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Restoring Atlantic Fisheries and Protecting the Regional Seafood Economy

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Introduction

Good morning, Mr. Chairman and Members of the Subcommittee. I appreciate the opportunity to speak with you today about the restoration of Atlantic fisheries. My name is Paul Rago and I am the Chief of the Population Dynamics Branch for the Northeast Fisheries Science Center, within the Department of Commerce's (DOC) National Oceanic and Atmospheric Administration (NOAA). The National Marine Fisheries Service (NMFS) is dedicated to the stewardship of living marine resources through science-based conservation and management. Much of this work occurs under the Magnuson-Stevens Fishery Conservation and Management Act (*Magnuson-Stevens Act*), which sets forth standards for conservation, management and sustainable use of our Nation's fisheries resources. However, federal authorities are only one aspect of effective marine fisheries management. NMFS has a long history of working cooperatively and effectively with the States, Interstate Marine Fisheries Commissions, and Regional Fishery Management Councils on a variety of fishery management issues to ensure fishery resources are managed sustainably and for the benefit of the Nation. Science is the fundamental component to effective management and we plan to continue engaging with our partners to improve the science to sustainably manage these important resources. The two stocks under discussion today, striped bass and summer flounder, are representative of these effective partnerships to manage coastal fish populations that range over many jurisdictions. I will provide some background on the science that provided the basis for the management decisions that led to the rebuilding of these important stocks.

Summer Flounder

Status
Based on the most recent stock assessment update published in August 2015, the summer flounder stock is not overfished; however, overfishing is occurring. Stock biomass is about 25% above the biomass threshold while the current rate of fishing is about 16% greater than the overfishing threshold for this

stock. The decline in stock biomass can be attributed partially to a 4-year period of below average recruitment between 2010 and 2013. At the present time, the 2014 year class is about average. To offset the below average recruitment, prevent overfishing and avoid approaching overfished status the Mid-Atlantic Fisheries Council has determined it will be necessary to cut back on harvests. NOAA is currently developing the necessary management regulations to achieve this goal, which would apply in Fishing Years 2016 through 2018.

The summer flounder stock has been formally assessed 16 times since 1975, with 5 assessment updates and 9 status advisories in the intervening years. The current summer flounder stock assessment was peer-reviewed in 2013 and was updated this year using data through 2014. The summer flounder stock assessment utilizes information from a variety of sources and is widely considered to be one of the most robust stock assessments in the country. The broad dataset includes the Federal trawl survey data, as well as survey data from every state from Massachusetts to North Carolina, including cooperative research surveys.

Notwithstanding the strong scientific basis of the stock assessment, there is evidence of a consistent overestimation of biomass and underestimation of fishing mortality. Both of these patterns suggest an unobserved source of mortality on the population that could include under reporting of landings, underestimation of discards or increased natural mortality such as predators or disease. Scientists have not been able to conclusively determine the causes for these patterns.

Management

The summer flounder fishery is managed cooperatively by the states through the Atlantic States Marine Fisheries Commission (Commission) for state waters, and the Mid-Atlantic Fishery Management Council and NMFS for Federal waters. Management of the summer flounder fishery began through the implementation of a Summer Flounder Fishery Management Plan in 1988, a time when stock biomass was at its lowest levels since the late 1960s. The Mid Atlantic Council and Commission cooperatively develop fishery regulations, with NMFS serving as the Federal implementation and enforcement entity. Cooperative management was developed because significant catch is taken from both state (0 to 3 miles offshore) and federal waters ($\geq$3-200 miles offshore). The fishery management plan divides the total allowable landings between the commercial and recreational sectors, using a formula based on historical landings by each group. The basis for the total allowable landings is the stock assessment estimate of current stock size.

The commercial summer flounder fishery is managed with a limited entry program that restricts the number of Federal permit holders and a coastwide commercial quota that is divided among the states based on Council and Commission action in the early 1990s. The states then determine appropriate management measures for their fisheries, such as gear restrictions and possession limits. The recreational fishery is managed through a coastwide recreational harvest limit. Individual states set their own management measures (bag limit, size limit, season) based on the principle of "conservation equivalency". In the early 2000's, the Commission and Council established a process by which states, through the Commission, agree to have individualized management measures that, collectively, constrain landings to the recreational harvest limit. Until recently, the Commission utilized individual state recreational landings targets based on historical landings information. For the past few years, however,

the Commission has used a regional conservation equivalency approach that groups neighboring states and implements consistent measures throughout the region.

Effective management measures to restrict harvests in the 1990s led to a nearly 5 fold increase in spawning stock biomass of summer flounder within 15 years. In turn, the higher biomass has allowed higher overall catches and lower fishing mortality rates. Large stock sizes increase the chances of strong recruitment but do not ensure them. Hence it is vital to couple regular monitoring of resource condition with effective and sometimes painful management measures.

Striped Bass

Status

The 2013 Atlantic striped bass benchmark stock assessment indicated that the resource was not overfished or experiencing overfishing relative to proposed new reference points at that time. Although the stock was not overfished, female spawning stock biomass continued to decline since 2004 and was estimated to be just above threshold levels. Atlantic striped bass experienced a period of strong recruitment (number of age -1 fish entering the population) from 1993-2003, followed by a period of lower recruitment from 2004-2009. The 2011 year-class was abundant but recruitment has been average since. Projections of female spawning stock and fishing mortality from the 2013 assessment suggested that if the current fishing mortality rate was maintained, the probability of the stock being overfished (i.e. spawning stock less than the threshold) is high.

The 2015 stock assessment update, which included data through 2014, concluded that the stock was not undergoing overfishing and was not overfished. Although the stock is not overfished, female spawning stock has continued to decline since 2004 and is considered to be just above the spawning stock threshold, and below the target. Additionally, total fishing mortality is estimated at a value that is also between the threshold and target levels. These latest analyses indicates that even though the stock is not overfished and overfishing is not occurring, the spawning stock is approaching its overfished threshold and stock projections show spawning stock will likely fall below the threshold in the coming years.

Management

The story of Atlantic striped bass recovery is well known. The process was challenging, collaborative and not without its share of sacrifice by commercial and recreational harvesters. State and federal taxpayers contributed greatly to improving the underlying science and a systematic scientific program to identify and test hypotheses related to the decline of striped bass in the 1960s and 1970s, the stringent measures in the 1980s and the resurgence in the 1990s through today.

Through the Commission, coastal states have the principal management jurisdiction over Atlantic striped bass. To address the declines in this stock, in 1981, the Commission prepared a coast-wide fishery management plan for striped bass along the Atlantic Coast. The Striped Bass Conservation Act of 1984 (SBCA) was passed by Congress in response to declines in commercial and recreational striped bass harvest and lower production of juvenile striped bass. The SBCA authorizes the Secretaries of Commerce and the Interior to use a moratorium on striped bass fishing in states which fail to comply with the Commission's fishery management plan.

The Act allows the Secretary of Commerce (Secretary) to implement regulations regarding striped bass fishing in the Exclusive Economic Zone (EEZ). At the Commission's request, in 1990, the Secretary established a moratorium on the commercial and recreational striped bass fisheries in the EEZ. The moratorium remains in effect today, although possession of striped bass in the EEZ is allowed around certain areas of Block Island, RI, for vessels in transit that are not fishing. The SBCA also established continuing studies of striped bass populations. Due in large part to the successful implementation of the Act, the Atlantic striped bass stock was considered recovered in 1995. To give you a sense of the scale of the recovery, the striped bass population had declined to less than 5 million fish in 1982, but by 2007 there were nearly 56 million fish. In 2014, recreational anglers and commercial fishermen caught more than 2.5 million fish and these fishing businesses are a significant economic driver in coastal communities along the Atlantic coast.

The states and Federal Government manage Atlantic striped bass through the Commission. Specific striped bass issues are handled by the Commission's Striped Bass Management Board, which is comprised of representatives from the Atlantic States from Maine to North Carolina, D.C., the Potomac River Fisheries Commission, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The Commission develops fishery management measures and vets them through public comment, which includes a public hearing process. This public input informs the final decision making of the Striped Bass Management board, which must approve final measures through a majority vote.

In response to the results of the 2013 benchmark assessment indicating steady decline in the spawning stock biomass, the Commission's Striped Bass Management Board approved Addendum IV in October 2014. The Addendum establishes new fishing mortality reference points (target and threshold). In order to reduce fishing mortality to a level at or below the new target, the coastal states were required to implement a 25% harvest reduction from 2013 levels, and the Chesapeake Bay states/jurisdictions were required to implement a 20.5% harvest reduction from 2012 levels. These new management measures were implemented in 2015 and are expected to result in improvements in the stock. The 2015 Stock Assessment Update does not reflect these regulation changes so the Commission will review the status of striped bass again in 2016. The next benchmark stock assessment is scheduled for 2017.

The success with Atlantic striped bass served as a model for the Atlantic Coastal Fisheries Cooperative Management Act of 1993, which presented a new and innovative approach to coordinated management of coastal migratory fisheries along the Atlantic coast. The Act established a cooperative management process that includes the Commission, NMFS, and the U.S. Fish and Wildlife Service. This Act provides a similar mechanism to ensure Atlantic coastal state compliance with mandated conservation measures in Commission-approved fishery management plans. Federal partnership with the Atlantic States Commission has continued to advance efforts to improve sustainability, both in fisheries within state waters and fisheries that span state and Federal jurisdiction.

Conclusion

The recovery and successful management of both summer flounder and striped bass is a testament to long-term meaningful collaboration and cooperation among state and federal partners. Equally important

has been the investment in monitoring and research activities to ensure that the right data are collected and implemented in regularly updated stock assessments. Rigorous science requires intense external reviews of methodologies and continuous tests of alternative hypotheses. In this regard the assessments of summer flounder and striped bass have been exemplary.

Stock assessments combine the complexity of nature and our incomplete understanding of it with the even more complex aspects of human behavior and economic incentives. Effective partnerships enhance the quality of the science and its utility for management—but there is always room for improvement. We will continue to look for ways to improve efficiency, in particular with respect to data collection programs, to incorporate the most advanced statistical and mathematical methodologies, and to enhance communication and coordination among our partners.

Thank you for the opportunity to speak with you today and I would be happy to answer any questions.