Written Testimony

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Hearing on Catch Shares

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Madam Chairwoman, Thank you and the members of the subcommittee for the opportunity to testify today concerning the design and implementation of catch share programs for the management of fisheries. I am Andrew A. Rosenberg, Senior Vice President for Science and Knowledge at Conservation International and a Professor of Natural Resources and the Environment at the University of New Hampshire. I was a member of the U.S. Commission on Ocean Policy and a current member of the Joint Ocean Commission Initiative. I have been involved in the science and management of ocean resources, particularly fisheries, throughout my career. I served as a scientist, then Northeast Regional Administrator and Deputy Director of NOAA Fisheries during the 1990's before moving to the University of New Hampshire.

Catch shares are a general term for fishery management strategies that allocate a specific portion of the total allowable catch to individuals, cooperatives, communities, or other entities. Some fisheries across the nation, and indeed internationally, employ catch share systems for a range of commercial fisheries. The concept of catch share systems is not new, though the approach has used different labels at various times. Nor is the controversy over catch share systems new. In fact, from the one sentence description of catch share systems that I just gave, it is clear why the controversy occurs and why it is so intense and durable I might add; because catch shares are ultimately about allocation of a portion of the catch or fishing privileges. In fact most fishery management controversy is about allocation; between fleets, gears, communities, areas and so forth.

The increasing interest in catch share systems has been prompted in part by ongoing problems of overfishing that, despite years of difficult and time consuming management efforts, persist in many fisheries in the US and internationally. The requirements in the Magnuson-Stevens Act to end overfishing and rebuild overfished stocks as soon as possible is exactly the right thing to do, but the management measures needed to do so are difficult for managers, fishermen, and all stakeholders to come to grips with. It is the requirement to set annual catch limits that is the key

to ending overfishing. The catch limits themselves are often controversial because restricting the size of the catch intensifies the difficulties of allocation.

There are methods for setting such limits in a sensible, proactive manner even when data are limited and I would refer you to reports I have co-authored on this topic for further information. For the purposes of this hearing I would note that in my opinion, the setting of annual catch limits and the implementation of catch share systems do not necessarily have a greater data and information requirement than other fishery management approaches. In other words, it is almost always helpful to have more stock assessment and other fishery information, not just for annual catch limits and catch share approaches. But the lack of full information doesn't prevent or obviate the need for moving forward with better more effective management approaches.

This hearing is about catch shares and why such a system may, or may not, help address problems in fisheries management. After all, if a catch limit is set *and adhered to fully*, then overfishing should no longer occur. The role of catch shares is not to end overfishing but to address allocation, and more importantly, catch share systems can increase the value of the catch, reduce the costs of fishing, thereby increasing profitability, and can engender a greater sense of resource stewardship in the fishery because of the durability of fishing opportunities for participants. One of the greatest potential benefits of a catch share system is that, in principle, many of the decisions about fishing tactics are internalized to the fishery, rather than by regulation. That is, fishermen make decisions on tactics and regulations in principle can be simplified to those that address annual catch limits rather than fishing tactics. All of these benefits have been shown to occur in some fisheries domestically and internationally.

In my observation, those participating in catch share systems usually become strong supporters of the approach. But the corollary is those that opt out or are left out usually seem to assign all the problems of the fishery to the catch share approach. In reality, catch share systems can have substantial benefits, but may not suit all situations nor will they suit all participants. I think this simple statement is factual *and is clear in the NOAA draft catch share policy*.

Careful design of catch shares programs is critical to their success and many of the potentially negative impacts, such as excessive consolidation and decline of traditional fishing communities and methods, *can* be minimized or avoided by incorporating specific policies. Nevertheless, transitions to catch shares systems represent fundamental change—from a long tradition of the race-to-fish to dedicated privileges to catch specific amounts of fish; from competition to cooperation, from maximizing fishing opportunity to maximize profit to minimizing costs and value to maximize profit. Allocation of the available catch among fishermen often leads to impassioned debate about what is "fair" among members of industry and managers.

Design Considerations for Catch Shares Programs

In deciding whether catch shares are appropriate for particular fisheries several key elements requires careful consideration. These include aspects of initial program design including goals of the program including social and economic considerations and its comprehensiveness; allocation and transferability of shares of the catch; monitoring, reporting, and enforcement policies; communication and decision making processes. These elements are challenging for managers

and stakeholders to address, but are very much resolvable via specific policies that have been developed in existing catch shares programs around the US and internationally. In any particular program however, the choices are critical and will result in strong or weak programs that will achieve the goals or simply engender more controversy.

Goals and objectives: Setting clear and measurable goals and objectives to guide management is critical to the success of any fisheries management system, including catch shares. While the Magnuson Stevens Act sets broad national goals, goals for specific regions and fisheries often vary greatly from place to place. During transitions to catch shares, stakeholders often express concern that the goals of programs are unclear. Managers should work with stakeholders to identify measurable biological, ecological, social, and economic goals and objectives at appropriate region- and fisheries-specific scales and articulate how catch shares programs can meet them. In addition, if some of the catch is not allocated but remains in a common pool, i.e., in a given fishery if the catch share system is not comprehensive covering the whole fishery, then the rules for the common pool must be designed such that the conservation program is not undermined such that the catch limits cannot be adhered to. This will very likely mean that the regulations for the common pool, recreational or commercial, will need to be quite restrictive compared to those for vessels in the catch share systems. It is not surprising that if only a partial system is implemented then those not in the system will be in conflict with those in the share system and potentially the benefits of a catch share system will dissipate. However, a partial system may still be better than the alternative, even with partial benefits.

Initial allocation: One of the greatest challenges decision makers and stakeholders face in transitioning to catch shares is determining the initial formula for allocation of the TAC because the decision is grounded in varying interests' ideas of what is fair. What seems fair to any one group of fishermen will often seem unfair to others. Key considerations include how the decision will be made, what the formula will be, how catch history or fishing capacity will be calculated, how errors in government records will be corrected so that fishermen receive accurate allocations, what kind of appeals process will be put in place, and which kind of entities will be allocated quota shares.

Transition strategy: Transitioning to any fishery management system that confines harvesting to sustainable catch limits can be initially difficult for fishermen. However, a well-designed and executed transition strategy can ease the burden of change for fishery participants and managers alike. Transition strategies can include limits on quota transfers in the early years of implementation, public funding for administration of catch shares until industry returns to sufficient profitability to shoulder these costs, and step-wise evaluation of biological, ecological, and socioeconomic impacts that prompt improvement in programs over time.

Harvesting strategies and policies: Maintaining sustainable harvest rates is not the only requirement for protecting and restoring ecosystem health, but also minimizing impacts of harvesting on habitat and bycatch of nontarget species. For this reason, habitat and gear considerations must be taken into account in catch shares systems. Catch shares programs should include requirements and incentives related to use of selective harvesting strategies and gear. If the TAC is applied to catch—instead of landings—incentives to reduce bycatch through gear selectivity will be built automatically into the system. A caution here is that the strategies for

addressing ecosystem issues should not result in dissipating the benefits of catch share systems more generally. The same principle of allowing flexibility in fishing tactics if the conservation outcomes are achieved must be maintained.

Transferability of quota: Allowing transfers of quota via sale, trade, or lease among fishery participants is critical for economic efficiency, a key goal for most catch shares programs. However, there are potential downsides to providing unlimited transferability that are often of major concern to those interested in protecting small-boat fleets and traditional fishing communities. These impacts can include excessive consolidation and inflated quota purchasing and leasing prices that can undermine the ability of independent and small-operation fishermen to compete. In order to meet social and economic goals, important considerations in program design include the rules, fees, and eligibility requirements placed on transferability of quota shares at vary points of maturity of catch shares programs. These issues *can* be dealt with but it is very much harder to do so after the implementation of the system than as part of the initial implementation.

Adaptive management set-asides: Setting aside part of the TAC for adaptive management can provide decision makers flexibility to take action to address unintended consequences without having to reduce shares of fishermen's catch mid-season. Managers need to decide the appropriate level of set-aside for this purpose and for how long they should hold that quota into the fishing year before releasing it to harvesters. In addition to setting aside quota for adaptive management, managers should consider providing incentives for fishermen to engage in cooperative research. Cooperative research is an important way for fishermen and scientists to learn from one another, gain better understanding of fisheries, and provide costs savings for scientists and extra income for fishermen.

Monitoring, reporting, and enforcement: Reliable catch monitoring and reporting are critical for the success of any fishery management system. For catch shares programs, where harvesters are held accountable for staying within strictly defined catch limits, enforcement must rely on collective responsibility of the group holding quota. In other words, if any member of the group does not adhere to the rules all members of the group must have some accountability. Choosing appropriate monitoring and reporting levels, methods, and technologies should be partly decided on statistical grounds and partly decide upon perception of the monitoring program. The statistical issues are usually fairly clear with a certain level of monitoring or sampling resulting in a certain level of confidence in the results. The perception issues are much more difficult such that participants and the public have confidence in the system. Further, determining who will pay the administrative and infrastructure costs is an important decision that can make or break a catch shares program. Adequate and fair enforcement will also be critical for meeting program goals and improving relationships among managers and fishermen. Furthermore, if there is a common pool portion of the fishery then enforcement will be complicated because two sets of rules will be in operation. Ensuring that participation in the fishery as a whole is contingent upon following the rules is an appropriate level of accountability for a public resource, in my opinion.

Forums for improving trust and communication: A long history of conflict among fishermen, managers, and scientists in many regions of the US complicates meaningful improvements to

fisheries management, including the establishment of catch shares programs. Decision makers should ensure that a diversity of stakeholders are productively engaged in program design by providing neutral forums for discussing and learning about various design elements of catch shares.

Information to support decision making: Effective policies can feasibly be implemented even when the information on the fishery is not complete. Nevertheless, better analyses of baseline conditions, projections for impacts under proposed management systems, and tracking of progress toward biological and socioeconomic goals can improve any fisheries management program. Managers should identify early in the process any special studies that will be needed to support informed design and implementation of programs, as well as ways information can be shared with fishermen in forms useful to their business decision making and for their productive contribution to program design.

Quantity and quality of jobs: Social and economic characteristics that are important to fishermen and their communities, which ultimately depend on healthy fish stocks for long term success, are necessarily constrained by the limitations of the natural environment. However, within those limitations are abundant opportunities to define social and economic goals for fisheries and incorporate policies into catch shares programs that can help regions and communities achieve those goals. Unfortunately, fishermen often disagree among themselves about these details, putting managers in a difficult position of having to make decisions in the face of some guaranteed measure of opposition. Key factors that will require clarification for fisheries transitioning to catch shares include the appropriate mix of vessel and ownership types, definitions of excessive consolidation and what measures are appropriate to prevent it, how social and economic impacts will be measured through time in light of confidentiality restrictions on the collection of such data, and how to address the unintended transfer of effort from fisheries transitioning to catch shares to others.

Concluding remarks: Overall, catch share systems can be affective tools for allocating fishing privileges and engendering greater accountability and stewardship in a fishery, while increasing value and profitability. Because these benefits can be obtained, it doesn't mean they always will be if the system isn't designed well. Whether there is a catch share system or not, it is essential that fisheries are managed to stay within prudent catch limits that avoid overfishing and resource declines that have plagued fishery management for many years. Proponents of catch share systems need to accept that the design issues are important to the result for the resource, fishermen and fishing communities. Opponents of catch shares need to suggest alternatives that do not continue the overfishing and resource declines of the past while changing the dynamics of the fisheries debate.

Madame Chair, thank you for the opportunity to testify today and I look forward to your questions.