

## ENDING OVERFISHING AND REBUILDING STOCKS

BY KATHY COLLINS

Under the 2006 reauthorized Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Regional Fishery Management Councils and the National Marine Fisheries Service (NMFS) are required to end overfishing of federally managed stocks through the establishment of annual catch limits (ACLs) by 2010 for all stocks experiencing overfishing and by 2011 for all others. They are also required to rebuild overfished fish stocks as soon as possible. The Councils are aggressively working to meet these deadlines.

During the past three decades, the U.S. Regional Fishery Management Councils have developed an array of fishery-specific management measures to prevent overfishing. The approach taken varies among the eight Councils, due in part to differences in their fisheries, data availability and monitoring programs, and enforcement capabilities. Widely used measures include commercial quotas, recreational harvest limits, minimum fish sizes, gear restrictions, limits on fishing effort, and open and closed seasons.

Overall, overfishing has been controlled in most federally managed U.S. fisheries. Of the 251 stocks assessed, 210 (84 percent) were not subject to overfishing, 41 stocks (16 percent) are subject to overfishing.

### BALANCING ACT OF FISHERIES MANAGEMENT

Although the Councils' primary goal in preventing overfishing is to make sure stocks are sustainable in the long term, they

must also consider the social and economic impacts of fishery management measures. The MSA imposes 10 National Standards for conservation and management of U.S. fisheries. National Standard 1 requires "conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield [OY] from each fishery for the United States fishing industry."

### NEW RULES IN PLAY

On February 17, 2009, a National Standard 1 guideline was implemented by the NMFS on how to comply with new MSA requirements to address overfishing. As shown in Figure 1, the new acceptable biological catch (ABC) control rule requires implementation of ACLs and accountability measures (AMs) into all Council fishery management plans and allows annual catch targets (ACTs) as a type of AM. Additionally, ACLs and AMs must be specified for each federally managed fish stock. The AM's purposes are to ensure the ACL is not exceeded, to address causes of ACL overages, to ensure overages don't occur in subsequent fishing years, and to address any biological harm to a stock (NMFS 2008).

The Scientific and Statistical Committee (SSC) of the respective Councils is tasked with recommending the ABC for each federally managed fishery in its geographic region. National Standard 2 of the MSA states that "conservation and management measures shall be based upon the best scientific information available." In

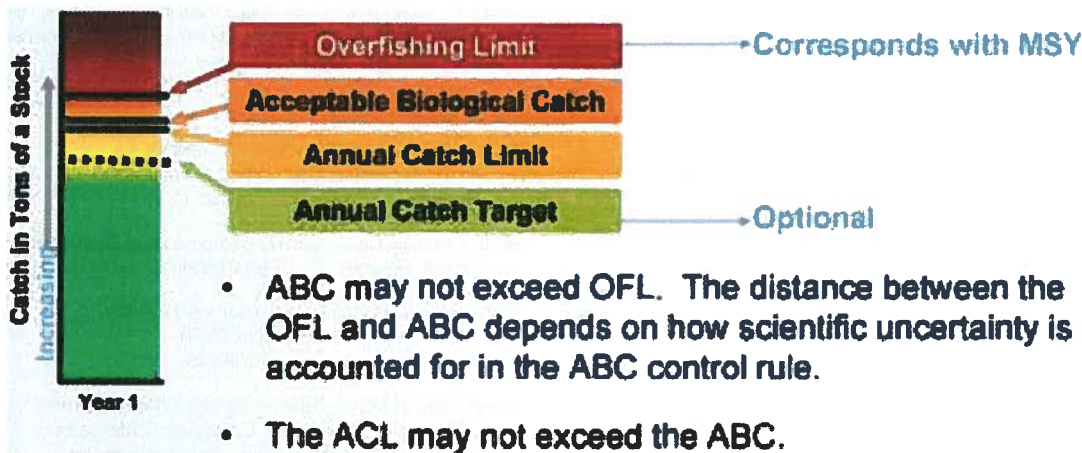


Figure 1. The new guideline for National Standard 1 of the Magnuson-Stevens Act incorporates control rules for overfishing that take into account scientific uncertainty.

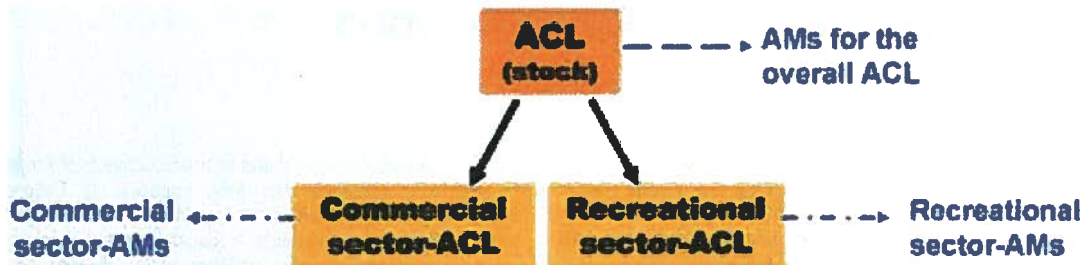


Figure 2. The Councils have the option of sub-dividing a stock's annual catch limit (ACL) and providing a portion to different fishing sectors.

some cases, the best available science may not be sufficient to accurately set ABCs. Scientific uncertainty includes the accuracy of a stock's estimated biomass, its MSY and level of overfishing. The SSCs must account for this scientific uncertainty when they propose ABCs.

The Councils are tasked with setting the ACLs, which cannot exceed the ABCs. The Councils, like the SSCs, must address uncertainties when setting the ACLs. Management uncertainties can be related to inadequate catch information due to errors or tardiness in reporting of landings and bycatch (*Federal Register* 2009). Management uncertainty can be addressed by comparing target catches and actual past catches to evaluate the differences. When developing ACLs, the Councils must also consider the risk of the stock, particularly to overfishing, and they may consider the stock's vulnerability, including its current status, gear used, habitat, and reproduction rates (Lenfest 2007).

The ACL should be specified for the entire stock and may have further divisions, for example, a federal ACL and a state ACL. The goal should be to develop collaborative conservation and management strategies with federal, state, tribal, and/or territorial fishery managers. The Councils have the option of also subdividing a stock's ACL into sectors, for example, a commercial sector-ACL and a recreational sector ACL.

**CREATING REBUILDING PLANS**

The reauthorized MSA specifies that, effective July 12, 2009, a Council shall prepare and implement a fishery management plan, a plan amendment, or proposed regulations to end overfishing immediately within two years of being notified that a fishery is overfished or approaching a condition of being overfished. It also calls for rebuilding of affected stocks of fish. The rebuilding time shall be "as short as possible" and "not exceed 10 years" unless biological or environmental circumstances or management under an international agreement dictates otherwise.

Rebuilding plans generally incorporate stringent management measures, which may include a prohibition on directed fishing or measures to reduce overall fishing mortality. A lower fishing mortality allows better survival and increased reproduction, which would be expected to result in increasing stock

abundance. If a stock is in a rebuilding plan and its ACL is exceeded, the AMs should include overage adjustments that reduce the ACL in the next fishing year by the full amount of the overage, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overage. This AM increases the likelihood that the stock will continue to rebuild. In some cases, however, rebuilding plans have failed, and reduced fishing mortality has not been sufficient to allow for improved productivity and recruitment due to environmental or other conditions. Moreover, even though a stock may no longer be overfished, it may not necessarily be successfully rebuilt to target levels of abundance (Figure 3).

**CONCLUSION**

It is critical that management systems prevent marine stocks from becoming overfished and prevent overfishing from occurring. The Regional Fishery Management Councils are committed to using science-based ACLs and AMs to prevent overfishing of fish stocks and to rebuild overfished stocks.

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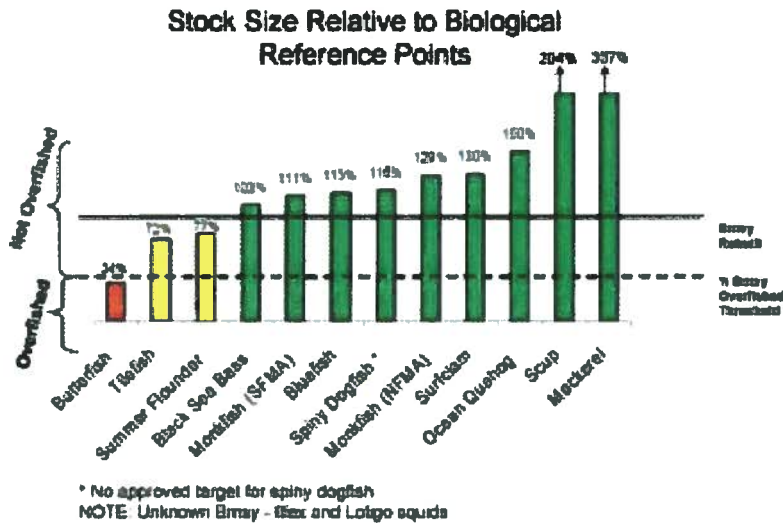


Figure 3. The Mid-Atlantic Council has successfully prevented overfishing in all of its managed stocks. One stock is overfished, and one stock, while not overfished, has not yet been rebuilt to target levels of abundance.

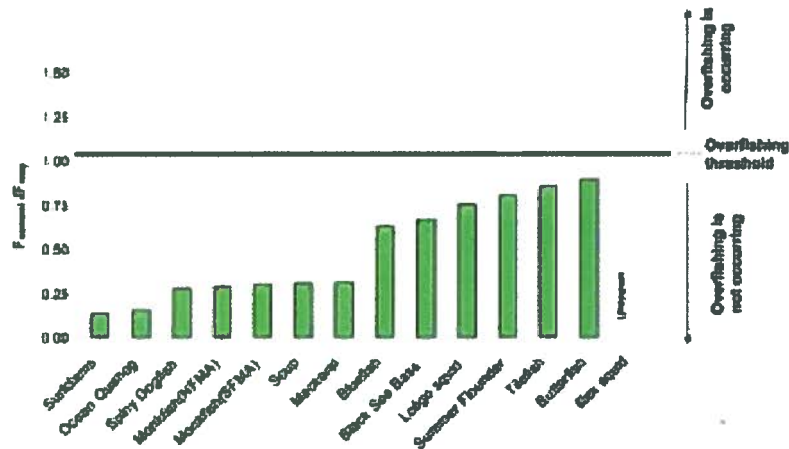


Figure 4. This graph of fishing mortality ratios for species managed by the Mid-Atlantic Fishery Management Council illustrates that overfishing is not occurring for any of the stocks.





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