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Rewriting the Magnuson-Stevens Act

Brian J. Rothschild[1]

The 2013 Pacific Marine Expo
Seattle, Washington
November 20, 2013

Keynote Address

INTRODUCTION

The Magnuson-Stevens Act ("MSA" or "Act") is up for reauthorization in 2014 and the opportunity to fix what is broken and improve what has not worked well should not be missed. At many governmental hearings and public meetings, it is said that all we need to improve the MSA is "flexibility." Words like "flexibility" mean different things to different people, and such a cursory debate will not produce a functioning law for the complex issues that we face in this early part of the 21st Century.

While various interests may recommend different means of improvement, there is widespread agreement that in certain key areas, the MSA as interpreted and implemented falls short of our Nation's needs. These key areas include an inability to develop accurate and timely science regarding both fish and people and to use that science to benefit both when and where it is needed. In this paper, which is intended as an introduction of a

[1] I would like to extend recognition and thanks to Catherine B. Kramer, Scott W. Lang, Julie K. Peterson, and Emily Keiley who assisted in researching and writing various sections of this keynote address. The analysis in this paper is a New England perspective that will undergo national evaluation.

series examining in more detail suggested modifications to the MSA, major issues are laid out. Identification of the major issues are from working in the field of fisheries management science and from hearing over time the concerns of fishermen, fisheries scientists, community leaders, lawyers, and many others. This can be done by focusing on two main principles. First, the MSA's language must be rewritten to strengthen the scientific basis for all conservation and management measures, including not only the biological (fishery related), but the much neglected socio-economic (people related) sciences. Second, balancing all ten National Standards to reflect an appropriate symbiotic focus, rather than a focus that has narrowed over the years to a preoccupation with only one concern: "overfishing." Rewriting the National Standards to ensure these goals is not only consistent with the intent of the MSA and its predecessor legislation, but also has the potential to bring greater balance and scientific justification to fisheries management.

Mere reauthorization without thoughtful changes to achieve these goals will fail to achieve balance in fisheries management and endanger the sustainment of our Nation's fisheries resources. Thoughtful change requires that the MSA be rewritten.

THE ORIGINAL INTENT OF THE MSA VERSUS THE MSA AS IMPLEMENTED TODAY

The MSA was originally passed as a means to protect U.S. fishing resources exclusively for the United States' fishing industry. Congress's intent in passing the MSA was to create a fisheries management system that allows Regional Councils made up of local and regional fisheries experts to exercise primary responsibility for managing the resource. The Secretary of Commerce ("Secretary") was charged with overseeing this

management to ensure that the MSA's provisions, including the Ten National Standards, are followed by the National Marine Fisheries Management Service ("NMFS"). However, the Act has proven to be very different in practice from what is written, with perhaps the most serious gaps appearing in the difference between the intentions of the Act, and expectations regarding its performance. These differences have led to much controversy and dramatic tension throughout the United States between the regulators and the fishing industry.

Some of the controversy stems from the government's interpretation of MSA provisions and statutorily defined terms, the use of sometimes outdated survey data and stock assessments to set Annual Catch Limits ("ACLs"), the accuracy of survey data due to the frequency and methods with which that survey data is collected and assessed, the allocation of resources among the industry, and a management system that is based on single species management rather than multi species management when appropriate. At the core of and particularly concerning gaps between the MSA's mandates and actual practice is the failure to realize the critical requirement in National Standard 2 that all management be based on the "best scientific information available." MSA § 302(a)(2). The Agency has often taken the position that the best data can only come from its own staff. Many other issues stem from this failure to fully implement this part of the law, such as controversy over what is the "best science available," what studies should be included in deciding which is "the best," and who has the final say over what is "the best?" This narrow interpretation of the "best science available" has led in many cases to the acceptance of less rather than "best" science. Another critical departure from

Congressional intent is a doctrinaire emphasis of fishery resource sustainably over sustaining fishery communities and families. As under current law the Agency is deemed the sole arbiter of these questions, there has been an unfortunate restriction of scientific research and ideas to the views promulgated by the governmental bureaucracy. In many parts of the country, the end result of the current MSA and fisheries management system is an underperforming management system and the destruction of the fishing industry and the communities they support in the ports throughout the United States. Litigation from both conservation groups and the fishing industry cannot fully correct these problems and leads to a constant chaotic discourse between the stakeholders. Improvements to, and thus rewriting the MSA is necessary.

THE DEVELOPMENT OF TODAY'S MSA

There have been several amendments to the MSA. The amendments of 1996 and 2007 made the most significant changes to the Act. The 1996 reauthorization resulted in a fundamental shift from the Act's primary domestic purpose being promotion of economic development of the fishing industry to conservation of fishing resources, reducing bycatch, and protecting essential habitat; the addition of the terms "overfishing[2]" and "optimal yield;" and optimum being defined as meaning "as reduced by" maximum sustainable yield ("MSY") rather than "as modified by." While regulation aimed at conservation is necessary to ensure the continued availability of this valuable resource, the dangers of rigid government regulations and the unintended or unforeseen

[2] Please note the term "overfished" has various meanings and has become a derogatory, discriminatory term that implies the fishermen are the primary, if not only, cause of fishing mortality. As discussed below, the term should be replaced with a more neutral term, such as "stock decline" to accurately reflect all sources of morality, such as natural predation, human harvesting, and environmental conditions.

adverse consequences of government regulation multiplies whenever regulations increase in number, complexity, scope, and enforcement. The current system exemplifies this maxim.

The 2006 reauthorization, and current version of the Act, mandates that the Council utilize ACLs to manage the fisheries and supports a market-based management system through the utilization of catch-shares. The reauthorization of 2006 also called for unscientific, hard deadlines to end "overfishing" and emphasized utilizing ecosystem based fisheries management ("EBFM") for fisheries management. While perhaps well intended, the insertion of such terms as "immediately" (16. U.S.C. § 1854(e)(3)(A)); the inclusion of rigid, arbitrary deadlines with no scientific basis whatsoever for rebuilding stocks that have been determined to be "overfished;" and the new requirement that Regional Councils not be allowed to set catch levels above those recommended by a Science and Statistical Committee ("SSC")(MSA § 302(g)(1)(A)), which sometimes includes employees or staff of the Agency, are just a few of the 2006 changes that were well intended, but have in practice hobbled our ability to manage fisheries in a way that is based on the "best available science," and is responsive to changing conditions.

Fisheries management performance must be improved upon. Improved performance and accountability for performance means that performance standards must be redefined. Mere reauthorization is unlikely to achieve the much needed balance in fisheries management. A reauthorization that incorporates thoughtful amendments is critical to sustaining our Nation's fisheries resources.

PERFORMANCE STATISTICS

The MSA's effectiveness and results have varied between different regions. While there are differences between the regions, there are also many similarities between each region of the Nation, including performance statistics. A good example to demonstrate the issues with performance statistics is the New England region.

At present, fisheries management performance in New England focuses on the narrow issue of whether or not stocks are "overfished" and the use of outdated economic statistics. The resulting performance statistics for the New England groundfish fishery are not encouraging. Groundfish fishery statistics reflect that despite intensive management and reductions in fishing effort, thirteen out of twenty stocks are overfished and eight are subject to "overfishing" (the number of overfished stocks subject to "overfishing" has not changed since 2007). Additionally, between 2007 and 2011, groundfish trips have declined about thirty percent (30%), days absent have declined by about twenty-five percent (25%), and vessels have declined about thirty percent (30%). Between 2007 and 2010, crew positions also declined from 1700 to 1200 positions or by approximately thirty percent (30%). Also, between 2007 and 2012, Total Allowable Catches ("TACs") and/or ACLs declined by about fifty percent (50%) and landings/catch declined by thirty percent (30%). Lastly, price per pound has increased about fifty percent (50%), and gross revenue has stayed constant.

It is plain from even these very crude and somewhat out of date statistics that the so called "overfished" condition of the stocks remains high even though fishing intensity has declined by a considerable degree. There is material job loss in the producing sector.

This job loss in the producing sector presumably generates job loss in the processing sector which spreads throughout a fishing economy and the port itself. The overall job loss and uncertainty and delays in the regulatory process contributes to the loss of fishing industry infrastructure in port communities and the unaccounted for welfare costs in coastal communities. Other indicators of the adverse impacts to the Nation are shore-side losses in fuel and repairs which must be correlated with the reduction of trips and vessel loss and a decreased supply of fish and increased prices for consumers. Indeed, the situation is so dire that the government has declared the New England groundfishery to be a "disaster" and we now import over 90% of our seafood from foreign countries that in many instances have little or no quality inspection guidelines or conservation measures in place.

These statistics give only a partial picture of the poor state of fisheries management and bring to light the considerable waste that is created under it. The waste includes substantial underfishing, signaled by not attaining the OFL, unnecessary twenty-five percent (25%) buffers that constrain catch, continuing irrational, unnecessary and sinful discarding, and losses in yield incurred by attempting to rebuild stocks that have zero potential to be rebuilt. The waste caused by underfishing, discarding, etc. can amount to tens of millions of dollars each year.

A NEED TO SEPARATE MSA FROM ITS IMPLEMENTATION

It is difficult to constructively criticize the MSA in a vacuum because the MSA as implemented by the National Oceanic and Atmospheric Administration ("NOAA" or "Agency") reflects not the MSA by itself but a combination of the MSA and both formal

(i.e. Fishery Management Plans) and informal actions and rulemaking undertaken by NOAA.

The MSA has several purposes, including,

> to take immediate action to conserve and manage the fishery resources[,]. . . to promote domestic commercial and recreational fishing under sound conservation and management principles, including the promotion of catch and release programs in recreational fishing[,] . . . to provide for the preparation and implementation, in accordance with national standards, of fishery management plans which will achieve and maintain . . . optimum yield . . .[, and] to establish Regional Fishery Management Councils to exercise sound judgment in the stewardship of fishery resources through the preparation, monitoring, and revision of such plans under circumstances . . . which take into account the social and economic needs of the States. MSA § 2 (b)(1),(3)-(5).

To carry out the purposes of the Act, Congress mandated that "[a]ny fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with "ten National Standards, as laid out in the Act." MSA § 301(a). By merely reading the MSA it would seem that the National Standards 1 and 8 must be balanced with each other. However, NOAA in its implementation has not interpreted the Act in this way. Instead NOAA, in its National Standard Guidelines has interpreted that the National Standards were laid out by hierarchy, with National Standard 1 being the most important and superseding all others. Under the case law that has developed pursuant to the principles of administrative law which allows great deference to an agency that is presumed to be the "expert," there is no check on this interpretation unless the MSA is modified by Congress to clarify this balance. Incidentally, the idea of the standards set in a ranked order of importance by Congress is completely nullified when one reads National Standard 10: "Conservation

and management measures shall, to the extent practicable, promote the safety of human life at sea." MSA § 301(a)(10). Surely Congress did not believe that protecting human life is the least important standard.

As a practical matter, there are two National Standards that create most of the controversy in fisheries management: National Standard 1 and National Standard 8. However, much of this controversy would be eliminated or mitigated if National Standard 1 and National Standard 8 were more properly balanced and combined and if National Standard 2, which requires that all conservation and management measures be based on "the best available scientific information," was strengthened to clarify that yes, indeed, all conservation and management measures MUST truly be based on the "best available scientific information."

A. Restoring the Principle of National Standards Balance

A plain reading of National Standard 1 and National standard 8 reveals that they are complementary and interrelated. National Standard 1 reads,

> Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. MSA § 301(a)(1).

And National Standard 8 reads,

> Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities and (B) to the extent practicable, minimize adverse economic impacts on such communities. MSA § 301(h).

Taking into consideration that every National Standard must meet two things:

conservation and management, it should necessarily follow that each standard has equal weight and must all be balanced to achieve both conservation and management. NOAA has however, primarily through the National Standard Guidelines and informal rulemaking, chosen to interpret and implement the National Standards in a way that in practice places conservation for conservation's sake above all other goals, despite this interpretation and implementation being in direct conflict with the MSA and Congressional intent. Conservation includes protecting the various species and habitats of the ocean environment. However, conservation for conservation's sake alone does not serve the MSA's goals of feeding the nation and promoting its fishing industries and communities. The MSA was never intended to protect fish merely so that they may die of old age in great rotting piles on the ocean floor. Management includes deciding how to use the fisheries resources to achieve several goals, including economic growth and stability for those that depend on the resources for their livelihood, to benefit the Nation.

Management for any other purpose has become an afterthought; a box to check to show that it was "considered," without being given any substantive weight. Worse, there is no incentive to get the number of fish necessary to meet these conservation goals "right," and every incentive to "fudge" that number higher with excessive buffers to make sure there is at least a fifty percent (50%) chance of meeting the conservation goal that may be set from time to time by an SSC, which unfortunately often uses data that is almost always too little, too late, and not entirely relevant. *See NRDC v. Daley*, 209 F.3d 747, 754 (D.C. Cir. 2000) (The court ruled that "'to assure' the achievement of the target F, to 'prevent "overfishing,"' and to 'be consistent with' the fishery management plan, the

[ACL] must have has at least a 50% chance of attaining" a conservation goal. *Citing*, MSA § 301). The courts overrule the agency when the agency sets a number that has less than a 50% probability of meeting a conservation goal, but never overrules the agency when the agency sets a conservation goal that has a less than fifty percent (50%) chance of being accurate, or is say, more than ten percent (10%) over the minimum number needed to create MSY. In other words, the agency is overruled for not being conservative enough in conserving fish. If a fifty percent (50%) chance of being certain to achieve the selected conservation goal is acceptable, then under the current regime, choosing the conservation measure that is ninety percent (90%) certain to achieve that goal is even better, and greater socioeconomic harm is rarely adequately identified, much less considered as a strong enough reason to reject the measure with ninety percent (90%) likelihood of certainty.

National Standard 8's relationship to National Standard 1 has become one where socio-economic considerations are an afterthought. Yet most would say, this National Standard was preeminent in the minds of the original drafters of the Fisheries Conservation Management Act ("FCMA"). Considerations associated with National Standard 8 should place this objective in a central position along with conservation as a goal of management. The Agency has interpreted National Standard 8 to mean that as long as the Council merely considers or looks at what the socio-economic impacts are, the National Standard is satisfied. NOAA's implementation has placed an extremely low burden on the Council and has drastically decreased the importance of National Standard 8 and the real life economic consequences that management decisions have on the local

fishing industry and communities. The end result is that the adverse economic impact and hardship an ACL may create is of no real concern to the Agency and no cause for any action, regardless of how devastating.

There is no reason why the Agency could not implement the National Standards in a simple and straightforward manner. Rather than being bound by an extensive set of formulaic rules that do not necessarily make sense in specific fisheries management settings, a balancing and simple plain language approach will maximize the flexibility and allow the Council to adapt and innovate FMPs on a case by case basis.

B. Enforcing the Mandate of National Standard 2

National Standard 2 forms the basis and backbone of National Standard 1 and National Standard 8. National Standard 2 is very clear and unambiguous: "Conservation and management measures shall be based upon the best available scientific information available." MSA § 301(a)(2). Despite this seemingly clear mandate, there is much controversy over what the "best available science" is and who should decide what assessments should be used.

In the MSA, Congress did not define where or by whom the "best available science" would come from. The MSA does state that the Council's ACLs "may not exceed the fishing level recommendations of its scientific and statistical committee or [a specific] peer review process." MSA § 302(h)(6). In its implementation, the Agency has interpreted that the best data would only come from their own internal data collection and

analysis.[3] Not only is the frequency of survey data collection disputed, but whether the assessment methods used are the best available are also under dispute. The Agency rarely if ever considers presenting or recommending data from other sources. The end result is that in setting ACLs the Council almost never considers any assessments outside of science center reports.

Congressional intent was to have the SSC and multiple other scientists present their studies and recommendations to the Council. The Council then determines which scientific study is the best and sets ACLs based on the most reliable science. The MSA does not state that in order for an FMP to be consistent with the National Standards that the SSC report is the only fishing level recommendations that an ACL can be based on. There are instances where a Council member will point out that there is another peer reviewed assessment that conflicts with the outcome of the SSC report. However, due to the Agency having interpreted National Standard 2's "best available scientific information" to unequivocally mean only the SSC's own data and analysis, if the Council were to approve an FMP that is based on a peer reviewed assessment it is almost certain that the Secretary will deny the FMP and reason that it is not consistent with National Standard 2. Interestingly, limiting science to the "best available" puts a low ceiling on scientific data. The end result is that rather than being presented with various methodologies and the pros and cons of each methodology, the Council only considers information from one source: research centers vetted by the SSC, including some

[3] To assist the Councils in carrying out the mandates of the Act, both Committees and Advisory Panels are to be created. Congress defines a Science and Statistical Committee ("SSC") as being responsible for assisting in "the development, collection, evaluation, and peer review of such statistical, biological, economic, social, and other scientific information as is relevant to such Council's development and amendment of any fishery management plan." MSA § 302(g)(1)(A).

government scientists. The result: decisions are often based on less than the best science. To correct this, the MSA Section 302(h)(6) could be rewritten to state:

> develop annual catch limits for each of its managed fisheries that are in accordance with the review process and requirements of the National Standards.

Another issue with National Standard 2 is the limiting and narrowly defined interpretation of "science." In its implementation the word "science" in the MSA has been interpreted as meaning primarily biological information. The economic and social science information about the impacts to the fishermen and fishing communities have gone to the way side and have not been significantly studied. If the purpose of the SSC is to provide all relevant scientific evidence to the Councils to aid the Councils in making their decisions, then how could the Councils possibly make sound and just decisions based on all the relevant facts about a fishery's total value, as Congress intended, if the Council does not have all the information? This is just another example of where the implementation of the Act falls short of Congress's intent.

The National Standard 2 science standard requires a detailed review. Recently, the National Academy of Science's National Research Council ("NRC") released a report on fisheries management and stock rebuilding plans. The NRC report focused on only a small part of the issue. Primary concerns relate to determining optimum yield in a transparent and balanced manner taking into account the present methodology for establishing ACLs, particularly proxies used to set reference points and the buffers that are contrived to prevent "overfishing." In a positive action, the New England Fishery Management Council created the Risk Policy Advisory Panel to begin to improve upon

the economic and social science measurements, this is a step in the right direction.

DISCUSSION: REWRITING THE MSA

In viewing MSA modifications, the tradeoff between desirability and feasibility is always paramount. The issues of feasibility and desirability often relate to cost and political correctness. It may not be politically correct to consider changing the "overfishing" definition but without doing so this balanced approach to implementing our National Standards and a science based fisheries management is not a reality. The discussion issues below should be used as a partial agenda and starting point for a national debate on MSA improvement.

A. National Standards 1, 8, and 10 Must be Combined, Amended, and Balanced

Congress must assert that National Standard 10 is superior to all other concepts in the fishery management system. Human safety in the fishing industry cannot be compromised. Congress reasonably intended National Standard 10's mandate to "promote the safety of human life at sea" to be the most important of the ten National Standards in the MSA. MSA § 301(a)(10). Surely no one can argue that ensuring the safety of our Nation's fishermen who risk their lives to provide healthy food is of the utmost importance. Rewriting the MSA to incorporate human safety into National Standard 1 is necessary to ensure that safety is superior to both conservation of the resource and socio-economics when developing and implementing FMPs.

In order to properly balance National Standard 1 and National Standard 8 and clearly indicate its intent to factor in socio-economic impacts when setting ACLs, Congress must combine the two standards into one National Standard 1. By combining

the standards, National Standard 8 will have greater force and effect and result in the needs of the fishing community being a centerpiece of the MSA. In order to effectively combine the two standards the adoption of new objectives is necessary.

National Standard 1 needs to be modified in language and practice to take into account optimum yield and to provide, or be based on, a realistic interpretation of "overfishing." The term "overfishing" is a misleading and discriminatory term that has been misconstrued as evident by its pejorative nature and its scientific imprecision. The origin of the pejorative aspect of "overfishing" relates to the false assumption that all declines in fish stocks owe to fishing when in fact there are other causes such as climate change and pollution impacts. However, over the years the term has been narrowly and incorrectly construed to relate depleted populations solely to the effects of fishing. This in turn makes the term discriminatory in nature because it implies that if a stock is not healthy, the fishermen are to blame. To accurately reflect all the factors that impact a fishery, the term "overfishing" should be replaced with a cause-neutral term such as "stock decline."

From the point of view from scientific precision, the term "overfishing," is scientifically equivocal and ambiguous. For the term "overfishing" to be used as scientific concepts it has to have a precise meaning similar to the temperature of boiling water being fixed at 100 degrees Celsius. The theoretical models used to define "overfishing" do not correspond with data and would require that the defining models exhibit maxima to make an "overfishing" declaration however, these maxima do not generally exist. Additionally, there is no unique definition of "overfishing."

"Overfishing" can mean both growth overfishing and stock overfishing, but in both instances the individual using the term is using it in two different ways. Furthermore, theories not following equilibrium settings but real stock are almost never in equilibrium. Lastly, theories of "overfishing" ignore the ocean environment and species-to-species interactions, both of which are critical sources of variation.

First, consider the requirement to attain MSY for every stock. Many fisheries in the United States are multiple species fisheries. In other words they consist of several or many species simultaneously. It is impossible to adapt to a management regime that requires MSY simultaneously for each species in the fishery. Interestingly, the situation where a fishery is required to take two species simultaneously is not sustainable, but a fishery that takes one stock at its MSY and another or several stocks at a fraction of MSY is sustainable.

Second, consider the fact that the difference between yield, or fishing mortality, or biomass between an overfished and an underfished stock can be negligible, thus reducing to absurdity the "overfishing" concept as a practical tool. Let us say that we have two stocks A and B. The B_{msy} of stock A is 100 and the B_{msy} for stock B is 50. Let's say that in scenario 1, stock A biomass is 99 and stock B biomass is 49. Let's say that in scenario 2, stock A biomass is 101 and stock B biomass is 51. Then the fishery under the first scenario is doing well. But under the second scenario both stocks are overfished and would require a ten-year rebuilding program. On top of this, the yield for the underfished stock (scenario 1) is materially no different than the yield for the overfished stock (scenario 2) (recognizing this point is justification for the mixed stock exception).

Third, economists and optimization experts will recognize the reconfigured National Standard 1 as adapting to a well-defined and well-known programming problem. Maximizing an economic function of yield satisfies the socio-economic component of the standard. Replacing "overfishing" with keeping fishing mortality below a particular level has the same function as setting F_{msy} except that the council would have more flexibility and discretion in setting the "overfishing" level. The added utility of this approach is that it is easily adaptable to the reality of multiple species fisheries.

B. National Standard Two

National Standard 2 needs to be amended to have real force and effect. Good scientific practice is when decision makers are presented with multiple analyses and the pros and cons of each analysis. For fisheries management to follow good scientific practice, the Councils must be presented with multiple scientific analyses and an analysis of the pros and cons of each analysis. The SSC should have increased input on various scientific methodologies and particularly data collection taking particular account of cost effectiveness. At present, the Council considered for each stock one assessment method "recommended" by the SSC and sets catch limits based on those assessments. The SSC "recommendations" are presented to the Council and due to the political culture, the Council follows the "recommendations." In effect the SSC is setting catch limits. The role of the SSC needs to be reconsidered so that the SSC can focus more on scientific methodology, presenting all relevant assessments, even if from outside the SSC, to the Council, and less on setting catch limits, which is the Council's function.

The rational for increasing Council responsibility relates to the level of understanding of fish-population dynamics. In actuality, predictive understanding of fish population dynamics is limited. Put another way scientific understanding is limited. Because of the limitation in scientific understanding, it makes sense to weigh more heavily on the competence of the Council, using information from the SSC, to set catch limits.

Additionally, in order to put teeth into the "best science" dictum, stocks need to be assessed on an annual basis, or at least on a more frequent basis than they are currently being completed. Stock assessment should concentrate on the simplest methodologies and provide for technologically advanced methodologies for gathering real time data. Lastly, scientific leadership within the Agency needs to be rewarded for innovation. Rewarding innovation ensures that the best science available is used and that there is incentive to improve upon analysis and processes. The main conclusion is that putting teeth into National Standard 2 requires institutional reform.

C. Proposed National Standards as Rewritten

The Ten National Standards should be combined and incorporated into five tenets which will allow for a scientific based fishery management system that balances conservation and sustainability for the fisheries, and the people who, and the port communities that comprise the industry.

These Five National Standards should be rewritten as follows:

REWRITTEN NATIONAL STANDARDS

(a) IN GENERAL.—Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the following equally paramount national standards for fishery conservation and management:

(1) Conservation and management measures shall, promote the safety of human life at sea. Conservation and management measures shall maximize yield (or some economic function of yield) subject to the constraint of keeping fishing mortality at or below a level specified by the Council. Conservation and management measures shall, take into account and balance the importance of fishery resources to fishing communities with fishing mortality goals, by utilizing economic and social data that meet the requirements of National Standard (2), in order to (A) provide for the sustained vitality of such communities, and (B) minimize adverse economic impacts on such communities.

(2) Conservation and management measures shall be based upon the best scientific information available. The best available science shall be derived by a collaborative effort of government, educational institutions, and private and non-profit scientists coordinated by NMFS and NMFS's regional SSCs. The best scientific information available shall be determined by the Council after a comprehensive review of multiple analyses and the pros and cons of each analysis, as presented by the SSC in conjunction with other fisheries scientists. Advanced technological mechanisms shall be utilized in every instance to gather and analyze samples and data.

(3) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. An individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. Conservation and management measures shall, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, account for and allow the bycatch to enter the marketplace.

(4) Conservation and management measures shall minimize costs and avoid unnecessary duplication. Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote

conservation and maximize yield as specified in National Standard 1; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

(5) Conservation and management measures shall consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

Condensing in a logical format into five interrelated standards will enable NOAA, the NMFS and the Council to more effectively implement the Congressional intent of MSA. Let the debate begin but let's have an honest debate as how to rewrite and reauthorize of this most important statute. The clear purpose of our efforts should be to ensure that the fisheries management system is effective, fair, transparent, and responsive to the ever changing natural environment and socio-economic needs of the fishing communities.

OTHER DRASTICALLY NEEDED IMPROVEMENTS IN THE MSA REWRITE

A. Congress must Clearly define What it Intends the Agency's Role to Be

Deference to the Agency on scientific matters needs to be reduced or eliminated. Under the MSA, the Secretary does not have the power to create FMPs. His or her power is limited to promulgating FMPs developed by the Councils after reviewing them only to ensure that they conform to the MSA. MSA § 304(a)(1)(A). Under the MSA, the National Standard Guidelines "shall not have the force and effect of law;" and therefore, are not enforceable as if they are statutory provisions or any other law. MSA § 301(b). However, the Secretary's power over the years seems to have increased. By evaluating whether or not the FMPs are approved, partially approved, or denied based on their conformity to the

National Standard Guidelines, the Secretary has essentially made the National Standard Guidelines mandatory.

The extension of NOAA's unchecked authority is illustrated by the fact that the few lines of National Standard 1 in the MSA have been expanded to thirty-five pages of acronym-dense material in the National Standard 1 Guidelines. In the National Standard 1 Guidelines, NOAA has stated that the relationship of National Standard 1 to other national standards is that "National Standards 2 through 10 provide further requirements for conservation and management measures in FMPs, but do not alter the requirement of National Standard 1 to prevent overfishing and rebuild overfished stocks." *See* 50 C.F.R. 600.310(l) (2009). Not only is NOAA's approach in conflict with the original intent of the MSA, it is also inflexible and does not give maximum discretion and flexibility to the Councils to balance the standards, as Congress intended.

The Secretary's role and power has increased and become much stronger than Congress seems to have intended, resulting in a top-down management regime where the local Councils have vastly less authority that what Congress intended. In the upcoming reauthorization of the MSA, Congress must clearly define and limit the reach of the Secretary and Agency's power and give the power back to the Councils as the primary body that develop FMPs because of their local knowledge and expertise.

B. The Adoption of Performance Measures

Performance measures need to be adopted and delivered in virtual real time. More effectively utilizing the SSC and creating multiple Committees may be one means to achieve this goal. By creating multiple committees, such as a socio-economic committee,

information about the economic and social science impacts to the fishermen and fishing communities will be studied and the Councils will have all relevant information about the fishery value and the trade offs between various fishery management measures.

In regards to the biological SSC, there are still many areas that can be improved upon. The biological SSC should increase stock assessments to an annual basis and include waste indicators, such as discards and underfishing, in its performance measures. The standard of frequency and thoroughness should be carried through to other Committees as they are created.

The adoption of real-time, frequent performance measures and annual stock assessments are a prerequisite to improving fisheries management performance. With real-time performance measures that cover all areas of science not only will the Councils have all relevant information, but they will also be able to make more informed decisions about how an ACL and FMP will impact the natural environment and the fishing industry's economy.

C. The Arbitrary Ten-Year Rebuilding Period Must be Amended

Under the MSA, the Council must develop a rebuilding plan for every overfished fishery and in doing so the Council must "specify a time period for rebuilding . . . that shall be as short as possible . . . and not exceed 10 years." MSA § 304(e)(4)(A)(i)-(ii). It is said that a Congressional staffer, not a scientist, established the ten year rebuilding time table by counting the fingers on his two hands. He could have just as easily counted his fingers and toes, but that approach would have produced a nonsensical, non-scientific result as well. The mandated ten year time frame is completely arbitrary and not based on

any scientific reasoning. Additionally, the cause of the stock depression may have nothing to do with fishing, so a cessation of fishing will have economic consequence but probably no effect on the fish stock. Perhaps the most ironic aspect of this is that the recent NRC report displayed the lack of science (contrary to National Standard 2's mandate) in a ten year rebuilding schedule, while virtually omitting a discussion of the effects of the ocean environment or the fact that it is not certain whether an "overfished" stock is in reality "overfished." Congress must rewrite this section to allow the Council to be able to have the ability to consider both biological and economic information to allow for the time frame for the rebuilding of stocks to be done on a case by case basis, based on scientific facts, rather than a rigid and completely arbitrary counting of fingers or toes.

D. Cooperative Research Must Increase

Revision of data collection is also needed. Emphasis needs to be on utilizing fishing boats as scientific laboratories to sample fisheries and oceanographic data. Government research vessels might be repurposed to collect data on climate change.

It is likely that fishermen and vessel owners would volunteer their time, equipment, and log books to participate in cooperative research if there was an incentive for them to do so. However, there are concerns about their economic state, and whether the data will be considered by the Council.

If their boat is allocated only so many days at sea, the fishermen must use those days to fish and bring income into their small business. Thus, in order to ensure that fishermen are not penalized economically for helping complete research, Congress must mandate funds to cooperative research and mandate the development of programs where

a fishermen's days at sea to harvest fish are not reduced or otherwise impacted by his or her aiding in research efforts.

As noted above, the Council receives limiting information. If there was a greater guarantee that research the fishing industry participates in and facilitates will be considered by the Council and Agency, then fishermen would certainly participate.

E. Congress Must Develop a National Scientific Working Group

A national scientific working group needs to be established to hear complaints and appeals. A separate small, independent agency that does not report to the executive office might be considered to provide oversight and checks and balances. A solution may be to create a division within the Inspector General's office that looks at managing the fisheries from a scientific and legal perspective.

F. Accountability for the Management Process

Mechanisms need to be developed to identify and improve underperforming entities. An independent audit committee should be established to evaluate NMFS efficiency in achieving the mandate of gathering the "best available scientific information" and utilizing the "best available science" to analyze the data and formulate conclusions which become the basis for FMPs. Such audits must include a review of both biological fisheries science and the science of socio-economic impact.

G. Congress Must Develop National Institutes

There is a need for National Institutes. Many of the recommendations for improving MSA are scientific or technical. It seems that because they are technical, they are subject to only brief and inadequate consideration. Brief and inadequate consideration

of technical issues will greatly constrain the quality of the reauthorization. The critical issues of fisheries management science need a national focus and national and regional programs. In order to motivate such an approach, NOAA might form several National Institutes to give adequate attention to developing new and innovative approaches to fisheries management. Potential institutes are: 1) fish management, population dynamics, and stock assessment; 2) ocean climate fish interactions, and; 3) fisheries economics.

CONCLUSION

It is necessary to observe again that extensive discussion on these important issues is required. If we do not have detailed, cooperative discussions we arrive at the lowest common denominator.

There are several points, mentioned in this paper, that not only need further formal research, but also must be discussed both locally and nationally with all stakeholders. Cooperation between all stakeholders, including the fishing industry, regulators, public, and environmental groups, must occur in order to improve fisheries management law. We must find a way forward and collaborate. The end result of the current MSA and fisheries management system is a seriously underperforming management system. Our management system cannot continue to underperform, the adverse consequences to our Nation's fishing resources and industry are too severe and likely permanent.