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Mr. Chairman, distinguished members of the Subcommittee, thank you for this opportunity to testify before your Subcommittee today to contribute to your oversight of the implementation of the Magnuson-Stevens Reauthorization. My name is Joshua Wiersma. This testimony is about the progress and ongoing challenges of transitioning to sustainable fisheries management in New England, and about what tools, resources, or statutory refinements might be necessary to improve conservation and management outcomes.

Background

I began working for the commercial fishing industry in New England in 2006 as an economist for the Massachusetts Fishermen's Partnership while I was finishing up my PhD field work in Gloucester studying fisheries economics. I learned quickly that fishermen are different from academics. To adapt, I became a fisherman-economist. As a fishermen-economist I espoused the benefits of tradable fishing

rights, LAPPs, fishing cooperatives and risk pools--but was also willing to question these ideas when the actual playing field didn't fit their applications, or when I started to meet fishermen who were going out of business who shouldn't be.

I worked at the Massachusetts Fishermen's Partnership between 2006 and 2009 just as the major changes in Magnuson like annual catch limits (ACLs), accountability measures (AMs), and sectors were being discussed and developed. After that, I was hired as a Resource Economist by the Northeast Seafood Coalition (NSC) in 2009 just in time to help organize New England fishermen into twelve harvesting groups, called "sectors".

To do this, fishing leaders were invited from different fishing regions though out New England for a year-long series of meetings. Together, we had to recruit and organize members, develop operating plans and harvesting strategies, complete environmental assessments, and completely overhaul the data collection and reporting infrastructure. What resulted from the series of meetings and workshops at the NSC was a network of twelve sectors (NEFS Sectors), varied by geographic region and gear type, but tied together through membership to the NSC and to another newly formed entity, the Northeast Sector Service Network (NESSN). The day after NMFS approved operations plans for the NEFS Sectors on April 30, 2010, I began work as the manager for two of these twelve NEFS Sectors (NEFS 11 and 12). NEFS 11 and 12 are official non-profit 501 (c) 5 entities. We have a board of directors comprised of commercial fishermen and fishermen's wives, and we have a set of by-laws that can be amended from time to time. My sector members are smaller day boat gill netters and small draggers, who generally make their living fishing inshore Gulf of Maine waters.

This is now my fourth year as manager for the New Hampshire sectors and things look much different today than they did when I first started. The fishing industry in New Hampshire and throughout New England is not OK today.

This testimony is based on my experiences helping to transition the northeast ground fish fishery to be sustainable through the creation and implementation of sector management. I will highlight some of our most important obstacles and challenges dealing with the new ACLs and AMs, and make specific references to New Hampshire. Finally, I will recommend changes to make the Magnuson act more flexible, so that it can better deal with and give guidance on complex bio-economic issues.

We took the largest step forward on our journey towards sustainable fishing the day NMFS approved our 2010-2011Final Operations Plans for sectors. Over fishing ended immediately, and we were now constrained to a hard ACL on 16 different ground fish stocks. Since then, fishermen and sector managers have been learning how to navigate through all of the new regulatory change and new reporting requirements intended to satisfy the new AMs and ACLs.

Fishermen have had much to learn, and have made great progress. Initially, they had to learn a completely new language based on ACLs and AMs, and spoken in terms of annual catch entitlement (ACE) and potential sector contribution percentage (PSC%). They had to start thinking about fish in terms of live lbs rather than landed lbs because ACE is allocated in live wt. The net effect for a species

like cod for example, is that a fisherman now lands 100 lbs of cod, but 117 lbs will be deducted from his allocation of ACE because it is converted back into live wt. at the docks.

This conversion is required. It is part of the accountability measures needed to ensure that the fishery stay under a hard ACL for that stock, which is calculated using the live weight estimates of a stocks biomass. To this day, I have to clarify to fishermen whether or not I'm talking in live or landed lbs. It makes a big difference. Fishermen also had to learn how to fish with zero regulatory discards. To me, this transition seemed the most natural to many fishermen. In fact, most fishermen will tell you that the worst part about effort controlled management was the legal requirement to discard perfectly good fish at sea.

Progress has been made on many fronts, and I will briefly describe some of the most important progress that I've seen in New England, and then relate that New Hampshire. But I should also caution that progress is very fragile, and we are by no means a stable, sustainable fleet right now. New tools are needed to give Magnuson more flexibility to deal with dynamic changes in the ecosystem that may cause havoc in one part of the ocean, but leave another part untouched. New statutes are needed to end arbitrary rebuilding timelines, and new resources are needed to help our fishermen and our communities become more professional as fishermen, as public educators, and as scientific partners.

Important Progress to Date

- Establishment of 17 sector groups throughout New England, whose membership represents approximately 99% of the total history of ground fish landings. In NH, our two sectors are comprised of 54 multispecies fishing permits, collectively owned by 36 individuals, who together represent 100% of the federal ground fishing industry.
- A market place for ACE trading has developed, both internal to sectors and between sectors.
 Trading allows us to maximize the value of our portfolio of allocated fish. In New Hampshire, fishermen prefer to buy and sell ACE with one another and to generally keep their fishing rights in New Hampshire. The rights of first refusal language written into our membership agreements give us an opportunity to do this.
- Fishermen are learning how to be much more selective at sea. Because we must stop fishing for all stocks if we run out of allocation of one stock, fishermen must utilize all of their combined ecological knowledge to help one another fish more selectively. In New Hampshire, I have seen much higher level s of information sharing and communications develop though the years.
- Data collection and reporting has transitioned from once a month to once a week. Accuracy and
 precision in landings has dramatically increased. My weekly reports are reviewed and
 compared to NMFS own weekly reports every week, and we often meet to reconcile even small
 differences.
- At sea data gathering, communication, and transmission are becoming much more advanced. Electronic Vessel Trip Reports (VTRs) are replacing paper VTRs, and fishermen are starting to use real time, wireless applications at sea to document by- catch hot spots. In New Hampshire, about half of our fishermen now use E-VTR, and we have entered into a pilot project with the

- Gulf of Maine Research Institute to test a by-catch reporting hot spot tool for harbor porpoise sightings.
- A series of both federally funded and private permit banks have been developed to coincide with sectors. Permit banks can have an impact of the price and availability of permits for fishermen, but can also benefit local communities and sector members if used to help keep traditional fishing permits in the community. In NH, our members have generally benefited from the existence of three separate permit banks—1) a state sponsored/NOAA permit bank run through New Hampshire Fish and Game, 2) a sector permit bank comprised of NH sector permits run by myself and my board of directors, 3) a "collaborative research" permit bank comprised of permits owned by the Nature Conservancy, who lease their ACE to fishermen that want to do collaborative research or fish more selectively.
- Risk pooling behavior has started to develop amongst sector members. For example, via sectors, two fishermen can effectively pool their allocations of low ACE species together to give both fishermen a better chance of catching more of another species. This type of behavior can be very informal, and can require nothing more than a phone call to tell me to say, "Hey Josh, Neil's going to fish off my Plaice this week in case he runs out, he may give me some black backs later..." These types of progressive behaviors are important for a fishery transitioning to sustainable. It essentially creates de-facto insurance policies for low quota fish—increasing the likelihood that ACL for these stocks will not be overfished.
- At sea monitoring increased to a high of 32% the first year of sectors, but has been hovering around 25% over the last three years. Still, this is an increase from 8% observer coverage in 2009. Fishermen have made much progress transitioning to at sea observers on their vessels, and have learned how to coordinate trips with observers through a robust system of pre-trip notification, developed to randomly assign observer coverage.
- Sectors as entities can receive creative financing and low interest loans to do important
 economic development and biological conservation work. For example, our NH Sectors received
 a grant to purchase 800 new generation acoustic deterrent devices called "pingers". We were
 able to partner on this purchase with NEFS 4 (the Gloucester Preservation Fund Sector), and the
 Gulf of Maine Research Institute through their GEARNET collaborative research program.
 Together, we purchased 4800 new generation pingers---enough to over haul the entire gill net
 fishing fleet. This has been the largest pinger purchasing program in the world to date.

New Hampshire Community Seafood Program

An increased awareness about local seafood and local fishermen is evolving. I believe the coordination and organization of sectors, which has allowed fishermen to come together more often as a group, also allows them to think of different and creative ways to add value to themselves and to their fishery. For example, in New Hampshire, we started a community supported fishery (CSF) called New Hampshire Community Seafood. Our intent was to highlight our fishermen, share their stories, but most importantly share our seafood direct from the boat to their plate. We have found that a tremendously receptive market for this, and not just for "high value" species like cod and haddock, but also for things like "day boat" dogfish and whiting—two traditionally low valued stocks.

In NH, we are trying to address the fishery crisis by increasing the recognition and appreciation of the interdependent roles that the fishing industry and the consumer play in our local ecological economy. In doing so, we hope to provide local fishermen a fair market for all the species they catch and to provide the consumer with access to a wide variety of fresh locally caught seafood throughout the year, better insight into the supply chain that brings seacoast seafood to their table, and direct input about the choice and diversity of fish they consume.

The cultivation and nurturing of this direct relationship between local fishermen with local consumers is intended to increase demand for local seafood, to promote community awareness and engagement in marine resource issues, and to support our local and regional economies through the preservation of the livelihoods of local fishermen and the supporting of shore-side support infrastructure.

Challenges

We have made significant improvements in transitioning to a sustainable fishery, but like I mentioned before, the challenges that we now face threaten to wipe away most of our progress. We can't have a fishery without fishermen. And we can't have a healthy ecosystem without fishing and without robust markets for all the fish that we catch. For example, the domestic market for spiny dogfish crashed in 1995 when the federal government completely shut down the fishery. Even though the stock has recovered to Marine Stewardship Certification standards, the domestic market never really recovered.

For the last three weeks fishermen who land dogfish in New Hampshire and Massachusetts have been unable to go to work. Dogfish processors are back loaded, and the European market has apparently crashed. So, just in these last three weeks, and even at 17 cents a lbs., the economic impact of this has already been in the millions of dollars to fishermen and their communities. This has especially affected the smaller inshore vessels, like mine, who annually depend on their inshore dogfish revenue this time of year to support their annual fishing plan. If fishermen can't land dogfish right now, they can't fish. Not much else gets caught in their nets now, and nobody wants to spend all day picking out fish just to throw them back.

This situation is so wasteful. Dogfish can be one of the most delicious fish in the ocean if processed correctly. If bled and iced at sea, their meat maintains a tremendous quality--white, firm and sweet. Our fishermen sell some of their "day boat" dogfish filets to our CSF members at \$12 per lbs. We call it "day boat" dogfish because of the special way it was pre-processed to preserve its freshness and quality. People tell us it might be their favorite fish now. And yet, on a global level no market exists. How is this possible?

I say this to highlight the importance of allowing both the industry time to adapt to new markets, and to highlight the importance of creating new markets for sustainable, healthy fish stocks, while we give time to some of the more critical ground fish stocks to recover. We need some time to educate our citizens about new markets, about new fish, and about new management. We need help promoting our brand as certified United States Sustainable. We need resources to help fishermen make the transition to

different markets or to transition to new technology and ultimately a new way of fishing, and of thinking about fish.

Here in NH, we have had a lot of support on our transition to a sustainable fishery. We are especially thankful to Senator Ayotte and Senator Shaheen for their continued bi-partisan support and recognition of the proud tradition of fishing in New Hampshire, and of the critical issues that we face here—especially as group of small family run businesses. Senator Ayotte has advocated for us since I've been manager, and has recently helped address the dogfish crisis by supporting an effort for New England fishermen to work with the USDA farm aid program to buy surplus supply. Senator Shaheen has also been very supportive of our New Hampshire fishing industry, and just recently was instrumental in appropriating much needed disaster relief money for our industry, which was declared a federal fishery disaster by the Secretary of Commerce last winter.

Still, we have a number of challenges ahead of us. If these challenges are not addressed via the reauthorization of Magnuson, I don't believe any of the progress we've achieved to this point will be sustained. The most important challenge has to do with the instability in ACL from year to year, and the inability of Magnusson to deal with changes in ACL that are orders of magnitude larger than what would have been predicted six years ago. Wild fluctuations in ACL from year to year have not protected the resource, and instead play havoc on the lease prices of ACE—sometimes distorting the ACE price so much that it costs more to go fishing than to stay home.

Specific Challenge Issues

- Rapid consolidation of the fishery. Consolidation is occurring at a rate that is not sustainable or
 healthy for either the community or the resource. Consolidation is a natural consequence of
 catch share programs, but it should be more gradual and at pace with true shadow value of
 fishing. Problems arise because extreme changes in ACL from year to year distort the true
 opportunity cost of fishing. In New Hampshire, the number of active fishing boats has
 consolidated down from 26 four summers ago to 4 this summer. This is a direct result of wild
 swings in the ACL from year to year.
- Rapid swings in the dynamics of ecosystems. We are experiencing a series of strange
 phenomena in the ocean that most fishermen contribute to abnormal environmental
 conditions. These rapidly changing conditions are more problematic under the confines of
 single stock management because fisheries managers are too constrained trying to maximize
 one stock at the expense of the group.
- Data collection, storage and management have to be in real time. We have been managing a
 hard TAC fishery with soft TAC data for four years. Information has to flow in real time from the
 vessel to the dealer, and from the dealer to the sector manager and government. It is
 tremendously inefficient to manage a real time fishery with week old data. Real time
 information about landings is critically important to improve efficiency, reduce transactions
 costs, and to gain certainty and traceability about catch that can be used as a new source of
 marketing and branding.

- Instable prices for seafood and high competition with imports. Catch share management is supposed to benefit fishermen by restoring some stability to seafood prices. Generally, this stability is supposed to result in higher prices and lower landings. However, when the year to year cuts in ACL are as high as 80% for a primary stock like cod, seafood buyers and processors will look elsewhere to take its place. Processors can now import a fileted cod product from Iceland and Norway; unfrozen, and delivered to their door the day after catch at a cheaper rate than if they bought it domestically. This trend can't continue.
- Non-transparent market for buying, selling, and trading ACE. Because ACE is not considered a
 property right of individual fishermen, the government does not have to track ACE trades on an
 individual level. Although this has provided some privacy benefits, it has also resulted in a
 marketplace with no central clearinghouse that fishermen can go to in order to gather
 information about ACE prices, or to lease, sell or trade ACE. ACE postings are generally done by
 email between sector managers, who then forward the information on to members.
- No plan for industry to pay for at sea monitoring. Fishermen in New England were supposed to pay for their own at-sea monitoring coverage starting in 2012 after the transition to sectors. This has yet to happen, in large part because of the continuous cuts and costs to fishermen associated with other aspects of sector management. Also, debate still exists as to whether we should be gathering more precise data or more accurate data. In terms of distributing costs more equitably, it is better to have more accurate data, as costs would then be proportional to landings—and hence less regressive.
- Fishermen are sacrificing their health insurance and their safety as a way to cut costs and continue to participate in this fishery. Only 10% of all active fishermen have ever completed a basic safety training course, when every study shows that it saves lives. We are losing a standard of professionalism and pride as fishermen, and that needs to be restored.

Current Status of the Fishery

It's been four years since sector management started, and the fishing industry has not exceeded the hard annual catch limit set for any of the 16 different ground fish stocks. In fact, contrary to public perception, the commercial fleet has remained at or below the target annual catch limits even prior to ACLs / AMs being implemented. Still, the results of stock assessments continually show that mortality goals are not being met, and as a result, estimated ACLs change by as much as 80 percent from year to year, and in the case of Pollock by 600 percent mid-year! Now our best scientists admit that they have very little faith in their current models to predict and forest future stock size. If we can't accurately predict stock sizes, we can't provide harvesting advice.

And now our best fishermen are exiting the fishery at an alarming rate, because even our best fishermen—the ones our nation needs fishing to serve as stewards of this resource—can't figure out how to make a business plan from year to year, and therefore can't figure out how much to invest in its future, or how much to invest in their families future. The reauthorization of Magnuson needs to provide tools to allow some level of sustained stability in management so that the fishermen stand a fair fight in the battle to consolidate or not—and so fish stand a fair fight in the battle to rebuild or not.

Recommendations to Improve Magnusson

- 1. Additional strategies should be added to the statute 304 (e) (4) that include a fishing mortality rate based strategy. Such a strategy for example, achieves by definition the two principle goals of the MSA—to prevent overfishing and to rebuild overfished stocks. But, it allows rebuilding to occur over a time frame that reflects prevailing ecological and environmental conditions.
- 2. The mandate to end over fishing immediately should be replaced with a more rational mechanism to end over fishing that would employ a "step down" or "step up" approach to achieving a new desired ACL. For example, if the change in ACL from an old ACL to a new "target" ACL is large, then the reduction (or increase) in ACL should be annually capped at some level not to exceed a 20% change from the previous year's ACL.
- 3. Multiple mandates to end or prevent overfishing have made it impossible to utilize tools like "mixed-stock exception clause" so that overfishing could continue on some stocks even if it means that the threshold criterion regarding rebuilding requirements may not be met. The statutory definition of fishery at MSA (3)(13) may provide a basis for future treatment of this issue so that the mixed stock exception could be used as intended—to allow the fishery and community to survive via healthy stocks while an unhealthy stock simultaneously rebuilds.
- 4. Expand collaborative fisheries research and management with a focus on making it more industry-driven. Research priorities should be set by close consultation with commercial fishermen, and renewed efforts to utilize existing and to integrate new data sets into traditional science and management models needs to occur. Collaborative fisheries initiatives need to be directly tied into stock assessments.
- 5. The fishing world operates as a bio-economic system, where management changes that affect the biology also affects our economy and changes our community. National Standard 8 requires managers to seriously consider these tradeoffs prior to policy. This does not often happen, as managers are always playing catch up to changes in the fishery and stock assessments, and economists are always playing catch up to changes in management and policy. The intent of Magnusson should be to protect both the resource and the resource user.
- 6. Require more safety training for fishermen prior to going to sea to participate in the most dangerous profession in the United States. Prioritize better health care and shore side support and aid for fishermen. Begin to transition our fishery to one that relies once again on professional, well-trained fishermen.
- 7. Re-prioritize our local seafood by establishing a National Sustainable Fishery Certification Program so that any fish caught in US waters by a boat participating under the strict rules of Magnuson is considered sustainable. United States seafood should be promoted as the gold standard for the world, and domestic markets have to be developed. Promote local markets

and branding efforts, and encourage the development of community supported fisheries where fish flows direct from local boat to local consumer.

- 8. Re-determine how cost recovery for at sea monitoring programs is recovered from sectors. Cost recovery for sectors should be based on the same 3 % level used for cost recovery in Limited Access Privilege Programs and be levied on individual sectors, not the fishery as a whole.
- 9. Information has to flow in real time from the vessel to the dealer, and from the dealer to the sector manager and the government simultaneously. Real time information about landings is critically important to improve efficiency, reduce transactions costs, trade ACE, manage quota, and to create certainty and traceability about catch that can be used as a new source of marketing and branding.

Thank you for allowing me the opportunity to testify before you today. It has been my honor. I sincerely appreciate your time and thoughtful consideration on these important issues related to transitioning to, and sustaining a sustainable fishery.