

Local Area Management of Groundfish: A Framework for Moving New England Forward

Submitted To:

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“Fishing’s a shadow of what it was – it’s time for a change”

--- Gary Libby, Mid-Coast Fishermen’s Association

I. INTRODUCTION:

The Area Management Coalition (AMC) requests that the Council fully analyze and consider Local Area Management as an alternative management system in the Amendment 16 supplemental environmental impact statement (SEIS). The AMC is confident that that Local Area Management will lead to greater accountability, ecological sustainability, equitable management, and an enduring fishing industry throughout New England.

Local Area Management is a management system for allocating resources to a particular area. It is an ecosystem-based approach to groundfisheries management whereby fishermen share responsibility for aligning the incentives to conserve and rebuild fish stocks with the New England Fisheries Management Council (NEFMC). This approach to fisheries governance has strong biological, oceanographic and socioeconomic underpinnings that are justified throughout the entire New England management area (Appendix A). In addition to analyzing the Local Area Management system proposed below, we have included the goals and principles for Local Area Management developed by the Area Management Coalition (Appendix B).

The AMC proposes a Local Area Management system in which:

- Areas are finer-scale, geographically-specific and reflect ecological and biological uniqueness.
- Each Area has an annual limit of fish that can be harvested from that area.
- Each Area may develop area-specific management rules, and methods of allocating fish to individuals or groups.
- Fishermen and other stakeholders in that area develop area-specific management measures and are submitted for approval as part of the Fisheries Management Plan.
- New Area-based localized governance structures are nested within the current management regimes.
- Area boundaries are permeable, with vessels fishing in multiple areas abiding by the rules applicable to the area fished on each trip.
- Area management proposals should include provisions for real-time catch reporting to promote a more responsive management system.

This proposal seeks to respond to specific questions and concerns about implementing Local Area Management that have been raised during discussions with members of the Council, Council staff, fishermen, and other interested parties. The AMC recognizes the additional work is needed to address some areas of this proposal and is committed to working with the NEFMC, its staff, and other interested parties to continue to address questions and further refine this proposal. This scoping document is organized around the core pieces of the proposal including Governance, Scale/Boundaries, Allocation, Accountability and Mortality Controls, and Default Local Area Management Measures. Proposed management measures are included for implementing the system, and in some cases alternative options to the proposed measures are included.

II. AREA SCALE and BOUNDARIES

The Area Management Coalition recognizes that defining boundaries is perhaps the most challenging and significant aspect of establishing effective Local Area Management. As the Council explores the most appropriate location for Local Area Boundaries we suggest that it is helpful to recognize that there are three important scales within the New England region that must be considered when designing a Local Area Management system. There is (1) the regional scale that defines the differences between New England and the mid-Atlantic; (2) a middle scale within New England, that is defined by the coastal shelf (or inshore) and offshore waters, and (3) on both the coastal shelf and in the offshore waters there are a number of finer scale, ecologically distinct areas – e.g., Nantucket Shoals, Mass Bay, Georges Bank, South Channel, the Eastern Maine Coastal Current, and the Western Gulf of Maine, among others.

1. Defining Boundaries

We propose that the NEFMC consider recognizing new management areas that include *Inshore Gulf of Maine* and *Offshore Gulf of Maine*, expanded recognition of the existing *Eastern and Western Georges Bank* Management Areas, and *Southern New England* Management Areas. Scientific evidence of the ecological characteristics of these areas will be mapped to assist the Council in approximating the most appropriate management boundaries (Sample maps Fig 1 - 11).

For example, there has been growing interest in the separation of inshore and offshore fishing Areas in the Gulf of Maine (*see* Fish-Tank scoping comments). Inshore and Offshore Areas are justified based on ecological function, biological productivity and oceanographic information for the Gulf of Maine. The inshore coastal zone in the Gulf of Maine is relatively shallow, the tidally mixed water with nutrient-rich water that is turbid due to its rich plankton abundance that rains to the seafloor feeding demersal fish and other organisms. In contrast, towards the center of the Gulf of Maine, water is clear, relatively stratified and nutrient poor. The striking differences between these two regions translate to concentrated food in coastal zones that can sustain dense populations of groundfish and other species.

The AMC suggests that there is an ecologically defined boundary between the 25600 and 25500 loran lines that coincides with the critical ecology of groundfish stocks. Before a final line is determined we request that the PDT convene a representative advisory committee to seek a consensus on the final location of the line. In addition, it should be noted that the location of any lines would be subject to revision as science adapts to inform the management of each area (*see* Appendix A – Adaptive Management). Please take time to analyze the maps provided at the back of the proposal to get a sense for the biophysical and socioeconomic characteristics that support the development of an inshore and offshore area among others.

2. Defining Sub-Areas for Management

In recognition of potential future interest in creating finer scale governance, the Council would accept proposals from Local Area Management Organizations (e.g., sectors, coops) that would enable finer-scale area boundaries and other management measures consistent with this proposal to address local situations. Based on oceanographic and fishing-practices data provided in the maps submitted as part of this proposal, we note the potential to further divide the inshore Gulf of Maine.

3. Movement Between Areas

The AMC recommends that fishermen be required to declare into a primary area for a three-year or longer period. This would allow for accurate accounting of planned fishing effort for that (and other) area(s). The logic behind this distinction is that there is evidence from around the world that longer resource-management tenure corresponds with a greater sense of responsibility for the long-term health of the resource.

To accommodate limited movement between areas, vessels would be required to declare one area to fish per trip and would be required to adhere to the management measures (gear, trip limits, closed areas, etc) for that area. We recommend a 20% set-aside in each area to accommodate vessels that have not opted into that area as their primary area.

III. ALLOCATION

Distribution of Total Allowable Catch to Areas:

The AMC supports assigning a hard-TAC for each regulated multi-species for each Area. The TAC for each species for each Area is based on a combination/comparison of fish tagging studies, trawl survey data, primary biological productivity, DAS, VTR, Observer Data, Recreational Data and Dealer Reporting from the Area. Over time, we believe that this approach will move TAC closer to the biological

productivity of the Area. The process for setting the distribution of TAC between Area should be fair, equitable, and transparent and it should consider the historical ecological function of each Area as it pertains to the health of the entire GOM ecosystem.

Method of Allocation within Areas:

Area governing bodies such as Sectors or Co-ops would develop allocation measures to harvesters who have opted in to those Areas (see Co-op and Sector provisions contained herein). Additionally, local governance structures would determine binding management regulations including gear modifications, with the NEFMC.

Local governance bodies should be permitted to use input controls in order to pace effort and eliminate the potential for derby fishing. While we recognize that a hard-TAC backstop would be the overriding limit on activity in an Area it is important that the Council be open to considering creative alternatives that emerge from within each Area.

Essentially, the area allocation would be the area sector or co-op's annual catch limit (TAC), potentially, less an amount set aside for group X which would self-select to continue with a DAS allocation or other management approach combined with a Hard-TAC backstop. Group X must abide by the area management regulations, such as seasonal and gear restrictions.

IV. ACCOUNTABILITY and MORTALITY CONTROLS

The accountability section also addresses the Council's recommendation contained in its Amendment 16 scoping notice that proposals for new management systems may address decreasing dependence on input controls and establishing a closer link between allocation and catch.

Enforceable Annual Catch Limits: Each Area will be assigned an annual catch limit for each managed stock with accountability assured through a hard-TAC backstop.

Option 1: Once a stock's TAC is reached, the area (area where the stock is) will close to all gear capable of catching the stock. This would occur for the specifies TAC period.

Option 2: Overage Provision up to 10% above the TAC – A deduction would be required from the TAC for the stock for the period (e.g. week, quarter or year (annual catch limit)). The Area will close to all gear capable of catching the stock if 110% of the TAC is reached in any TAC period

Measures to Pace TAC: The governing body for each Area will establish input controls and other measures designed to ensure the TAC is not exceeded and to pace the distribution of the TAC across the fishing year (e.g. at minimum there will be division of the TAC as determined by the local governing entity).

Underages: "Underages" for any stock within a fishing year may be carried over to the following defined TAC period (e.g., week, month quarter). While underages will not be carried over from year-to-year, an area that stays under its TAC should not be penalized for overfishing that takes place in other area.

Point System: If a point system is approved by the Council, Local Area Management could use the point system as a means to achieve mortality objectives and ensure accountability. The details for how this system would work within the Local Area Management system would be developed through the Amendment 16 process if the proposal by the Northeast Seafood Coalition proposal is accepted for consideration.

Full retention: All managed fish stocks caught within an area shall be retained and counted toward the area TAC.

Real Time Electronic Data: The Area Management Plan must include measures requiring the use of real time data are required in order to ensure that the Area TAC is not exceeded for any management period defined in the plan. Through the Amendment 16 process, an understanding and clear protocols need to be developed with NMFS in order to minimize the turn-around time for getting data back to fishermen and the Area Managers. Amendment 16 needs to include incentives for promoting the use of private sector resources to manage real-time data in order to decrease the burden and reliance on NMFS for providing all of the data for fisheries management.

Funding for Additional Observer Coverage: The local governance structure will establish mechanisms for funding additional levels of observer coverage or new more cost-effective monitoring technologies (e.g., video) sufficient to monitor the fishery and ensure accurate and precise estimates of catch, including any discards.

Area Rules Enforcement: The Area Management Plan must establish enforcement mechanisms through the governance structure for individuals or groups who violate rules including exceeding allocations, bycatch limits, Area closures, etc. For example, the Bay of Fundy Fisheries Council's Infraction Committee structure is one model that Areas could consider using or modifying.

V. GOVERNANCE:

Local governance nested within the Council process is a necessary part of the Local Area Management System. Under Local Area Management there would be a governance structure for each Area that better utilizes the local knowledge of fishermen who fish in that Area. Sectors and Co-operatives hold great promise in this regard although alternative governance structures should be allowed to emerge with approval from the Council. In addition, governing bodies may propose to subdivide in order to engage fishermen at more local levels.

While there are multiple ways to approach the transition from the current governance system to Local Area Management we provide a proposed initial structure and three alternatives for how each Area could be governed in the long term.

Proposed Initial Governance Structure:

Areas would be managed under the general provisions of the Multi-species Fishery Management Plan (FMP), incorporating any Area-specific measures implemented as part of Amendment 16 or subsequent Council actions, until an Area-specific governance structure and management plan is approved by the NEFMC and NOAA Fisheries. These management measures would be the "default management measures." At that point, responsibility to directly manage aspects of the fishery in that Area would pass from the NEFMC to the Local Area Management body.

The transition to Local Area Management governance would work as follows:

1. Amendment 16 will define discreet Management Areas with annual catch limits and measures assuring accountability, including a hard-TAC backstop, set for stocks in those Areas. (*See* Section V. Accountability and Mortality Controls). Until a Local Area Management Plan is approved and implemented, effort would be controlled by the default management measures as initially defined in Amendment 16. (*See* Ongoing Local Area Management Option 1 below).
2. Fishermen who declare into a specific Management Area will fish under the default management measures for that Area.
3. Fishermen declared into a Management Area can organize into a sector or a fishing cooperative in order to develop rules for managing their sector or cooperative, but that continue to ensure that the FMP's goals - including annual catch limits for the Area - are achieved.
4. Sectors, Coops, Area Advisory Panels, and alternative governance entities may propose Management Plans that are consistent with the rules established for plan approval. If the Plan is

approved by the NEFMC and NMFS, direct management responsibility as defined in the Plan will pass to the local area governance entity.

Responsibilities Once Established:

1. The sector or co-op will set fishing input rules (e.g., gear restrictions, closed areas, etc.) applicable to all fishing activity in the Area. An important aspect of the responsibility of sector or co-op governing bodies would be to predict likely Area closures on an annual basis to the Council. However, because of the unpredictable nature of the fishery, the governing body would have the ability to create specific spawning closure areas and times.
2. The sector or co-op will determine the metric (or kind) of fishing effort appropriate to its Area, e.g., DAS, some modification of DAS, IFQs, ITQs, trip limits, point system.
3. Each year the sector or fishing co-op will determine how individual allocations in combination with input control rules will meet the hard-TAC and will prepare a Plan that includes methods of monitoring catch and enforcement to address overages or other local rules violations, for approval by the NEFMC and NMFS. As part of the stewardship ethic and accountability that emerges through Local Management, fishermen who opt into an Area will contribute to monitoring landings and the Area participants' actions regarding all management rules established for the Area.
4. The sector or co-op will establish rules addressing bycatch and habitat protection at the local scale that go beyond those set by the NEFMC.

Ongoing Area Management Governance Option 1:

Governance of individual Management Areas would remain a function of the NEFMC jurisdiction. Commercial fishermen declared to fish in a Management Area would nominate and elect representatives to serve on an NEFMC Area Advisory Panel specifically formed for that area; in areas with significant recreational fisheries, there would also be one or more elected recreational representatives. Area Advisory Panels would also include appropriate State Agency representation, and elected representation from environmental NGO's. The names of all elected representatives would be submitted to the NEFMC Executive Committee for final approval pursuant to criteria developed through Amendment 16 and consistent with the Magnuson Stevens Act.

Every Managed Area would have an Area Advisory Panel that would maintain oversight for the performance of area-specific regulations in contributing to the overarching goals of the Multispecies FMP. The Area Advisory Panel would submit recommendations for changes to regulations in the affected Management Area. These recommendations would be brought to the NEFMC Groundfish Committee and Council for approval, before being submitted to NMFS for final approval, as indicated above, and implementation.

This governance structure would continue in place until a system for managing Areas through sectors, co-operatives or another governing entity at more refined scales is approved by the Council.

Ongoing Local Area Management Governance Option 2: Sector Contracts:

Using Sector Management in an Area Management System would allow an appropriate governance structure to evolve as fishermen in a Management Area become organized and agree to set up a management plan that includes the necessary elements of accountability, administration and enforcement. The intent is to adapt a mechanism, already in use by the NEFMC, to provide the organizational, economic and contractual infrastructure necessary to manage a discrete portion of the resource

As part of the initial formation of Management Areas, fishermen would declare some or all of their effort to be fished in discrete areas under a general set of rules. Using the Sector mechanism (as created in

Amendment 13 with any subsequent modifications) some fishermen in an area could then organize under a Sector Plan specific to that area. When the Sector represents 2/3 of the permit holders or other eligible fishery participants declared in the Management Area, partial management responsibility as defined in the plan for that area (including by fishermen in the “general pool”) could then pass to the Sector Organization (consistent with NEFMC/NMFS guidelines and plan approval). The Sector/Local Area Management Plan Organization would have to demonstrate reasonable capability to fulfill this responsibility in order to be granted the authority.

To accomplish this end, the NEFMC would have to expand on the Sector planning mechanism created under Amendment 13 to adapt it to the Area Management concept. Changes to be developed in Amendment 16 should include:

- A provision that Sector Plans would have to specify the Management Areas where members will fish.
- A provision allowing two or more Sector Organizations to band together to submit a Local Area Management Plan for NEFMC/NMFS approval.
- Definition of the “tipping point” for eligibility to receive authority to manage under the Council’s purview through a Local Area Management Plan to pass to the Sector organization. Because that “new” management responsibility would require non-members to conform to the Local Area Management Plan rules, the Sector membership should represent at least 2/3 of the permit holders or other eligible fishery participants in the managed Area. In addition the Sector must gain Council approval for an operations management plan for the Area.
- A list of the minimum elements that would have to be included in a Sector/Local Area Management Plan to fulfill the governance role.
- Identification of the optional types of management action that a Sector/Local Area Management Organization would have authority to develop and implement, aside from the basic governance and administrative elements. These might include special gear requirements, days out of fishing, seasons, or habitat closures.
- Ensure that permit banking is allowed, and the ability to break down the fishing effort associated with a permit into smaller units.

Once a Sector/Local Area Management Organization was functioning, it would have some flexibility to adapt local response to emerging problems or opportunities.

Ongoing Area Management Governance Option 3: Local Area Fishing Cooperatives

Local area fishing cooperatives can be formed in order to provide an appropriate governance structure for a Management Area. Any cooperative seeking to manage an Area must submit a plan, including a governance structure, demonstrating that it can achieve the necessary elements of Local Area Management, including accountability, administration (e.g., data management), and enforceability. As with sectors formed under the council’s existing sector rules, the intent is to establish a mechanism to provide the organizational, economic and contractual infrastructure necessary to manage a discrete portion of the resource

Please see Appendix C for a detailed example of a proposed cooperative structure adapted from draft comments written by the Downeast Initiative. This represents only one example of cooperative governance structure, and others cooperatives could be structured very differently.

Ongoing Area Management Governance Option 4: Alternative Governance Structure

Alternative Governance Structures (other than advisory panels, sectors, and fishing cooperatives) can also be formed in order to provide an appropriate governance structure for a Management Area. Any such structure seeking to manage an Area must submit a plan, including a governance structure, demonstrating that it can achieve the necessary elements of Local Area Management, including accountability,

administration (e.g., data management), and enforceability. As with sectors formed under the council's existing sector rules, the intent is to establish a mechanism to provide the organizational, economic and contractual infrastructure necessary to manage a discrete portion of the resource.

VI. DEFAULT LOCAL AREA MANAGEMENT MEASURES

In addition to any applicable management measures approved from Sections I. through Section V. above, a set of default measures will be developed through the Amendment 16 process for each Area (Inshore Gulf of Maine Offshore Gulf of Maine, Eastern Georges Bank, Western Georges Bank, Southern New England) that would apply until the time that a Local Area Management Plan is approved for an Area and new rules for the Area are approved. Examples of the types of measures that should be considered as default measures for Areas are included in Appendix D.

VII CONCLUSION

Attempts to gauge whether or not Local Area Management will succeed as a management tool in other areas of the world have taught us that any attempt to create sound Local Area Management must include the following considerations.

- a. Effective governance requires good, clear boundaries. The boundaries have to define the Area and the people to which the rules of governance apply.
- b. The boundaries of the governance unit work best when they correspond to a distinct, fairly homogeneous area; in the case of fisheries, a distinct biological/oceanographic system. Good boundaries tend to contain the results of actions taken within those boundaries and, as a result, make accountability and learning easier.
- c. The organizations of governance have to be “nested” – e.g., local, state, and federal levels, or boundaries within boundaries, and there has to be close cooperation that also allows as much independence as possible at each level of governance.
- d. In multiple-scale resources, such as the groundfishery, rule-making authority has to be divided so that “locally” made rules apply as much as possible to activities whose principal impacts are “local” and rules made at a broader scale apply to activities whose impacts occur at a broader scale.
- e. Users have to have an active role making the rules for the use of the resource (e.g., in a representative council); there has to be a strong element of user responsibility and self-governance and self-financing – a sense of ownership and a self-interested commitment to the future health of the resource.
- f. The people who enforce rules have to be accountable to the people who make the rules and use the resource. In the best circumstances, there is a strong element of informal self-enforcement by users.
- g. Sanctions for rule breakers have to be graduated and adjusted to the circumstances and manner of use of the resource.
- h. There have to be timely, affordable cost arenas for the resolution of conflicts.

We believe that the groundfish fisheries in the Gulf of Maine meet these guidelines, making Local Area Management all the more likely to succeed. (Map Figs. 8-11¹)

¹ Fig 10 includes shrimp data, however, the more important story being told here is the relationship between home-port and fishing grounds. In addition, these maps have been cropped based on available VTR data thus the absence of data for Down East Maine.

APPENDIX A: Biophysical Justification for Area Management.

Biophysical Justification (Figures 1-7):

The spatial domain for fisheries management must conform with the spatial scales of the species or ecosystems to be managed. The Gulf of Maine's coastal zone is geologically, topographically (Fig. 1), oceanographically (Fig. 2, 3) and biologically distinct from the rest of the Gulf of Maine (Fig. 3). This results in distinct patterns of distribution and abundance of several important harvested species such as Atlantic cod, American lobster and winter flounder (Fig. 5, 6).

The Gulf of Maine's inshore coastal zone has a relatively shallow shelf that distinguishes it from the topographically deeper offshore basins (Fig. 1). Over this inshore region flow the coastal currents of the Gulf of Maine (Figs. 2, 3) as part of the larger counter-clockwise gyre that circulates within the Gulf of Maine. The Eastern Maine Coastal Current (EMCC) drives oceanography and trophodynamics in the region from eastern Maine from the Canadian boarder to about Penobscot Bay. The EMCC is unstratified, tidally mixed water that is distinctly cooler and nutrient-rich. It contributes to phytoplankton distributions (Fig. 4).

The coastal zone is particularly productive because of its depth and proximity to coastal productivity from benthic macroalgae and phytoplankton. Phytoplankton are relatively short-lived. After death and as they sink, microbes consume them. In shallow coastal zones a higher proportion of their food value reaches the benthos. The rich foodweb in Maine's seafloor supports numerous groundfish species that live on or near the benthos.

Although many species such as white hake and Acadian red fish have cosmopolitan distributions throughout the Gulf of Maine, many others show coastal and shallow water distributions such as those in Figs 5 and 6. More importantly, the elevated levels of primary productivity have historically supported high concentrations of groundfish.

Numerous studies have concluded that groundfish stocks are structured as metapopulations. That is, species such as cod have discrete regions in which spawning, growth and recruitment occur. These local stocks are spatially segregated, demographically distinct demes (subpopulations) with limited gene flow among adjacent demes. Evidence for local stocks in the gulf of Maine comes from several sources. First, the chronology of decline in groundfish stocks shows marked asynchrony. Coastal Maine stocks collapsed in the 1930s, Canada's Grand Banks in the late 1980s and the Gulf of Maine in the early 1990s. Similarly stock recovery shows different trajectories in different regions. Single stocks would be expected to decline in unison. Several genetic studies conducted in Canada support the idea of local stocks forming metapopulations. Finally, research by Ted Ames mapped the location of inshore spawning grounds that complement the earlier maps made by Goode and Rich for the 1880s and 1920s, respectively (Fig 7).

Defining the proper spatial domain is critical for ecosystem-based management. Tansley (1935) defined ecosystems as "the whole system (in the sense of physics), including not only the organism-complex but also the whole complex of physical factors forming what we call the environment of the biome." Clearly the whole complex of physical factors found in the inshore coastal zone is distinct from offshore regions of the Gulf of Maine. We cannot determine with precision the spatial area that defines a local stock or an ecosystem. However, management should move forward adaptively. Finer spatial-area subdivisions allows for higher-resolution understanding of how the system works.

Oceanographic and biological determinants for inshore/offshore boundaries.

From afar, adjacent marine ecosystems often look distinct but upon closer inspection, their boundaries blur. The inshore coastal zone in the Gulf of Maine is relatively shallow, the tidally mixed water with nutrient-rich water that is turbid due to its rich plankton abundance that rains to the seafloor feeding demersal fish and other organisms. In contrast, towards the center of the Gulf of Maine, water is clear,

relatively stratified and nutrient poor. The striking differences between these two regions translate to concentrated food in coastal zones that can sustain dense populations of groundfish and other species, as mentioned above.

One the goal for Local Area Management is to contain sufficient area for local stocks to complete their life cycles. Spawning, natal, nursery and feeding grounds of each managed species should be contained within the Local Management Area. In addition, other aspects of these ecosystems should be included such as coastal productivity, interaction effects, such as competition and predation.

Adaptive Management

Management moves forward with the best available science. However, gaps between what we need to know and what we do know must be bridged by assumptions that should be critically examined at a later date. Such information may require management changes (i.e. adaptive management) that could be further perfected with more information. We call this an information loop and the source of information should be from both the fishing and the scientific communities. Local Area Management requires that we know the location of boundaries for the managed ecosystem and/or stocks. While the inshore zone is easy to approximate, it is difficult to define precisely because it is affected by so many highly variable factors such as ocean currents, plankton blooms and fish stocks.

As we learn more about the spatial domain of the managed stocks, ecosystem, and social system, we will be able to more surgically and crisply define boundaries. In the long-term the credibility of the information loop will hinge on the quality of the input information. For that reason, local governance units should be encouraged to develop their own scientific infrastructure. Over time the credibility of competing theories can be tested and the best available science will improve. The resulting management decisions will be robust.

APPENDIX B

GOALS and PRINCIPLES of LOCAL AREA MANAGEMENT

Goals:

1. To restore and enhance the Gulf of Maine ecosystem.
2. To create new management and governance structures in order to achieve Goal 1.
3. To create open and participatory methods of sharing information and conversation in order to achieve ecological and economic stability, personal responsibility and accountability, resource protection and distributed power and authority as appropriate.

Principles:

To achieve these goals, the following principles will form the foundation upon which all decisions and actions shall be built upon.

Social

1. Make decisions at the most local level possible that includes all relevant and affected parties
2. Give each participant an equitable opportunity and responsibility to participate in discussions and deliberations.
3. Deliberate and make decisions using current and objective knowledge and information derived from scientific methods and practical experience.
4. Have an equitable obligation to provide knowledge and information that is relevant and essential to the realization of our goals and that is collected in a way that has minimal impact on confidentiality and competitive position.
5. Maintain the highest standards of credibility and ethical conduct, fair and accurate dissemination and full disclosure and accountability for our affairs.
6. Protect marine uses or interests consistent with the goals and principles from being substantially sacrificed to, or eliminated by, any other use or interest.

Biological Principles

1. Protect reproduction. Fisheries must be managed in a way that recognizes critical points in the life-history strategies and spawning patterns of species.
2. Protect juveniles. Fisheries must be managed in a way that will allow adequate numbers of juveniles to reach reproductive age.
3. Maintain food-chain relationships. Fisheries must be managed in a way that recognizes and protects food-chain linkages.
4. Maintain critical habitat. All activities must be managed so as to maintain the integrity of habitats critical for spawning, juveniles and feeding.
5. Protect local stocks. Fisheries must be managed in a way that protects local stocks where there is a probability that they exist.

Collaborative Fisheries Management - Defined

Collaborative management is a form of problem-solving that engages all relevant stakeholders (users, scientists, environmentalists, managers, and concerned citizens) in decision-making from start to finish. It does not supplant the current management process; rather it enhances legally sanctioned decision-making by creating new social arrangements and solutions in cooperation with the affected communities. This approach carries the distinct advantage of creating a sense of shared ownership of the science and policies that ultimately regulate the livelihoods of resource-dependent communities. While some modest achievements have been made to protect and preserve the country's natural resources, they have almost invariably been accomplished through the force of legal authority. Most of us would agree that the

preferred path to long-term protection of resources is by enabling and embracing a collective recognition that our natural resources contain inherent value; that an ecological problem or crisis indeed exists and that acceptance of responsibility is necessary to correct the problem. When this is achieved, the energies of a majority can be harnessed toward action.

The Northeast Region's Vision for the Future of the Groundfish Fleet

Northwest Atlantic Marine Alliance

Fleet Visioning Project, 2005

DIVERSITY: A geographically distributed commercial and recreational fleet that includes all gear types and boat sizes.

ECONOMIC VIABILITY: An economically viable, safe, and sustainable fleet that works with shoreside infrastructure to supply seafood and job opportunities for coastal communities.

GOVERNANCE: Participatory, accountable, and decentralized governance structures at various scales that include local involvement in decision-making and maintain an adaptive regulatory environment.

ENVIRONMENTAL RESILIENCE: Fishery stakeholders who exhibit stewardship of resources that is consistent with the long-term health and restoration of the marine ecosystem.

APPENDIX C

The following cooperative governance structure example is modeled on the draft comments from the Downeast Initiative and represent one example of cooperative governance.)ther cooperatives could be structured differently.

1. Co-op Governance

The Co-op must be broadly representative of stakeholders with an interest in the health of the fishery, with three classes of members: the fishing industry, state and federal governments and public non-profits. The three classes of stakeholders in the Co-op will have the following voting representation within the Co-op: current permit holders who choose to fish in the Area - 50%, relevant state government - 25% - and public non-profits, i.e., non-fishing public interests - 25%

There are two ways that non-profits could gain membership in Co-op governance: (1) They could be appointed by the industry and state representatives on the board; or (2) non-profits could be required to purchase permits/DAS equivalent up to the value of 33% of current permits/DAS in order to vote, otherwise representation is by states.

At any time except during the initial start-up, the total number of industry shares in the co-op should reflect the current value of the fishery relative to its expected value when it is restored. (e.g., if the current value of the fishery (TAC x price x species summed for all species) is 20% of the estimated maximum value of a restored fishery, then current shares in the Co-op will be 20% of the potential maximum number of shares.

The initial start-up value of industry shares should be equal to twice the long-term value of fishing from the current TACs in the Area. (i.e., current permit holders are guaranteed there will be no new entry until the fishery rebuilds to twice its current value. After that any new entry or expansion of current shareholders has to be purchased as new shares from the Co-op. The Co-op is required to issue new shares as the fishery grows and uses the revenue for its own operations.)

2. Transition from DAS/Permits to Co-op Shares

Before the initial start-up, fishermen will declare the percentage of the value of their current permit/DAS they want to assign to the Area.

The initial distribution of individual shares in the Co-op will be equivalent to the individual's current percentage of the total value of permits/DAS initially assigned to the Area by fishermen.

3. Shares

Shares may be bought and sold.

Shares are created in small denominations so that the entry of new small scale fishermen is not artificially restricted. (Consequently, each shareholders may have dozens of shares.)

Shareholders may hold shares in more than one area co-op or permits to fish elsewhere, thereby giving them access across boundaries. (This requires an 'investment' in each area fished and is the mechanism for permeable boundaries with stewardship incentives. Both 'resident' and 'non-resident' fishermen may cross the boundaries of the Area under these conditions.)

NEFMC will set limits on the percent of shares held by an individual or corporation or non-fishing interests in an Area or in the whole of New England. Each Co-op may set limits on percent shares that are stricter than those set by NEFMC.

4. Determination of Individual Allocations of Access to the Fish

Each fisherman is guaranteed an individual allocation of fishing effort equal to his percentage share of the non-governmental shares in the Co-op.

Each year the Co-op will offer to lease in a market open only to fishermen shareholders approximately one-third of the total fishing effort for the Area, i.e., DAS, trips limits, or whatever unit of fishing effort it chooses. (Alternatively, the co-op will conduct a quarterly lease sale. This allows the Co-op to incrementally adjust fishing effort as it sees conditions changing, while at the same time giving fishermen a three-year lease.)

Only non-governmental shareholders may lease effort.

Each lease will have a term of three years (long enough to provide a fisherman with a reasonable business planning horizon. Initial leases may be for different terms until three years becomes the norm. Then at any time a fisherman might hold, for example, 33% of his effort in leases that expire in one year, 40% that expire in two and 27% that expire in three.)

Fishing leases also will be created in small denominations so that a fisherman may hold dozens of leases (also facilitates trading of leases and increases flexibility.)

The revenue from the sale of leases by the Co-op is returned to shareholders in proportion to their Co-op shares (i.e., a fisherman who leases effort in proportion to his shares in the co-op has no net expense for leases.)

A fisherman may lease more than an amount equivalent to his shares in the Co-op, but the Co-op may set limits on that amount, e.g. 200% (This is to allow flexibility for fishermen making a transition, or just entering the fishery. A fisherman who leases in greater proportion than his co-op shares will make a net positive lease payment. A fisherman who leases less than in proportion to his Co-op shares will receive lease revenues.)

Leases may be sub-leased (a fisherman who chooses not to fish or has a sudden change in plans can lease his effort with no penalty.)

The Co-op may lease to individual fishermen a part or all of the government shares. Revenue from these shares will be used to support the operations of the Co-op (This is basically a means for the Co-op to tax itself for its own operations without having an explicit taxing authority.)

APPENDIX D

The following examples of Default Local Area Management Measures are intended as examples of Area Management Measures that have been discussed for the inshore Gulf of Maine area and are intended only to begin the discussion for the appropriate set of default measures to be determined through the Amendment 16 process.

Habitat Protection:

1. Jeffery's Ledge closure to include mid-water trawling
2. A portion of Middle Bank
3. Eastern Maine Deep See Coral
4. Close Jeffery's Bank to all but Lobstering

Examples for Bottom Trawlers:

1. No bottom trawling at night inside the 50 fathom curve year round
2. Roller/rockhopper gear limited to no greater than 12 inches in height
3. Groundcables and legs limited to a total length of 45 fathoms with a phased reduction to 15 fathom legs over three years.
4. 6.5 inch diamond mesh on bottom and 6.5 square on top to form a composite cod end.
5. Provide incentives for using gear technology to reduce depleted species catches and discards.
6. Elimination of 20-day blocks out of the groundfish fishery between March and May.
7. Reconfigure rolling closures to more effectively address cod aggregations and also to address other species of concern.
8. Mandatory real-time data collection
9. Collaborative research requirements identified and prioritized locally
10. VMS

Examples of potential rules for Gillnet vessels:

1. Develop a night time conservation equivalent to no trawling (i.e. no overnight soaks)
2. 7-inch minimum mesh
3. Maximum of 30 stand up or 50 tie-downs
4. Continued use of pingers and effective gear configurations during peak harbor porpoise and whale migration
5. Participate in whale disentanglement teams
6. Eliminate 20-day blocks out of the groundfish fishery between March and May
7. Participate in real-time data collection and collaborative research
8. VMS