Athens in 1992, then NOAA Administrator John Knauss (who had approved the IFQ plan developed by the N. Pacific Council) noted the long successful record of the International Pacific Halibut Commission (IPHC) with sustainable, science-based TACs: “When the program was first established, the halibut fishery was very depleted. Catch limits were established, the resource recovered, *and there has been a healthy fishery ever since* (Knauss, 1994: 22 emphasis added).” Knauss then went on to describe the derby fishery that had developed and closed his plenary address by describing why he thought the IFQ program was necessary despite the record of TAC management (without IFQs) he had just lauded:

I am uncomfortable in making detailed social and economic decisions that allocate fish among different parts of the industry. On the other hand, I question the desirability of managing a fishery like our west coast halibut fishery in a way that may make good biological sense, but appears to make such little economic sense [Knauss 1994:23-24].

Clearly, the derby fishery was unappealing, and it *was* difficult to avoid TAC overruns given the intensity of the effort deployed in such a compressed time. However, the fishery was not collapsing. Far from it, as Knauss’ comments acknowledge—he did not approve the program to save the fish, but to save some of the fishers. But one need not have been in Athens to know this. One could just consult *the data*. For example, a quick visit to the IPHC website confirms that TACs in the major fishing area around Kodiak Island (management area 3A) in the years leading up to the adoption of the IFQ program (in late 1991) were relatively high and stable.<sup>47</sup> We do not think it detracts from the considerable accomplishments of the halibut program to stick to the facts when talking about the program.

Regrettably, the consideration of sectors under Amendment 16 is also witness to the kinds of deception more suited to advertising campaigns than sound public policy processes. For example, consider the late entry by the Pew Environment Group into the discussion of sectors. In May 2009, the Pew Environment Group released a glossy brochure entitled “One Last Chance” authored by two fisheries economists (see, Johnston and Sutinen 2009). In this brochure, the authors turn away from their long history of championing ITQs to promote sectors. Above, we have addressed the authors’ contentions that sectors are renewable privileges and that sectors are more community friendly compared to ITQs, particularly when it comes to consolidation. We think these aspects of the “One Last Chance” brochure detract from informed consideration of sectors. But the most serious distortion introduced by the brochure concerns the attitudes of fishers towards sectors. Johnston and Sutinen (2009:13) use the example of the Chignik Salmon Cooperative in Alaska to show that fishers are happier under sector-like programs:

---

<sup>47</sup> [www.iphc.washington.edu/halcom/commerc/limits80299.htm](http://www.iphc.washington.edu/halcom/commerc/limits80299.htm)

Cooperatives also increase satisfaction among fishermen. Knapp (2008) reports that 70 percent of fishermen had either very or somewhat positive feelings regarding the Chignik Salmon Cooperative in Alaska...

The problem here is with what Johnston and Sutinen do not tell the reader about Knapp's findings. Immediately following his presentation of the data Johnston and Sutinen refer to, Knapp (2008:341) notes that: "Independent permit holders responded that they had opposed the Co-op, that it had made them worse off and that they had negative feelings about the management change." And then Knapp goes on to describe the redistribution that occurred under the co-op:

Clearly, the Co-op changed the relative distribution of benefits in favour of historically less successful harvesters [Knapp 2008:342].

[T]o its opponents, the Co-op redistributed income away from harvesters able and willing to work for it to those not skilled or hard-working enough to earn it for themselves. As another permit holder put it: 'This Co-op is something of a welfare program for the people who have a permit but who haven't fished. They get 9 percent of the total run. Most of those are poor harvesters or they don't really fish their permit' [Knapp 2008:342, citation omitted].

What is to be gained by leaving this information out? Fisheries rationalization programs are always complex in terms of the support and opposition they generate and we fail to see how the policy process is advanced by not accurately presenting the distributional stakes involved. Oddly, the most important fact about the Chignik Salmon Co-op— it was *terminated* (after only a few years in existence) as a result of an Alaska Supreme Court ruling on a legal challenge brought against the co-op by those who opposed it—is relegated to an endnote (see Johnston and Sutinen 2009:19, n. 8; Knapp acknowledged this important detail on the first and other pages of his account, see Knapp 2008:335; 343-44).

We think the recent announcement of results from a public opinion poll of the general citizenry in Massachusetts and Maine is similarly misleading and likely to distort the policy process. On June 8, 2009 The Pew Environment Group announced: "Poll Shows Strong Support for a New Management System."<sup>48</sup> The context of the announcement is such that we think most people will take away the belief that support for *the specific sector scheme* under Amendment 16 is what garnered a high degree of support. But close reading of the announcement shows that the word sector is barely mentioned and the sense is that people voiced support for *a* new system as opposed to *the* new system of sectors. It is instructive to consider the actual question used by the polling firm (supplied to us by Pew on request) that is the basis for the "support" finding:

Up until now, the primary method for rebuilding fish populations has been a top-down approach that places limits on the number of days commercial fishing boats can be at sea and the quantity of fish brought home from each trip. Recently, however, a new management system has been proposed that sets specific annual catch limits for each

---

<sup>48</sup> [www.endoverfishing.org/newengland/newsroom/release\\_060809.html](http://www.endoverfishing.org/newengland/newsroom/release_060809.html)

threatened species of fish. These limits are based on what the best available science says is necessary to restore fish populations. I will tell you more about this plan in a moment, but based on what I've told you so far, would you be .... [in favor of such a plan or opposed to such a plan]

Note that this question is really focused on TACs and not on sectors. And we have learned, encouragingly, that people support sound, scientifically based TAC management. But what do responses to this question tell us about attitudes towards sectors? For example, imagine if the new system was referred to as privatizing a public resource, might that influence the general public's impression of the new system?

Further, notice the reference to "each threatened species of fish" as if all fish are threatened. We think there is a pattern emerging here that comes close to outright fear-mongering. Is there really "one last chance" to save New England's fisheries and is privatization that *sole* option?

It is time to stop manipulating the relatively uniformed public into thinking that the only choice is between catch share giveaways to select portions of industry versus wide-open fishing leading to certain ecological ruin. Framing the choice in that way is simply a false dichotomy yet it is precisely what we see happening. Consider how Heal and Schlenker (2008) ended their much-cited companion to the Costello *et al.* (2008) paper. Discussing the future, Heal and Schlenker ponder why there is any resistance to ITQ programs given their obvious benefits:

Some environmental groups are opposed to anything based on market principles. Others feel that ocean fisheries are common property — that everyone should be free to use them, and that it is wrong to establish ownership rights in the sea. It is to be hoped that clear evidence of the effectiveness of ITQs will lead their opponents to think again [Heal and Schlenker 2008:1045].

Talk of "one last chance," the repeated characterization of the effort control system designed by the industry-dominated Council as some top-down imposition or even as "communism," and the caricature offered above by Heal and Schlenker<sup>49</sup> all border on the irresponsible coming from scholars who should be *informing* the policy process of the choices involved. We think it is time to stand up and insist that there are policy options that are not being presented by the current catch share lobby.

The question is *not* whether one is for or against catch shares. Or whether one is for or against markets. These are distortions. Most of all, this is not about it being "wrong to establish ownership rights in the sea"—it is about what *kind* of ownership to have. And the proponents of privatized catch shares *know* this. They know they are arguing to *supplant* existing rights, not fill some property rights vacuum:

---

<sup>49</sup> It is ironic that Heal and Schlenker explain some opposition to ITQs in terms of people being opposed to markets as if the standard approach to ITQs is really an embrace of markets. For discussion on the *real* use of markets in fisheries see Ledyard 2008; Weitzman 2002; Gylfasson and Weitzman 2003; Morgan 1997; Bromley and Macinko 2007; and Bromley 2009.

[Privatized catch shares] are part of one of the great institutional changes of our times: the enclosure and privatization of the common resources of the ocean. These are now mostly the exclusive property of the coastal states of the world [Neher *et al.* 1989:3].

The serious question is whether we want to have catch shares in a way that is consistent with public ownership or whether we want to employ catch shares in line with an emphasis on privatization. The only reason to privatize is to privatize. It has nothing to do with conservation. Masking the push for privatization as the “last chance” to save fisheries only serves to obscure the fact that we face a relatively distinct choice. We can sustain fisheries via catch shares and public ownership or we can sustain fisheries via catch shares and private ownership. We think the Council and the Obama administration are clearly pursuing the latter option *without* any formal recognition of the former. We think it is incumbent upon these policy makers to at least acknowledge the choices involved *and* to provide the citizenry with an explanation of their rationale for turning away from the default position of fisheries as public resources.

## VI. Conclusions and Recommendations

In this review, we have tried to evaluate the concept of sectors from the standpoint of the specific goals people have for them. Will sectors *save* the New England groundfish fishery? We do not think so. But sectors could be a success nonetheless. The measure of that success will depend on how sectors are constructed and what we collectively want from them. In our view much of the potential of sectors is at risk because of the repeated preference to leave critical, in some cases one can argue essential, details to the private operations of the sectors themselves. Much of the support for sectors in what we call the managerial class seems to be informed by and rely almost entirely upon an ideology that stresses the ability of private interests to regulate themselves for their own good *and* the larger public good. We think recent events in the world have exposed serious flaws in this ideology and question why it has such currency in contemporary fisheries policy given the dramatic nature of its failure in other sectors of economies around the world. Important public interests are being ignored in the rush to implement sectors based on this vision of self-regulation. Above all else, we think there are predictable consequences of pursuing the present path and no one should be surprised a year or five years from now when these consequences come to pass. From our vantage point, New England appears poised to turn away from open markets and democracy and embrace a feudal structure as the salvation to the predictable consequences of avoiding management in the first place.

It is not easy to talk about management in the present context. Because the economic and social stakes are so high, there is an almost built-in tendency to focus on the short term. We sense that, in part, the intense focus on the present generation of boat owners in the groundfish fishery is directly related to the scale of the problem confronting the industry and the Council. Council discussions have openly talked of sectors as a “lifeboat” for the current industry. As we heard at a recent Council meeting: “Just let us fish one more year.” But this has been the strategy for thirty years and it does not seem to be working in the long run for the fish *or* the fishing industry.

“The Council has been known to avoid hard decisions in the past.... [Hayden and Conkling 2008:9].” With sectors, the Council seems poised to repeat past patterns. We would argue that the extent of devolution and deregulation contemplated by the Council is simply a means of avoiding hard decisions. Management by delay is not management. Thirty years of management by delay has produced a fine mess. The sense we have received is that no one is happy, no one really wants exactly what is being pursued, there is little open discussion about the likely consequences of the present path, and remarkably few people are actually involved in determining that path.

Meanwhile, it is noticeable that there are other dimensions to generalized debates over rationalization programs that are conspicuously lacking from the Council discussions of sectors (e.g., the fate of crew, future generations, and broader public interests). One of the problems with concerns over these other interests is that it is very hard, if not in practice impossible in the political sense, to come back later and address many of these sorts of issues once market-values have been unleashed and powerful political interests are vested by the initial scheme (recall the predicament the government of Iceland finds itself in, now arguing the irrevocability of the

revocable-in-law catch shares). In addition, many other individuals invariably invest considerable sums of money reacting to the displacements caused by the original shift in policy and further adjustments quite possibly are perceived as “threats” to these new investment-backed interests. The political reality is that some concerns *must* be addressed in the original design of the program or else they will in all likelihood never be addressed. This is a sobering conclusion in light of the Council’s announced intention to *avoid* making detailed policy decisions,<sup>50</sup> opting instead to leave these to the privacy of the sector managers.

Looking forward, we offer two sets of recommendations. The first set is focused on the current approach to sectors while the second is focused on an entirely new approach.

a) Recommendations applying to the existing approach to sectors

- Increase outreach efforts
- Develop specific limits on consolidation
- Require direct linkages between municipalities and sectors
- Require direct linkages between private community permit banks and municipalities
- Require sector operation plans to specify contractual limits on individual annual catches within sectors
- Convene an on-going sector monitoring and implementation committee with membership representing the Council, NMFS, the States, all active sectors, industry not affiliated with any sector, and broader public interest representation
- Convene a Council sponsored committee to openly discuss the relationship between sectors and ITQs, including the possible future transition from one system to the other

It is clear that substantially more information on sectors needs to be disseminated to all levels of industry. We think this information need is particularly important given the hopes being placed on sectors. We think the current state of information potentially spells trouble (perhaps even violence) when the realities of catch share/TAC management are made clear to *all*.

A strong argument can be made that there is a broad public interest in informed decision-making (especially when it concerns public resources) by an informed citizenry, including affected stakeholders. Serving or addressing this public interest is clearly a function for which government is well suited. Ideally, outreach should be as neutral as possible, and great care will need to be taken to not simply continue the processes that have been followed to date and end up promoting the sense that sectors are the *only* option available or will deliver more than can be expected of them.

We think the Council is deferring too many decisions that have a broad public interest component to sector leadership. Serious issues like ties to communities and consolidation must be addressed up front by policy makers responsible to a broad public constituency. We think the Commonwealth clearly has an interest in *communities* and thus in municipally-controlled permit

---

<sup>50</sup> We note that the Council did not even select any “preferred alternatives” for Amendment 16 prior to the public hearings.

banks run (indeed chartered) according to democratic principles. This interest is best addressed directly.

Our understanding of current sector internal contracts is that they are far too vague on the subject of catch accounting to be successful once TACs are routinely attained. Similarly, the whole subject of catch accounting and monitoring needs substantial attention from a broad spectrum of interests and perspectives.

Our conversations with industry and managers suggest that there is more support for ITQs than is publicly acknowledged. Moreover, the majority of people we spoke with think the sector system will evolve into ITQs, perhaps relatively quickly. But these are private conversations. We think it only makes sense to have an open, public, discussion of ITQs and sectors. Additionally, we sense that people think of sectors and ITQs as mutually exclusive. This need not be the case. For example, we noted that a truly voluntary system would feature direct awards (or purchases/leases) of catch shares by individuals who could then either fish them as individuals *or* elect to pool together with others in sectors/cooperatives. Note that we are *not* advocating ITQs *per se*, but rather making the case that New England would benefit from an open discussion of ITQs.

#### *b) Recommendations applying to a new approach to catch shares in New England*

In our view, the “standard” approach to catch shares is increasingly difficult to defend and we have written extensively on the nature of the problems posed by free, permanent gifting with no return to the public (Macinko and Bromley 2002; Bromley and Macinko 2007). We suspect that some of those problems are extremely relevant in the context of New England groundfish. Our contention is that most of the adverse consequences associated with catch shares are solely the product of the standard approach (Macinko 2005), *not* something inherent in the simple concept of subdividing a TAC into individually assigned catches.

Ours is *not* an anti-catch share message. To the contrary it is a plea to stop repeating a pattern of inflicting unnecessary pain through the stubborn application of the give-away model of catch shares. Catch shares can, and we argue must, be designed that impose fewer social, economic, and ecological costs than those we think are associated with the standard approach grounded on an appeal to faith in self-interest, self-regulation, and privatization. We also reject the tendency towards ends-justify-the-means rationales we sense in the current approach to sectors, most noticeably on the part of some environmental advocates who are willing to incur substantial inequities just to get to TACs.

We think it is critical to separate fishery *management* policies from *economic disaster relief* policies and that both would benefit from such separation. There are more open and direct ways to provide economic relief than through the permanent allocation of the fishery. Again, fisheries policy seems distinctly out of sync with our nation’s approach to similar issues. When the mid-west suffered catastrophic flooding last spring, there was much talk of disaster relief but no talk of accomplishing that relief by effectively *giving* shares of the Mississippi River away to beleaguered citizens in the region. We propose addressing the economic issues directly, and then focusing on how to introduce catch shares in a manner that preserves more of a sense of fair play between all the various interests in the industry, the public, and future generations.

We think the broad contours of the alternative to the standard approach are fairly clear:

- Opt for some version of the U.S. Ocean Commission’s recommendation for limited duration shares coupled with public leasing to handle the periodic reallocation of shares. Leasing would be competitive (but there could be TAC partitions to accomplish desired goals), open (transparent), and frequent—thus ensuring fluid markets and opportunities for all to enter. Leasing would be between governments (at local, state, or federal levels or combinations thereof) and fishing firms. Communities (entire municipalities and their residents) would be involved directly. A portion of the lease proceeds could be used to fund necessary management and monitoring costs.
- Design the above specifically to compliment some vision of a desired future for the fishery *and* communities. This would require:
  - Engaging in focused planning sessions to consider what future is desired for the groundfish fishery and communities. For example, how do people evaluate the tradeoffs between a broad array of small ports dominated by small vessels and firms versus a more concentrated vision featuring fewer, larger ports with larger vessels?
  - Decide on a preferred approach to the transition to the new system.

The last element mentioned above is particularly critical. There are existing interests in play and an instant transition to a new system is not technically feasible or fair. We see two broad options for a transition:

1. Adopt some form of an “interim” sector program. This would only be in place for a fixed, relatively short period of time (*e.g.*, 1-5 years) while full consideration is given to the design and implementation of the new public leasing model. This could be based directly on the plans for sectors under Amendment 16.
2. A total buyout of the existing groundfish fleet. This would provide direct economic relief but would also be understood to extinguish any claims to priority access, treatment, or history when re-entering the fishery under the public leasing model. This buyout could be funded by a combination of redirecting the current supplemental funds announced for the transition to sectors and additional appropriations. It would be hoped that private donors interested in the reform of fisheries management in New England would also contribute at the rate they have been to the pursuit of the privatization model.

We note that these options are not mutually exclusive.

## References

- A16DEIS. 2008. *DRAFT Amendment 16 To the Northeast Multispecies Fishery Management Plan Including a Draft Environmental Impact Statement and an Initial Regulatory Flexibility Analysis*, June 1. Newburyport, MA: New England Fishery Management Council.
- Anderson, L. and M. Holliday, (eds.). 2007. *The Design and Use of Limited Access Privilege Programs*, May, 2007. Washington D.C.: National Marine Fisheries Service.
- Andrews, E. 2008. "Greenspan Concedes Error on Regulation." *The New York Times*, October 24, 2008, p. B1. [Available online: [www.nytimes.com/2008/10/24/business/economy/24panel.html?scp=2&sq=greenspan&st=cse](http://www.nytimes.com/2008/10/24/business/economy/24panel.html?scp=2&sq=greenspan&st=cse)]
- Árnason, R. 2000. "Property Rights As a Means of Economic Organization." In R. Shotton (ed). *Use of Property Rights in Fisheries Management: Proceedings of the FishRights99 Conference*, 11-19 November 1999, Fremantle: Western Australia. FAO Fisheries Technical Paper 404/1. FAO, Rome. Pp. 14-25
- Bavinck, M. and S. Jentoft. 2008. "Imagining the Future." *Samudra Report* **51**: 41-43.
- Beddington, J., D. Agnew and C. Clark. 2007. "Current Problems in the Management of Marine Fisheries," *Science* **316**:1713-16.
- Bess, R., and R. Rallapudi. 2007. "Spatial Conflicts in New Zealand Fisheries: the rights of fishers and protection of the marine environment." *Marine Policy* **31**:719-729.
- Branch, T. and R. Hilborn. 2008. "Matching Catches to Quotas in a Multispecies Trawl Fishery: targeting and avoidance behavior under individual transferable quotas." *Can. J. Fish. Aquat. Sci.* **65**:1435-1446.
- Bromley, D. 2009. "Abdicating Responsibility: The Deceits of Fisheries Policy." *Fisheries* **34**(6):280-290.
- Bromley, D. and S. Macinko. 2007. *Rethinking Fisheries Policy in Alaska: Options for the Future*, Report prepared for the Alaska Department of Fish and Game, Juneau, October 31. [copy on file with authors]
- Chavez, C., N. Gonzales and H. Salgado. 2008. "ITQs under illegal fishing: An application to the red shrimp fishery in Chile." *Marine Policy* **32**:570-579.
- Clark, C. 1973. "Profit Maximization and the Extinction of Animal Species." *Journal of Political Economy* **81**:950-61.
- Cole, D. and P. Grossman. 2002. "The Meaning of Property Rights: Law vs. Economics." *Land Economics* **78**(3):317-30.

- Copes, P. 1986. "A Critical review of the Individual Quota as a Device in Fisheries Management." *Land Economics* **62**(3): 278-291.
- Costello, C., S. Gaines and J. Lynham. 2008. "Can Catch Shares Prevent Fisheries Collapse?" *Science* **321**:1678-1681.
- Criddle, K. and S. Macinko. 2000. "A requiem for the IFQ in US fisheries?" *Marine Policy* **24**:461-469.
- DeAllessi, M. 1997. "Technologies for Sequestering and Monitoring Ocean Property." In L. Jones and M. Walker, editors. *Fish or Cut Bait: The Case for Individual Transferable Quotas in the Salmon Fishery of British Columbia*. The Fraser Institute, Vancouver, Canada. Chapter 4 (pp. 125-149). [Available online: [www.fraserinstitute.org/COMMERCE.WEB/publication\\_details.aspx?pubID=2596](http://www.fraserinstitute.org/COMMERCE.WEB/publication_details.aspx?pubID=2596)]
- Dean, C. 2008. "Privately Owned Fisheries May Help Shore Up Stocks." *The New York Times* September 19, A13. [Available online: [www.nytimes.com/2008/09/19/science/19fish.html?ref=science](http://www.nytimes.com/2008/09/19/science/19fish.html?ref=science)]
- Dean, C. 2009. "U.S. Acts to Alter New England Fisheries." *The New York Times* April 9, A19. [Available online: [www.nytimes.com/2009/04/09/science/earth/09fish.html](http://www.nytimes.com/2009/04/09/science/earth/09fish.html)]
- Economist. 2008. "A rising tide: Scientists find proof that privatising fishing stocks can avert a disaster." *The Economist*, September 18. Available online: [www.economist.com/science/displaystory.cfm?story\\_id=12253181](http://www.economist.com/science/displaystory.cfm?story_id=12253181)
- Eagle, J., S. Newkirk and B. Thompson. 2003. *Taking Stock: Of the Regional Fishery Management Councils*. Washington, DC: Island Press.
- ED. 2007. *Sustaining America's Fisheries and Fishing Communities: An Evaluation of Incentive-Based Management*. Environmental Defense, New York, New York. [Available online: [www.edf.org/documents/6119\\_sustainingfisheries.pdf](http://www.edf.org/documents/6119_sustainingfisheries.pdf)]
- ED. n.d. *Fisheries with a Future: The Case for Individual Fishing Quotas*. Oakland, CA: Environmental Defense. [Available online: [www.edf.org/documents/1953\\_IFQbrochure.pdf](http://www.edf.org/documents/1953_IFQbrochure.pdf)]
- EDF. n.d. *Catch Shares: Frequently Asked Questions*. New York: Environmental Defense Fund. [Available online: [www.edf.org/documents/8831\\_OceansAbundance\\_FAQs.pdf](http://www.edf.org/documents/8831_OceansAbundance_FAQs.pdf)]
- Evans, B. 2005. "Conferenece: Put Fishermen in Charge." *The Standard Times* (New Bedford, MA), January 30, 2005, p. B1.

- Fahn, James. 2005. *From Racing to Rights: Emerging Strategies for Improving Fisheries Management in North America*. A Report for the Sand County Foundation Based on its Workshop on “Emerging Strategies for Improving Fisheries Management” Del Mar, California, January 11-13, 2005. [Available online: [http://www.sandcounty.net/uploads/Fisheries\\_Report\\_web.pdf](http://www.sandcounty.net/uploads/Fisheries_Report_web.pdf)]
- Gaines, R. 2009a. “NMFS eases Interim Rule.” *Gloucester Daily Times*, April 7, 2009. [Available online: [http://www.gloucestertimes.com/punews/local\\_story\\_096224221.html](http://www.gloucestertimes.com/punews/local_story_096224221.html)]
- Gaines, R. 2009b. “\$16M to help fishermen install rules: Lubchenco gives fishing industry a June deadline for transition.” *Gloucester Daily Times* April 9, 2009. [Available online: [http://www.gloucestertimes.com/punews/local\\_story\\_098224633.html](http://www.gloucestertimes.com/punews/local_story_098224633.html)]
- Gaines, R. 2009c. “Public fishing agenda, private funding.” *Gloucester Daily Times*, May 25, 2009. [Available online: [www.gloucestertimes.com/archivesearch/local\\_story\\_144220519.html](http://www.gloucestertimes.com/archivesearch/local_story_144220519.html)]
- Gordon, H. 1954. “The Economic Theory of a Common Property Resource: The Fishery.” *Journal of Political Economy* **62**:124-42.
- Grafton, Q., D. Campbell, C. Costello, *et al.* 2009. “Comment on: ‘Abdicating Responsibility: The Deceits of Fisheries Policy.’” Letters to the Editor, *Fisheries* **34**(6):292-294.
- Gylfasson, T., and M. Weitzman. 2003. “Icelandic Fisheries Management: Fees versus Quotas.” CEPR Discussion Paper No. 3849. London: Centre for Economic Policy Research.
- Hannesson, R. 2004. *The Privatization of the Oceans*. Cambridge: MIT Press.
- Hannesson, R. 2008. “Sustainability of Fisheries.” *The Electronic Journal of Sustainable Development* 1(2):13-22.
- Harte, M., S. Larkin, G. Sylvia, *et al.* 2009. “IFQs and Responsible Fisheries Policy.” Letters to the Editor, *Fisheries* **34**(6):294-298.
- Hayden, A. and P. Conkling. 2008. “Management by delay.” *National Fisherman* **89**(4)(August):9.
- Heal, G. and W. Schlenker. 2008. “Sustainable Fisheries.” *Nature* **455**:1044-1045.
- Holland, D. 2007. *Community-based Sectors for the New England Groundfish Fishery*. Final Report Submitted to National Marine Fisheries Service, Northeast Fisheries Science Center. Portland: Gulf of Maine Research Institute.

HRC. 2007. CCPR/C/91/D/1306/2004 14 December 2007, Views of the Human Rights Committee under article 5, paragraph 4, of the Optional Protocol in respect of Communication No.1306/2004, Date of Adoption of Views 24 October 2007. [Release of UN Committee on Human Rights decision, copy on file with authors]

IGR. 2008. “Views, adopted by the Human Rights Committee on 24 October 2007, concerning communication No. 1306/2004.” (Icelandic Government Response to) The United Nations High Commissioner for Human Rights, 6/9/08. [Available online: <http://eng.sjavarutvegsraduneyti.is/news-and-articles/nr/9306>]

Johnston R. and J. Sutinen. 2009. *One Last Chance: The Economic Case for a New Approach to Fisheries Management in New England*. Washington, D.C.: Pew Environment Group. [Available online: [www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/Johnston\\_Sutinen\\_2009.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Johnston_Sutinen_2009.pdf) ]

Knapp, G. 2006. “Economic Impacts of BSAI Crab Rationalization on Kodiak Fishing Employment and Earnings and Kodiak Businesses: A Preliminary Analysis.” Anchorage: Institute of Social and Economic Research, University of Alaska Anchorage. [Available online: [http://www.iser.uaa.alaska.edu/iser/people/knapp/Knapp\\_Kodiak\\_Crab\\_Rationalization\\_Preliminary\\_Report.pdf](http://www.iser.uaa.alaska.edu/iser/people/knapp/Knapp_Kodiak_Crab_Rationalization_Preliminary_Report.pdf)]

Knapp, G. 2008. “The Chignik Salmon Cooperative.” P. 335–348 in Townsend, R., R. Shotton and H. Uchida, eds. *Case Studies in Fisheries Self-Governance*. FAO Technical Paper No. 504. FAO. Rome, Italy.

Knauss, J. 1994. “The State of the World’s Marine Resources.” In C. Voigtlander 1994 (ed.), *The State of the World’s Fisheries Resources: Proceedings of the World Fisheries Congress Plenary Sessions*. (1<sup>st</sup> World Fisheries Congress, Athens, 1992.) Bethesda, MD: American Fisheries Society. Pp. 19-24.

Leal, D. 2000. *Homesteading the Oceans: The Case for Property Rights in U.S. Fisheries*. PERC Policy Series, PS-19 August, 2000. Bozeman, MT: PERC.

Leal, D. (ed.) 2004. *Evolving Property Rights in Marine Fisheries*. Lanham, MD: Rowman & Littlefield Publishers, Inc.

Leal, D. 2006. “Give fisherman more stakes in fisheries.” *Providence Journal*, January 9. [Available online: [www.ifqsforfisheries.org/cover\\_story/fishermen\\_more\\_stakes.php](http://www.ifqsforfisheries.org/cover_story/fishermen_more_stakes.php) And: [www.projo.com/opinion/contributors/content/projo\\_20060109\\_ctleal.85cd5bd.html](http://www.projo.com/opinion/contributors/content/projo_20060109_ctleal.85cd5bd.html)]

Leal, D., M. DeAlessi and P. Emerson. 2004. *Overcoming Three Hurdles to IFQs in U.S. Fisheries: A Guide for Federal Policy Makers*. Policy Brief No. 28, April 2004. Los Angeles: Reason Public Policy Institute; [Available online: <http://reason.org/files/2cea73d3fe251afcfba211e00b15d496.pdf> ]

Leal, D., M. DeAlessi and P. Baker. 2008. *Beyond IFQs in Marine Fisheries*. Bozeman, MT: PERC (the Property and Environment Center).

Ledyard, J. 2008. "Market Design for Fishery IFQ Programs." Caltech Working Paper. Pasadena, CA: Division of Humanities and Social Sciences, California Institute of Technology.

Macinko, S. 2005. "In Search of Transition, Community and a New Federalism: Six Questions to Confront on the Road Towards a National Policy on Dedicated Access Privileges." Pp. 236-244 in: Witherell, D. (ed.). 2005. *Managing Our Nation's Fisheries II: Focus on the Future*. Anchorage: North Pacific Fishery Management Council.

Macinko, S. 2007. "Fishing Communities as Special Places: The Promise and Problems of Place in Contemporary Fisheries Management." *Ocean and Coastal Law Journal* **13**(1):71-94.

Macinko, S. and D. Bromley. 2002. *Who Owns America's Fisheries?* Washington, D.C.: Island Press.

Macinko, S. and D. Bromley. 2004. "Property and Fisheries for the Twenty-First Century: Seeking Coherence from Legal and Economic Doctrine." *Vermont Law Review*, 28(3):623-661.

Macinko, S. and S. Schumann. 2008. "The Process of 'Property': Stasis and Change in Lobster Management in Southern New England." *Vermont Law Review* **33**(1):73-129.

Meine, Curt. 1988. *Aldo Leopold: His Life and Work*. Madison: University of Wisconsin Press.

Miller, M. and J. Van Maanen. 1979. "'Boats Don't Fish, People Do': Some ethnographic notes on the federal management of fisheries in Gloucester." *Human Organization* **38**(4):377-385.

Morgan, G. 1995. "Optimal Fisheries Quota Allocation Under a Transferable Quota (TQ) Management System." *Marine Policy* **19**(5):379-390.

Morgan, G. 1997. *Individual Quota Management in Fisheries: Methodologies for determining catch quotas and initial quota allocation*. FAO Fisheries Technical Paper No. 371. Rome: FAO.

NEFMC. 2003. *Final Amendment 13 to the Northeast Multispecies Fishery Management Plan Including a Final Supplemental Environmental Impact Statement and an Initial Regulatory Flexibility Analysis*. Newburyport, MA: New England Fishery Management Council.

NEFMC. 2007. *Sector Policy*. New England Fishery Management Council Operating Policies, Original Approval 6/19/07. Newburyport, MA: New England Fishery Management Council.

Neher, P. S., R. Arnason and N. Mollett (eds.). 1989. *Rights Based Fishing: Proceedings of a Workshop on the Scientific Foundations for Rights Based Fishing*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

NESC. 2006. "Point System Management Program: An Output Control Management Proposal for the Northeast Multispecies Fishery." Submitted by the Northeast Seafood Coalition. December 29, 2006. Gloucester: Northeast Seafood Coalition.

Nickerson, S. 2009. "Fishermen's Group Already Uses Sectors Successfully." *Cape Cod Times*, (Opinion) April 21, 2009, Susan Nickerson, Executive Director, Cape Cod Commercial Hook Fishermen's Association. [Available online: [www.capecodonline.com/apps/pbcs.dll/article?AID=/20090421/OPINION/904210306/-1/ARCHIVE](http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20090421/OPINION/904210306/-1/ARCHIVE) ]

NMFS 2008. "Groundfish Sectors Questions and Answers June 2008." Attachment to June 18, 2008 Letter to Northeast Multispecies Permit Holders, from National Marine Fisheries Service, Northeast Region, Gloucester, MA. [Available online: [www.nero.noaa.gov/nero/nr/nrdoc/08/08multisectorsNEFMC.pdf](http://www.nero.noaa.gov/nero/nr/nrdoc/08/08multisectorsNEFMC.pdf) ]

NPFMC. 1999. *Minutes of the Bering Sea/Aleutian Islands Crab Co-op Meeting, November 22, 1999, Seattle, Washington*. Agenda Item C-1, Supplemental, December 1999. Anchorage: North Pacific Fishery Management Council.

NRC. 1998. *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas*. Committee to Review Individual Fishing Quotas. Ocean Studies Board, Commission on Geosciences, Environment, and Resources, National Research Council. Washington D.C.: National Academy Press.

NRC. 1999a. *Sustaining Marine Fisheries*. Committee on Ecosystem Management for Sustainable Marine Fisheries, Ocean Studies Board, Commission on Geosciences, Environment, and Resources, National Research Council. Washington D.C.: National Academy Press.

NRC 1999b. *The Community Development Quota Program in Alaska and Lessons for the Western Pacific*. Committee to Review the Community Development Quota Program, Ocean Studies Board, Commission on Geosciences, Environment, and Resources, National Research Council. Washington D.C.: National Academy Press.

NRC. 2000. *Marine Protected Areas: Tools For Sustaining Marine Ecosystems*. National Research Council. Washington: National Academy Press.

OECD. 2007. *Towards Sustainable Fisheries: Economic Aspects of the Management of Living Marine Resources*. Paris: Organization for Economic Co-operation and Development.

Okey, T. 2003. "Membership of the Eight Regional Fishery Management Councils in the United States: Are Special Interests Over-Represented?," *Marine Policy* 27:193-206.

Petruny-Parker, P. 2007. *Improving Fisheries Management: Finding a Better Way*. A Report on the Sand County Foundation Workshop, Mystic, Connecticut, 13-15 November, 2007. [Available online: [www.sandcounty.net/uploads/Fisheries\\_Report\\_final\\_web.pdf](http://www.sandcounty.net/uploads/Fisheries_Report_final_web.pdf)]

Petruny-Parker, M. 2008. *Sector Allocation as a Management Tool: Proceedings of the Workshop Held January 15-16, 2008, Narragansett, Rhode Island*. Narragansett, R.I.: Rhode Island Sea Grant.

Pierce, D. 1982. *Development and Evolution of Fishery Management Plans for Cod, Haddock, and Yellowtail Flounder*. Massachusetts Division of Marine Fisheries, Boston, MA.

Pinkerton, E. 1989. (ed) *Co-operative management of local fisheries: new directions for improved management and community development*. Vancouver: University of British Columbia Press.

Pinto da Silva, P. and A. Kitts. 2006. "Collaborative Fisheries Management in the Northeast US: Emerging initiatives and future directions." *Marine Policy* 30(6): 832-841.

POC (Pew Oceans Commission). 2003. *America's Living Oceans: Charting a Course for Sea Change*. A Report to the Nation. May 2003. Arlington, VA: Pew Oceans Commission. [Available online: [www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/env\\_pew\\_oceans\\_final\\_report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf)]

Pressman, A. 2006. "Fished Out: The U.S. fishing industry is sinking as the catch dwindles and a way of life vanishes. But a market-based fix could fill nets again." *BusinessWeek* (September 4, 2006). [Available online: [http://www.businessweek.com/magazine/content/06\\_36/b3999067.htm](http://www.businessweek.com/magazine/content/06_36/b3999067.htm)]

Rago, P. 2008. "Summary of Groundfish Assessment Review Meeting: Biological Reference Points (April 28-May 2, 2008) Northeast Fisheries Science Center." Presentation to the New England Fishery Management Council, June 4, 2008. [Available online: <http://www.nefmc.org/nemulti/index.html>]

Redstone. 2007. *South Atlantic Snapper Grouper LAPP Options, Preliminary Economic and Design Options*, Redstone Strategy Group, LLC, September 18, 2007. Boulder: Redstone Strategy Group.

Scott, A. 1989. "Conceptual Origins of Rights Based Fishing." In P. Neher *et al.* (eds) *Rights Based Fishing*, Dordrecht: Kluwer Academic Publishers. Pp. 11-38.

Shotton, R. (ed.) 2000. *Use of Property Rights in Fisheries Management: Proceedings of the FishRights99 Conference*, Freemantle: Western Australia, 11-19 November 1999. FAO Fisheries Technical Paper 404/1. Rome: FAO.

- Smith, C. "New Englanders pin hopes on fishing sectors." *National Fisherman* **89**(4)(August):8.
- Solow, R. 2009. "How to Understand the Disaster." *The New York Review of Books*, May 14, pp. 4-8. (Review of R. Posner, *A Failure of Capitalism: The Crisis of '08 and the Descent into Depression*, Harvard University Press, 2009.)
- Stokstad, E. 2008. "Ecology: Privatization Prevents Collapse of Fish Stocks, Global Analysis Shows." *Science* **321**:1619.
- Sullivan, W. 2009. "Decision on November 13, 2008 Marine Fisheries Public Hearing Item-Summer Flounder Sector Allocation Pilot Program." January 25, 2009, memo from W. Michael Sullivan, Director, to Mark Gibson, Acting Chief, DFW. 7 pp. Providence: Rhode Island Department of Environmental Management.
- Sutinen, J. 2001. "Prepared Statement Of Jon G. Sutinen, Ph.D., Professor, Department Of Environmental And Natural Resource Economics, University Of Rhode Island." Written testimony to the Subcommittee on Oceans and Fisheries of the Senate Committee on Commerce Hearing on S. 637, the Individual Fishing Quota Act of 2001, May 2, 2001. [Available online: [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107\\_senate\\_hearings&docid=f:90492.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_senate_hearings&docid=f:90492.pdf), pp. 48-56]
- Townsend, R., R. Shotton and H. Uchida (eds.). 2008. *Case Studies in Fisheries Self-Governance*. FAO Technical Paper No. 504. Rome:FAO.
- Turris, B. and H. McElderry. 2008. *Evaluation of Monitoring and Reporting Needs for Groundfish Sectors in New England Phase I Report*. April, 2008. Vancouver/Victoria: Pacific Fisheries Management Incorporated/Archipelago Marine Research Ltd.
- USCOP (U.S. Commission on Ocean Policy). 2004. *An Ocean Blueprint for the 21st Century*. Final Report. Washington, DC: U.S. Commission on Ocean Policy. [Available online: [http://oceancommission.gov/documents/full\\_color\\_rpt/welcome.html](http://oceancommission.gov/documents/full_color_rpt/welcome.html)]
- Weitzman, M. 2002. "Landing Fees vs. Harvest Quotas with Uncertain Fish Stocks." *Journal of Environmental Economics and Management* **43**:325-338.
- Wallace, C. and B. Weeber. 2005. The devil and the deep sea- economics, institutions and incentives: the theory and the New Zealand quota management experience in the deep sea." In R. Shotton (ed.) *Deep Sea 2003: Conference on the Governance and Management of Deep-sea Fisheries*, Part 1: Conference Reports 1-5 December 2003 Queenstown, New Zealand, pp. 511-543. Rome: FAO.
- Young, O. 1982. "The Political Economy of Fish: The Fishery and Conservation Management Act of 1976." *Ocean Development and International Law Journal* **10**(3/4):199-273.

## About the Authors

**Seth Macinko** teaches fisheries law and management in the Department of Marine Affairs at the University of Rhode Island. He currently server on the Scientific and Statistical Committee of the North Pacific Fishery Management Council and has served on the Social Science Advisory Committee of the New England Fishery Management Council and the Scientific and Statistical Committee of the South Atlantic Fishery Management Council. He is a member of the Rhode Island Marine Fisheries Council. He has published widely on catch share systems in fisheries, the rights-based fishing movement, and the public trust doctrine and fisheries. His research in these areas has led to invitations to speak on catch share systems and rights versus privileges in fisheries management before the Western Pacific Fishery Management Council, the Gulf of Mexico Fishery Management Council, the South Atlantic Fishery Management Council, and at NOAA. He was an invited speaker at both of the *Managing Our Nation's Fisheries* conferences (speaking on catch share systems). He was a member of the National Research Council Committee that reviewed the Community Development Quota (CDQ) Program in Alaska at the request of Congress. He subsequently performed a program review for the Norton Sound Economic Development Corporation (one of the six CDQ groups) involving on-site visits to all fifteen member communities. Most recently, he has co-authored a report on policy options for the future in the fisheries off Alaska for the Commissioner of Alaska Department of Fish and Game focusing on learning from past experiences with catch share systems. Prior to earning his doctorate in environmental science and policy from the University of California, Berkeley, he fished commercially in the crab fisheries off Alaska.

**William Whitmore** is currently a doctoral candidate in the Marine Affairs program at the University of Rhode Island. Before pursuing his PhD, he was a Lieutenant in the NOAA Commissioned Corps. He sailed out of Woods Hole, MA as a deck officer on NOAA SHIP DELAWARE II conducting fisheries and marine mammal surveys. He also worked for NOAA's Office of Response and Restoration in New Orleans, LA where he partnered with the US Coast Guard responding to oil spills and hazardous material emergencies in the Gulf of Mexico including the immediate aftermath of Hurricane Katrina. He received his undergraduate degree from Penn State University and has a MA in Sociology from the University of New Orleans.

## Appendix I

### NEFMC SECTOR TIMELINE – **Key issues in bold**

January 18, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Discuss Scoping Period for Am. 16               <ul style="list-style-type: none"> <li>- DAS modifications</li> <li>- Hard TAC/Quota/ITQ</li> <li>- Area management</li> <li>- Point system</li> <li>- Hard TACs as stand alone option removed</li> </ul> </li> </ul>
February 8, 2007 – NEFMC meeting	<ul style="list-style-type: none"> <li>- Revisions to DAS in Am. 16</li> <li>- Voted against ITQ as option for Am. 16</li> <li>- Voted to include area management, points system as alternatives for Am. 16</li> <li>- Modifications for sector rules to be done in a Sector Omnibus Committee</li> </ul>
February 22, 2007 - Sector Omnibus Committee (first meeting)	<ul style="list-style-type: none"> <li>- Debate over sectors as LAPPs</li> <li>- Role of hard TACs in a sector</li> </ul>
March 29, 2007 – Sector Omnibus Committee	<ul style="list-style-type: none"> <li>- Sectors will establish ACLs and AMs</li> <li>- Sector shares allocated a % of ACLs</li> <li>- Discuss sector size and “sideboards”</li> </ul>
April 19, 2007 – Groundfish Advisory Panel	<ul style="list-style-type: none"> <li>- Allocation issues should be addressed by Groundfish committee, not sector omnibus committee</li> <li>- Splits in history due to leasing may increase capacity</li> <li>- <b>Recommend that the Council or NMFS notify all individual permit holders of their estimated allocations under each management option prior to any management action</b></li> </ul>
April 20, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Debated over whether to do DAS alternatives in Am. 16 or 17, tabled the debate until May 31.</li> <li>- <b>Requested the Council include changes to specific groundfish sector guidance in Am. 16</b></li> </ul>
April 26, 2007 – Sector Omnibus Committee	<ul style="list-style-type: none"> <li>- Discuss sector size, baseline, sideboards, quota transfers</li> </ul>
May 29, 2007 – Groundfish Advisory Panel	<ul style="list-style-type: none"> <li>- Debate when and how sectors should be implemented, but make no applicable recommendation</li> <li>- Recommend development of an allocation formula</li> </ul>
May 31, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- <b>Recommend that sectors and other DAS alternatives belong in Am. 17</b></li> </ul>
June 19, 2007 – NEFMC	<ul style="list-style-type: none"> <li>- <b>Approves a “Sector Policy”</b></li> </ul>
June 21, 2007 – NEFMC meeting	<ul style="list-style-type: none"> <li>- <b>Sectors, and allocations to sector members, to be included in Am. 16</b></li> <li>- Other DAS alternatives, including IFQ, points system, and area management remanded to Am. 17</li> <li>- No more sector proposals will be included in Am. 16</li> <li>- Sector omnibus committee disbanded</li> </ul>

August 1, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Debate baseline period, consolidation issues, allocation, and trading between sectors</li> <li>- Discussed, but took no action, on effort controls for “common pool”</li> </ul>
September 5, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Regional Administrator (RA) is concerned about a lack of attention on effort controls</li> <li>- Approve motions for allocation baselines and formulas</li> <li>- Discuss voluntary aspect of sectors, remove cap %</li> </ul>
September 18, 2007 – NEFMC meeting	<ul style="list-style-type: none"> <li>- <b>Work on sectors is suspended until the groundfish committee completes a plan for May 2009 biological targets that include: DAS modifications, annual catch limits, accountability measures, recreational measures.</b></li> <li>- Groundfish committee directed to consider a hard TAC backstop for the common pool.</li> </ul>
October 16, 2007 – Groundfish committee	<ul style="list-style-type: none"> <li>- Made recommendations for DAS modifications, ACLs and AMs for all groundfish stocks</li> <li>- Passed a motion that the committee present all sector work accomplished to the Council at the November meeting.</li> </ul>
November 7, 2007 – NEFMC council meeting	<ul style="list-style-type: none"> <li>- Council approved recommendations by the groundfish committee for DAS modifications and a hard TAC backstop to help meet the ACL/AM requirements, as well as alternatives to mitigate fishery problems with the hard TAC.</li> <li>- Council agrees that ACL/AM process requirements will be in Am. 16</li> <li>- <b>Council votes to direct the groundfish committee to continue work on sectors, DAS modifications, recreational measures, and ACL/AM processes for Am. 16.</b></li> </ul>
December 7, 2007 – NMFS letter to NEFMC	<ul style="list-style-type: none"> <li>- <b>NMFS NERO sends a letter to the Council expressing concerns that Am. 16 and sectors development will not be completed on time. The letter suggests delaying sector implementation until 2010.</b></li> </ul>
December 13, 2007 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Discuss the letter from NMFS</li> <li>- Debate whether to push back sectors, possibly IFQ until Am. 17</li> <li>- It is revealed that confidentiality/ownership issues are slowing the permit history process.</li> <li>- Recommend sector baseline alternatives</li> </ul>
January 24, 2008 – NEFMC meeting (focused on sectors only)	<ul style="list-style-type: none"> <li>- “Goals” for sectors approved by the Council, the goals include: <ul style="list-style-type: none"> <li>- Address bycatch issues</li> <li>- Simplify management</li> <li>- Give industry greater control over their own fate</li> <li>- Provide a mechanism for economics to shape the fleet rather than regulations (while working to achieve fishing and biomass targets)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>- Prevent excessive consolidation that would eliminate the day boat fishery.</li> <li>- Four sector allocation alternatives approved</li> </ul>
February 11, 2008 – Groundfish Committee	<ul style="list-style-type: none"> <li>- Debate over permit history</li> <li>- Discuss ACL recommendation</li> <li>- Debate rules for limited access multispecies permits with or without A DAS.</li> <li>- Discuss problems with continued development of effort controls</li> </ul>
February 13, 14, 2008 – NEFMC meeting	<ul style="list-style-type: none"> <li>- Continued work on ACL policies, admits that Committee needs to do more work on ACLs</li> <li>- Discussed requirements for sector operations plans</li> <li>- Council removed the 20% cap for sector allocations</li> <li>- Discussed other sector issues such as US/CA area, transfer of catch entitlement, mortality controls, exemptions, effort controls, and accountability measures.</li> <li>- Clarified its sector policy, including issues regarding voluntary commitment, acceptance, and liability issues</li> </ul>
April 16, 2008 – NEFMC meeting	<ul style="list-style-type: none"> <li>- Discussed sector allocation, ACL/AM issues</li> <li>- Proposed AMs for common pool remanded back to the planning development team</li> <li>- <b>Start date for sectors delayed until 2010</b></li> </ul>
May 13, 2008 – Groundfish committee	<ul style="list-style-type: none"> <li>- <b>Agrees to accept the default 18% DAS reduction</b></li> <li>- Recommends no in-season AM, discuss other AM issues</li> <li>- <b>Recommended that all Am. 16 sector policy revisions be implemented in 2010.</b></li> </ul>
June 4, 2008 – NEFMC meeting	<ul style="list-style-type: none"> <li>- <b>Am. 16 development put on hold due to changing rebuilding targets associated with less productive stocks and concern that the draft effort control measures in Am. 16 may not be targeting the correct stocks.</b></li> </ul>