Catch Share Policy Comments
April 10, 2010

TO: Dr. Jane Lubchenco, Administrator, National Oceanographic and Atmospheric Administration, and NOAA Catch Share Task Force

Dear Dr. Lubchenco and members of the NOAA Catch Share Task Force,

We are a network of fishermen, fishing families and communities, scientists, social scientists, economists, farmers, environmentalists, and local food enthusiasts from New England and around the country. We are submitting these comments in response to the draft NOAA Catch Shares Policy issued in January and posted on your website.

Our comments are intended to help you move closer to a Catch Shares Policy that fosters community-based, bottom-up governance structure, envisions an economically viable fleet, engenders a diverse fleet whose impact on the ocean matches the unique ecosystems contained within, and, thus is environmentally resilient. We believe some catch share systems can lead to true community- and ecosystem-based management, but there is a wide spectrum of possibilities that fall under the generic term "catch shares". We are concerned that NOAA has focused much of the attention on LAP programs and ITQs as exemplary of catch share systems that can work. We are concerned that LAP programs have the potential to be either effective or ineffective depending on the specific conditions attached to them, and ITQs have proven potential to cause more harm than good. Instead of concentrating on these models, we feel it is essential that the Policy identify the critical issues that must be addressed to prevent negative outcomes for fish and fishermen alike, and it should encourage innovation in designs that will foster positive outcomes, including guidance on the critical question of how allocations can be made to achieve a fishing fleet and operations that are in harmony with ecosystem processes and diversity.

We wish to make the following points, which are summarized here and elaborated in the sections that follow:

(1) The fast tracking, financial incentives, and technical support strategy NOAA outlines for any fishery willing to adopt Catch Shares above other appropriate management designs is not entirely consistent with the Obama Administration's relevant areas of emphasis for budgetary priorities: conservation; job creation; innovation; healthful food and vital regional food systems; and overarching fiscal responsibility.
(2) The Policy must state explicitly that catch share management systems include among their acceptable variations management that is based on relatively small spatial boundaries allowing for improved ecosystem based management and participatory community governance.
(3) The Policy should include as part of the commitment to research, a program to support biological and ecological research on fish populations, subpopulations, and their movements.
(4) We submit and support the concerns expressed in the attached letter from scientists regarding the importance of incorporating multi-scale

management, monitoring, and research into catch share systems design, and we ask that these principles be incorporated into the Catch Shares Policy.

(5) The Catch Shares Policy should be guided by a clear national vision consistent with the MSA.

(6) The Catch Shares Policy should include incentives (both technical and financial support) for participatory governance, including non-profit organizational support for fishing communities that would reach out and organize fishermen to ensure their participation in governance discussions and decision-making processes.

(7) We resubmit our letter of 8/11/09, which is still applicable, since the Policy does not provide guidance on most of the issues we raised.

I. Consistency with the Obama Administration's priority areas for the domestic budget

While the Obama administration has not outlined a coherent vision for the nation's fisheries, budgetary priorities including conservation; job creation; innovation; healthful food and vital regional food systems; and, overarching fiscal responsibility, which form the basis of a national strategic direction, have been outlined. NOAA's Catch Shares Policy, which has been largely formulated as an economic Policy, should adhere to these priorities. As drafted, the Catch Shares Policy appears to be off course. Without more comprehensive guidance and limitations, the Policy will favor fishing fleets and markets dominated by some form of monopoly or monotonous consolidation above diverse designs that are good for the nation, create more jobs, support our food systems, and ensure a public resource stays with the public. This Policy allows special interests to use catch shares to direct the benefits of public fish stocks away from small business people (local fishermen and local fishery infrastructure) towards big business and investors. In other words, left as is the Catch Shares Policy has the potential to create the same fiasco that has to the banking, auto and insurance crisis. We doubt the Obama Administration is seeking to create fisheries that "are too big to fail" that will require public bail out, department of justice interventions and congressionally mandated reorganizations. This is not a necessary consequence of catch shares, and the Policy should be specific about adopting designs that prevent such trends while favoring the recovery and maintenance of the nation's fisheries and fishery ecosystems. Instead it is specific about the financial and technical benefits, and the ease of implementation that NOAA will offer any fishery willing to adopt catch shares over other management systems. The Policy suggests that the design of catch share systems is important but gives no guidance on the elements and potential consequences that must be considered.

- **Conservation**

Catch shares can be the beginning point for environmental and socio-economic sustainability. With TACs, conservation benefits can be realized by designing catch share markets to favor *innovative* fishing methods that have a smaller environmental footprint. Unfortunately catch share systems are often designed to lock environmentally harmful fishing methods and depleted fish populations in place (see the science letter attached at **IV** below). Fast-tracking the adoption

of catch shares will favor consolidation and select against a diversity of innovative fishing designs.

We are concerned that with unrestricted transferability, which the Policy seems to advocate without much detail, conservation goals may be sacrificed. If there is transferability across regions and among diverse vessels and gear, the scientific basis of allocations can become irrelevant and the stated intentions of retaining community and fisheries diversity will be meaningless (see the scientists' letter attached at **IV** for a detailed discussion of scales of science, management, and fish distributions).

Punting the responsibility of setting goals and providing specific guidance into the future (p. 9) is no longer viable. The only goals of this Policy seem to be the rapid adoption of catch share systems, the 'education' of the public to understand and appreciate these systems, and the collaboration of stakeholders in the development of such catch share programs. While we certainly encourage collaboration we think the mandate should be broader than Share program , which even the NOAA Policy acknowledges are not always the best solution. It seems more appropriate goals might include such things as recovered fish stocks, resilient ecosystems, diverse fisheries, governance structures that incorporate the fishermen, and socio-economically vibrant fishing communities. In other words, we recommend a long-term vision for the whole ecosystem-human systems complex. The Policy states as its first goal: "To achieve long-term ecological and economic sustainability of the Nation's fishery resources and fishing communities." While it's vague, we don't argue with it; but it is not made clear how the four elements of Catch Share Program Support (p. iii & 7-8) accomplish this.

The bulk of the policy is really devoted to the short term vision of catch shares dancing in managers heads, stated as: "NOAA encourages the consideration and adoption of catch shares wherever appropriate in fishery management and ecosystem plans and amendments and will support the design, implementation and monitoring of catch share programs."

- **Jobs**

Catch share systems can be designed to save and grow jobs, not shed them. Small-scale fishermen can make a perfectly good living in a well-managed fishery. It is critical that conditions be placed on catch share systems to prevent consolidation of control over access to the public's fishery resources into the hands of a few powerful interests while smaller entrepreneurs are forced to lose their livelihood. These conditions should include a stewardship ethic, which is more likely to be fostered by community-based fishermen whose community's future is dependent on their actions, and families have and wish to continue to rely on healthy fisheries for generations.

NOAA's Catch Share Policy speaks to "Fishing Community Sustainability" (p.6). It cites the community provisions of the MSA and promises all manner of support from NOAA for community-based initiatives. It doesn't even specify that

these be catch share initiatives, even though other sections of the document are very clear that NOAA support is reserved for catch share systems. We applaud the inclusion of community permit banks and fishing community trusts as one way to preserve access to fisheries by local communities.

While all this sounds positive, it is presented as a hodgepodge of possibilities with no thought given to how NOAA will provide the assistance promised. And there is no indication that the effort will be organized in a way that works toward achieving a cohesive vision.

- **Innovation**

Innovation is the key to diversity – both biological and sociological. NOAA could play a major role in encouraging innovation in the nation's fisheries, but not without some innovation of it's own. The "Catch Shares" Policy should at a minimum encourage innovation and diversity to be built into the design of catch share systems, and diversity among the different catch share systems should reflect the diverse ecosystems in which they operate. There is a fine line between standardizing infrastructure for catch shares and standardizing infrastructure so that only certain types of catch share programs are affordable or sanctioned. The catch shares Policy should be reviewed and revised with an eye toward consequences and avoiding those that are undesirable. This should be done before removing technical and administrative impediments that might be preventing such consequences.

At best, NOAA would turn its Catch Shares Policy into an Innovative Management Policy that would provide incentives for effective and diverse designs of all types of management deemed most appropriate for given regions and fisheries. Instead, no guidance is provided for variety and scales of management design to match the diversity and multiple scales of fish populations and ecosystems. Unfortunately, without effort and incentives, catch share systems are often designed to stifle competition and reduce innovation.

- **Healthful food and regional food systems**

If the Administration is serious about this priority, catch share systems could be a means to the end, as they can be designed to respond to consumer demand for local and healthy seafood. Numerous Community Supported Fisheries (CSFs) are already operating in New England and elsewhere. Unfortunately, scaling up this personalized business model will not be possible if catch share systems continue to favor industrial-scale production designed to service global commodities markets. There are clear conflicts of interest between catch share systems that benefit big business on the one hand and catch share systems that benefit the fish, their ecosystems, fishermen and the food systems of their fishing communities and surrounding regions. The NOAA Policy must provide strong guidance that favors catch share systems integrated into regional food systems, even in the face of more powerful business interests in NOAA's parent Department of Commerce.

- **Fiscal responsibility**

Fish are valuable both alive and dead, both intrinsically and in monetary terms. catch share systems can and should be designed to pay for themselves and capture resource rent that by law must be reinvested in fishery management and maintaining the integrity of the fishery ecosystem. The NOAA Policy addresses this in terms of the ability to collect royalties in limited access privilege programs, and offers to work with regions and Councils to establish such royalty programs. But there is no discussion at all of how the income will be put back into the fishery for the benefit of the public trust. We suggest such funds be put into essential co-operative research to expand scientific information about fish populations and the ecosystem (see **IV** below), and into participatory governance structures (see **VI** below). Such a plan would be key to effective restoration and maintenance of the ecosystems that support fisheries.

Offering fiscal incentives to adopt catch shares, without first setting strong standards for catch shares that will achieve the long-term goals established for a fishery, is fiscally irresponsible.

II. It is essential that the Policy state explicitly that catch shares include management based on relatively small spatial boundaries allowing for improved ecosystem based management and participatory community governance in the context of catch shares.

A mosaic of metapopulations (or distinct population segments) of species with overlapping distributions typifies the community structure of most non-migratory fisheries species. This structure is at risk of being severely disrupted by fisheries and management that do not take these patterns into account. Consequently, without intent, catch shares can create a perverse incentive for serial depletion or pulse fishing of local stocks. This problem may be most profound in the western North Atlantic. In New England, the iconic Atlantic cod stocks have collapsed. The collapse resulted from a protracted serial depletion beginning along the coast and ending famously at the last stronghold on Georges Bank. The metapopulation structure of these stocks was likely maintained by localized spawning aggregations. Today cod stocks are recovering in Massachusetts Bay but not anywhere along the coast of Maine. Eastern Maine (north of Penobscot Bay) has virtually no cod to catch (this is well documented by fisheries independent trawl surveys). The point is that the scale at which fish stocks decline and recover tells us something about the scale at which they are structured and the scale at which they should be managed. For New England, at least, this suggests that spatial boundaries may be key to successful catch shares management. The answer is not to send fishermen roving to find the abundant pockets of fish and deplete them. Instead, anchoring the fishing and its management to areas defined by ecosystem boundaries may be the best way to enable missing stocks to recover and thrive under management programs tailored to each area. There is nothing here that is inconsistent with catch shares, nor is there anything in the Policy that precludes spatial boundaries. However, the Policy

does not explicitly recognize this as one of the valid approaches, and we are concerned that future attempts to establish area-based management may not be recognized as catch share programs and therefore may not be included in NOAA's support program. We believe you should add spatially defined management programs to the list of possible ways of organizing catch shares.

We encourage NOAA to include support for co-operative research to improve the scientific knowledge for small area-based catch share management as well as other innovative designs in the research activities proposed in the Policy.

While area based management necessarily incorporates Ecosystem Based Fishery Management, it raises the issue that the Policy should make it clear that all catch share systems must incorporate EBFM. This is essential part of effective design for catch share systems and should be a requirement, not an option. Guidance on EBFM is being developed on several fronts, and perhaps some reference to those efforts would be useful.

This also raises the issue of participatory governance, and we would suggest that not only area-based management, but all appropriate catch share designs should provide for participatory governance by individuals and communities that make up any catch share unit. Other involved stakeholders may be appropriate as well. We encourage NOAA to consider and evaluate the possibilities within the context of the Catch Shares Policy.

III. The Policy should include as part of the commitment to research, a program to support biological and ecological research on fish populations, subpopulations, and their movements.

For catch shares management systems to succeed in their goals, a strong and broad body of scientific information is essential. Therefore it is critical that NOAA support a strong research base for these systems (as well as other appropriate allocation-based management systems). Allocations cannot be effective unless they are based on good science that gives a true understanding, not only of how many fish there are, but how these fish move and relate to each other throughout their life cycles, and what changes are occurring over time. Catch shares management is a commitment to accurate data and biological and environmental information that is available for effective and rapidly adaptive decision-making.

IV. We support the concerns expressed in a letter from scientists regarding the importance of incorporating multi-scale management, monitoring, and research into catch shares.

The NOAA Policy does not address the important issue of matching the scales of ecology, management and science. This issue is mentioned in the letter attached at IV, is further detailed in the letter from scientists to the Director of the Northeast Regional Office of NMFS, which is attached here. While the letter pointed

particularly at Sectors in New England, it is equally applicable to any catch share system nationally.

Catch shares must incorporate a scale-sensitive design of management-supportive research and monitoring, different than currently applied, in order to give more comprehensive information for the recovery and maintenance of fish stocks and to provide a more reliable database for effective management decisions.

Based on a body of new scientific research (bibliography attached), it is argued that managers need to pay attention to multiple ecological scales, including much finer scales of fish distribution than are typically addressed. This scientific information supersedes the literature cited on p. 2 of NOAA's Policy. A fundamental principle for managing the use of living resources is that the ecological structure should dictate the organization of management structures spatially and temporally.

This matching is important because it allows us to directly connect the biological results of fishing activity to the ongoing evaluation of specific management practices and to improvements in the science. Stewardship is equally dependent on this same connection. But this feedback is largely lost when regulations are implemented at a single broad scale while ignoring the multiple scales relevant to the demographics of groundfish ecology. In order to accomplish the goals that have been set out for fisheries management, catch share systems must be adaptive to new information, and for that to happen the information must be relevant to what is actually happening at the level of critical fish population segments.

The most important negative aspect of overly broad, single scale management is that individual or group quotas simply shift the so-called 'race to fish' from a race in time to a race in space.

When fisheries science operates at a single broad scale it is misled by noisy feedback, which obscures all but the broadest long-term trends. Similarly, when fishermen operate at a broad scale, the feedback they receive about the results of their actions is noisy and incomplete. While, in principle, fishermen with catch shares should have strong stewardship incentives, the reality is that because management is not organized to provide appropriate feedback, they will be unable to act upon those incentives. For all practical purposes the benefits will not exist. Basically, fishermen will only be able to respond to the threat of penalties if they exceed their quota. Unfortunately, a single quota applied to multiple stocks of the same species will yield haphazard results that threaten to extirpate local stocks.

V. Catch Shares should be guided by a clear national vision for fisheries.

The NOAA Catch Shares Policy has a lot of pieces that suggest how to make Catch Share catch shares the most common fisheries management framework, but it would benefit greatly from an overarching vision of what management should be

working to achieve. Adhering to such a vision would guide the design of catch shares and other management systems to ensure that they are effective in achieving the results intended and avoid the predictable unintended consequences. The Magnuson Stevens Act (MSA) provides a set of standards that when viewed together could be such a vision. Unfortunately they are usually viewed and implemented quite separately so that those that are selected for implementation become disjointed legal requirements. We encourage the NOAA Policy to embrace the standards as a whole vision and we feel this meshes well with other visions that have been produced in New England.

In New England, a non-governmental Fleet Vision Project (http://www.namanet.org/files/documents/ComprehensiveFleetVisioningReport.pdf) incorporating input from a wide variety of stakeholders was completed in 2005. The consistency of the four overarching conclusions (Fleet Diversity, Economic Viability, Participatory Governance, and Environmental Resilience) with the MSA is remarkable, even though it was not developed with the legislation in mind. It is also consistent with a recent Northeast Science Center study, conducted by the Social Science Branch, that indentified five performance areas (Distributional Outcomes, Financial Viability, Stewardship, Governance, and Well-Being) to be evaluated in research on Catch Share management. Similarly, the New England Fishery Management Council's 2006 Ecosystem Pilot Project, through a series of workshops and surveys, came up with results that closely tracked the Fleet Vision outcomes. The values emphasized in that project were diversity of fishing, effective governance based on sound science, healthy ecosystem and fish stocks, and healthy fishing communities (socio economics).

We feel the Policy lacks a vision and we propose as a starting point, this vision for fishery management and guidance for catch share systems design:

- *DIVERSITY:* A geographically distributed commercial and recreational fleet that includes all gear types and boat sizes. This is relevant to National Standards 4 and 6 of the MSA.

- *ECONOMIC VIABILITY*: An economically viable, safe, and sustainable fleet that works with shoreside infrastructure to supply seafood and job opportunities for coastal communities. This is relevant to National Standards 5, 8 and 10.

- *GOVERNANCE*: Participatory, accountable, and decentralized governance structures at various scales that include local involvement in decision-making and maintain an adaptive regulatory environment. This is relevant to Standard 7.

- *ENVIRONMENTAL RESILIENCE*: Fishery stakeholders who exhibit stewardship of resources that is consistent with the long-term health and restoration of the marine ecosystem. This is relevant to Standards 1,2,3 and 9.

VI. The Catch Shares Policy should include incentives (both technical and financial support) for participatory governance, including non-profit organizational support for fishing communities that would reach out and organize fishermen to ensure their participation in governance discussions and decision-making processes.

Catch shares programs that are organized as communities or associations of fishermen and are designed on the basis of spatial boundaries and ecosystem scales are more likely to achieve the vision described in the previous point. However, in order for fishermen to make a living, they need to fish and tend to their fishing boats, gear, etc. It is difficult for them to be available to commit to meetings and decision-making time frames that are set by officials anchored to land-based offices. For fishermen to be truly effective in participatory governance, which they very much want, and which some catch share systems facilitate, it is most effective for them to be members of associations with community organizers that can effectively relate information to all the fishermen, seek out and bring the coordinated views of the member fishermen to the governance table in a consistent and persistent manner. True community based organizations operate through consensus allowing everyone's voice to be heard and reaching decisions that benefit the entire community involved, not just those with the biggest financial investments. Providing technical and financial assistance to facilitate this type of participation in fisheries governance should be one of the activities highlighted in the Policy document. This would enable fishermen to work in cooperation with NOAA's Fisheries Service and the Regional Fisheries Management Councils toward to define common goals and find mutually agreeable means of reaching them.

VII. Resubmission of our comments of 8/11/09, because the Policy has failed to provide guidance on important issues.

Many of us submitted comments to the Task Force as you began your work on the NOAA Catch Shares Policy and we are now commenting on the draft you have developed following numerous consultations with and comments from the public. Hidden in some of the non-highlighted text, we do find reference to some issues we have always felt important that were expressed in our first letter (8-11-2009). However, we are disappointed that you merely acknowledge that they are important issues in considering catch share programs, but you offer little guidance in how to address them. We also feel you have not included a number of the issues we raised in our first letter and we would like to raise them again. Therefore, it most efficient to resubmit our August letter as still valid comments to your draft NOAA Catch Shares Policy.

To these comments we would like to add the observation that NOAA has not been precautionary in anticipating possible points of failure in catch shares. The Policy singles out issues that NOAA intends to address in cooperation with other management entities and stakeholders: specific management goals; transferability (and limits on it); review processes; distinctions among different types of fisheries;

fishing community sustainability; and royalties. It seems that the Policy should set up a framework for these as it has for "Catch Share Program Support." If the NOAA Catch Shares Policy fails to identify predictable issues that can be solved by the proper design, catch shares will continue to have "unintended consequences," and we think that is unacceptable and irresponsible. We are confident that the NOAA and the Task Force did not intend to be tolerant of such consequences, but by not addressing them in advance – i.e. in the Policy itself – the likelihood of encountering them frequently is high.

Thanks you for the opportunity to comment on NOAAs draft Catch Shares Policy, and thank you for taking the time to consider our remarks.

Yours truly,

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ATTACHMENT 1:
LETTER SUBMITTED TO NATIONAL MARINE FISHERIES SERVICE 1-20-2010

Comments on the Proposed Rule for NE Multispecies Amendment 16
0648-AW72
Submitted to Patricia A. Kurkul, Regional Administrator
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

We, an ad hoc group of scientists advising fishermen and fishing communities in New England, are writing because we feel **the Proposed Rule for NE Multispecies Amendment 16** has serious scientific shortcomings. Specifically, we believe the Amendment fails to recognize the best available science, which implies the need forfishery management (fishing restraints/quotas) to be implemented at a local, fine scale as well as the single broad scale proposed by the Amendment. We understand the difficulty of making a transition from our current broad scale of management, however, we feel the scientific problems ignored by Amendment 16 and the resulting biological, economic and social consequences are too important to hide under the rug.

We support the general direction towards sectors and stricter controls; however, like any policy, the devil is in the details. Policies that appear good in principle can have unintended consequences that thoroughly defeat their primary purpose. In the case of amendment 16, there is a very large scientific problem that we believe will confound its intended economic and conservation effects. One of the fundamental principles of resource management is the need to match the spatial organization of management with the spatial structure of the ecology being managed. This matching is important because it allows us to directly connect the biological results of fishing activity to the ongoing evaluation of specific management practices and to improvements in the science. Stewardship is equally dependent on this same connection. But this feedback is largely lost when regulations are implemented at a single broad scale while ignoring the multiple scales relevant to the demographics of groundfish ecology.

In the last decade a series of studies in New England, Atlantic Canada and many other locations around the world have revealed localized stock structures that occur at a much finer scale than has been assumed for purposes of assessment and management. Here in New England, the Council has known for a long time and has tried to adapt management to multiple spawning areas for cod in the Gulf of Maine; just this last month, a report from the Massachusetts DMF revealed very localized cod spawning areas and concluded like so many other studies that many groundfish populations are loyal to particular spawning grounds in a way that is very much like salmon. [We have attached to this letter a partial, but still substantial, bibliography of scientific publications relevant to the finer scale aspects of fish populations.]

This new scientific evidence about local stocks is really evidence that ocean populations and ecosystems operate at multiple scales — from very local to very broad. We would contend that all the evidence we have about the ocean populations and all our theoretical knowledge of ecosystems is consistent with the organization of populations at multiple spatial and temporal scales. In practice, the important implication is that we have to manage fisheries at multiple scales, not just a single large scale, if we hope to be able to learn, adapt and conserve the resource.

The most important negative aspect of overly broad, single scale management is that individual or group quotas simply shift the so-called 'race to fish' from a race in time to a race in space. Amendment 16 will give fishermen strong incentives to allocate their fishing activity to times and places that yield the best (private) economic result. With multiple stocks governed by a single quota, and management rules operating on a large scale, the biological results of these allocations will be very hard to predict. While at times, the results will probably be benign, there will be other times, depending on the local peculiarities of fish aggregations and the timing of fishing, when populations (spawning groups) may be driven below viable thresholds and lost, just as has happened in the past. Even if this occurs only occasionally, it is still a long-term and very serious form of overfishing.

Amendment 16 does nothing to prevent and may, in fact, encourage this kind of outcome. This is because the same strong incentives that will drive the spatial allocation of fishing effort also will push fishermen towards large scale technology appropriate for fishing over the broad extent of management boundaries. Large scale technology combined with efficient search capabilities is a sure fire recipe for the quick 'cropping' of local stocks in the early stages of recovery and may be one of the reasons why broad scale catch shares have had such a dismal biological record elsewhere. Two recent studies, one in Science (Costello, et al.) and one in the Publications of the National Academy of Science (Essington), both of which surveyed mostly broad scale fisheries, indicated that even with rigorous catch share policies there is little or no evidence of biological recovery. One need only look next door at the fate of Canada's Bay of Fundy cod stock, and the fishermen that depended on it, for evidence here. All of this will not only produce conservation problems but will lead, rather quickly, to fleet consolidation and the concentration of landings and markets in two or three ports. The communities and economic infrastructure necessary to support conservative harvesting technology appropriate for finer-scale ecology will have no economic base.

When fisheries science operates at a single broad scale it is misled by noisy feedback, which obscures all but the broadest long-term trends. Similarly, when fishermen operate at a broad scale, the feedback they receive about the results of their actions is noisy and incomplete. While, in principle, fishermen with catch shares should have strong stewardship incentives, the reality is that because management is not organized to provide appropriate feedback, they will be unable to act upon those incentives. For all practical purposes the benefits will not exist. Basically, fishermen will only be able to respond to the threat of penalties if they exceed their quota. Unfortunately, a single quota applied to multiple stocks of the same species will yield haphazard results that threaten to extirpate local stocks.

While the evidence for multiple scales is not completely certain, neither is the scientific evidence for managing at a single broad scale. The current practice is really more a scientific or management habit, one that dates back to the late 1940s (Halliday and Pinhorn). Nevertheless, we expect proponents of Amendment 16 would argue that the uncertainty about finer scale stock structure is one reason why we have to continue managing at a single broad scale. In fact, this uncertainty is precisely why there is a need for a different approach. When confronted with scientific uncertainty the law requires a precautionary policy, i.e., one that minimizes the damage of being wrong. Multi-scale area management is far more precautionary than broad scale management because if the science behind it turns out to be wrong we will have lost little. Multi-scale management preserves ecological feedback about our actions and allows it to be aggregated to a broader scale; it does not stop us from learning; it does not foreclose a transition to larger scale technology and it does not artificially preserve markets and communities that might stand in the way of both economic efficiency and resource conservation. On the other hand, if the assumptions about broad, single scale management are false, as current developments in science

certainly suggest, management will not acquire meaningful fine-scale feedback and, consequently, will seriously impair its scientific ability to adapt, learn and manage in a way that is consistent with the aspirations of the law. In short, from a precautionary perspective, Amendment 16 is an extraordinarily risky and legally vulnerable approach to fisheries management. This vulnerability will hang like a threatening cloud over regulatory processes and the economic decisions of the industry.

We understand the difficulty of moving to multi-scale management. Current data series and survey practices are adapted to broad scale management and will be difficult to decompose in a way that is appropriate to multi-scale management. Managing stocks that cross boundaries is difficult and a transition to multi-scale management will be costly for both the industry and management. Nevertheless, the cost of continuing to manage at a broad scale are very high — persistent stock depletion as has occurred elsewhere and the economic and social consequences that flow from depletion.

In summary, over the years management at a single broad scale has had disastrous biological, economic and social results in New England. Amendment 16 does nothing to address these problems. At the same time, it puts in place economic mechanisms in the form of sectors and transferable quotas that will accelerate the use of broad scale technology and fleet consolidation; this will set up conditions for the continued depletion of the groundfish resource, the on-going loss of jobs and economic opportunities and the continuing erosion of the once vibrant fishing communities of New England.

We emphasize that these pessimistic conclusions are not mere speculation, but flow directly from the new scientific evidence that has verified the presence of salmon-like spawning site fidelity in many, if not most, groundfish populations. If that evidence is correct, Amendment 16 violates a fundamental principle of fisheries management and all the dire consequences we list above are likely to follow. We also want to make it clear that the scientific concerns about scale that we raise here are not meant as an objection in principle to catch shares or sectors; nevertheless, when sectors and shares are implemented at a single broad scale the evidence is that their potential benefits will be squandered.

It may be too late at this stage for the Council and/or NMFS to take steps to bring Amendment 16 into conformance with what is rapidly becoming ‘best available science’, but it is crucial for the Council to immediately signal its intention to quickly address the scale issue — that is, to move to multi-scale area management — in order to forestall the personal, business and scientific investments that will lock us into a perpetually depleted fishery. In order to give substance to those intentions we request the council (1) to ask the scientific and statistical committee to address (a) the issue of multi-scale ecology and management from both a biological and social perspective and (b) from the perspective of available data and survey methodology, and (2) that the Council begin the process of designing one or several pilot management programs for the purpose of learning about the practical issues of multi-scale management.

Sincerely,

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Catch Share Policy Comments
April 10, 2010

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A partial bibliography of scientific publications relevant to the multiscale ecology and management of fish

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ATTACHMENT 2:
LETTER SUBMITTED TO THE NOAA CATCH SHARE TASK FORCE

11 August 2009

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Office Of The Under Secretary/Administrator
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Dear Ms. Medina:

We represent fishing communities in New England who are eager to work with you on the NOAA Catch Share Task Force's development of a Catch Share policy. The two objectives that it is appropriate for us to comment upon are #1, the full consideration of Catch Shares in fishery management plan amendments and #3, Catch Share design for the best possible environmental and economic performance. We fully agree with your 22 June 2009 press release that states, "we must all work together to end overfishing and rebuild fisheries to improve the economics of fishing and fishing communities and to protect the ecosystems that sustain them."

With the creation of the recent Catch Share website, we are pleased to see a first generic definition for "Catch Shares." We urge you, however, to go further in clarifying the scope of Catch Shares. For example, do you envision Catch Shares as able to rebuild depleted fish stocks as a stand-alone measure or in combination with other fisheries management tools? Shouldn't Catch Shares always be defined within a specific spatial limitation? How will Catch Shares help us achieve ecosystem-based management? We highlight our concerns for the general application of Catch Shares, and suggest why New England offers specific challenges.

We remain concerned that the August deadline, albeit extended slightly, is too ambitious for a subject of such momentous import to both fish stocks and fishing communities, and leaves inadequate opportunity for public process and essential deliberation. A thoughtful, informed, analysis of the natural and social sciences relevant to this policy is essential to improve fisheries management decisions.

Definition of Catch Shares

A clear working definition of "Catch Shares" is essential for all concerns. If one exists in the published literature, it should be used and referenced. We suggest the following definition as an alternative to the definition on the website: "equitably distributed among a limited number of individuals, fishing associations, communities, or specified areas." It ensures that fishermen can be allocated catch on the basis of association with a community and/or with a specific ecosystem. This is consistent with your statement that you are committed to help "find ways to make the health of the oceans go hand-in-hand with the prosperity of fishermen and the well-being of coastal communities." The relative merits of different types of groupings of fishermen should be assessed for any Catch Share system being designed and implemented. In New England, we believe, community fishing associations and designation of ecologically appropriate areas are key to the effective use of Catch Shares.

The policy should make it clear that Catch Shares are to be implemented in the context and mandates of the Magnuson Stevens Act, including the national standards and the provisions on Limited Access Privilege Programs.

When and how to use the Catch Share tool

We view Catch Shares as one tool *among many* that can create good fisheries management, and we are concerned, given that "*transitioning to Catch Shares is a priority for NOAA,*" that Catch Shares should not be viewed as appropriate for all fisheries under all conditions. To date in the Task Force process, it has not been demonstrated that the Catch Share tool will in fact correct the fisheries-related problems. To fulfill Dr. Lubchenco's stated goal that "NOAA should be helping to identify the characteristics of those fisheries that would benefit most from the consideration of Catch Shares," it is essential that the Catch Share policy either undertake or define a responsible and transparent process for this identification of fisheries.

We suggest that the Task Force develop guidelines for assessing the utility of Catch Shares for different types of fisheries. Specifically, we would like to know what evidence exists in peer reviewed literature that shows Catch Shares have been effective in rebuilding depleted fish stocks or slowing the decline of fish stocks not yet depleted, as opposed to simply preventing collapse. This is a critical issue for New England where most fish stocks are considered depleted.

The goal of fisheries management should be to look at the fishery ecosystems and determine what is the best combination of tools and the appropriate scales of management for maintaining it. If Catch Shares look promising, conditions should be put on them and/or additional measures should accompany them in order to make the management system effective. With credible peer reviewed evidence that Catch Shares can work, then the nuances of how they should be shaped to reduce overfishing and rebuild stocks can be developed with local fishing communities that are empowered to participate. Through this process, obstacles from fishing groups might disappear.

Task Force Objectives: Application in New England

We suggest you provide additional information on how Catch Shares could be most effective in any particular fishery, ecosystem and dependent fishing community. Furthermore, there should be provision for refining Catch Share systems as they are implemented and lessons are learned. New England and other fisheries and fishing communities have specific concerns we hope will be incorporated into the Task Force objectives. These include the following:

Design for environmental performance

New England's fish stocks are famously overfished and slow to recover. Furthermore, the recovery is occurring unevenly *within* stock management areas. Therefore, an important objective should be to determine the capacity of Catch Shares to help rebuild overfished stocks and to determine the appropriate spatial scales and patterns for measuring recovery.

Fish stocks have fine-scale local distributions. An important objective would be to determine the appropriate spatial scale over which fishing rights and quotas are distributed. We worry that Catch Share or any quota based limit that is not defined by the appropriate scale and ecological boundaries will become a perverse incentive to overfish local stocks and move on, in pursuit of a more broadly determined quota – a strategy commonly known as "roving bandits". This can have locally devastating effects on the ecosystem and dependent coastal communities.

Fishermen need to see that their conservation efforts are bearing fruit. As Catch Shares are

implemented, it is essential they be applied on the appropriate scale and that monitoring of effects on fish stocks and the natural environment occur on similarly appropriate scales. Growing biological evidence argues that the current broad scale of fisheries management does not match ecological scales important to fish stocks and ecosystem structure. And when the scale of management is too big, it leads to scales of fishing and marketing that threaten both ecosystem structure and communities.

Setting a precautionary Total Allowable Catch (TAC) appropriate for the ecosystem will require improved data and use of science, which should be addressed in NOAA's Catch Share policy. In New England, for instance there is an important body of information that points to distinct populations of species within the larger ecosystem, and it is critical that any new management framework based on TAC start using this information. The incorporation of a spatial factor into the implementation of Catch Shares seems prudent if not critical to their success (i.e. manage fisheries at the scale on which they operate. If that scale isn't known, smaller scale is more precautionary than larger scale [Steneck and Wilson 2009[1]]).

We trust that NOAA and the Task Force will obtain and use the best science available. We suggest this should include reliable input from fishermen, who are in the ecosystem daily, as well as research beyond statistical surveys. Sociological research and fish genetics and behavior studies, for example, are among the variety of scientific information often overlooked. Increasing the base of information for using Catch Shares will bring NOAA one step closer to implementing ecosystem-based management. Adding integrated management of all co-existing species in a region will make that step a giant but attainable one.

Furthermore, TAC should be structured to provide true incentives to reward and encourage more conservation-minded fishermen to be involved. In accordance with the Magnuson Stevens Act, TAC is determined on an annual basis, which means that there remains a time element in the allocation, which should be addressed. Even though the "race" to catch fish in a severely limited amount of time is removed, there is still pressure to catch the entire allocation by year's end. We would suggest that fishermen and groups that catch less than their allocation in a year be rewarded in some way for that conservation measure. Catch Shares should be molded into an allocation system that is fairer to the fish and to conservation-minded fishermen. This is a particularly sensitive subject in New England where fishermen who stopped fishing on severely depleted groundfish stocks have since been excluded from the fishery. In other words, Catch Shares as defined would punish these fishermen for their rebuilding efforts.

Rebuilding in ecosystems that have been significantly restructured, as in New England, will most definitely require ecosystem-based management. We worry that species specific quotas and Catch Shares, defined at a broad scale such as is currently used, will further perpetuate single species management and possibly lead to strong political interests that will oppose a transition to ecosystem-based management. Overly broad scale management will create technological adaptations that match the management scale: oversized boats, centralized markets, and large-scaled fishing operations whose economic interests are threatened by finer scale ecosystem-based management that serves the objectives of long term ecological sustainability.

Design for economic performance

Another major concern in New England is to make sure that the proposed Catch Share design can

[1] Steneck R. S., and Wilson, J. A. 2009 A fisheries play in an ecosystem theater: challenges of managing ecological and social drivers of marine fisheries at nested spatial scales. Bulletin of Marine Science. In press.

achieve acceptable socio-economic standards for fishermen and their communities, and does not precipitate the decline or disappearance of communities.

Initial distribution of Catch Share rights is a critical policy area where Task Force guidance should be provided and where literature citations could be constructive to council deliberation. Historical catch is probably not the most equitable allocation criteria. Consideration of different scale of fishing operations is important in order for Catch Share systems not to have unintended community consequences. It is an important and legitimate public policy question to examine the impacts on highly mobile vessels that only fish in one fishery and also on more local vessels who fish many different fisheries in a year. Allocation decisions should pay attention to how each of these groups will be affected.

Without very careful design, Catch Share transferability can lead to industrial scale consolidation of effort at the expense of the small boat, local fleet and the marine ecosystem. There is abundant evidence in other fisheries globally, as well as other food production systems, that consolidation on an industrial scale degrades the environment, erodes dependent communities, endangers food safety, and undermines food sovereignty. If there is to be transferability of allocations it is essential the policy address the following:

- Transferability should be permitted only among fishermen and permit banks inextricably tied to fishermen or community fishing associations for the use and benefit of fishermen and their communities.
- Careful initial design of incentives must be built into the transferability.
- Strong, legally effective limitations must be instituted prior to adoption of the policy to address occasions when incentives are not enough.
- Fish and fish quotas must not be allowed into investment markets.

We appreciate the opportunity to provide these concerns to the Task Force and look forward to working with you on this in the months to come.

Yours truly,

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on behalf of
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Mary Beth De Poutiloff
Scallop fishing family
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