

Atlantic States Marine Fisheries Commission

**ADDENDUM IV TO THE INTERSTATE FISHERY
MANAGEMENT PLAN FOR SPINY DOGFISH**



*ASMFC Vision Statement:
Healthy, self-sustaining populations for all Atlantic coast fish species or successful
restoration well in progress by the year 2015*

Approved August 2012

1.0 Introduction

At its February 2012 meeting, the Atlantic States Marine Fisheries Commission's Spiny Dogfish & Coastal Shark Management Board (Board) initiated an addendum to consider modifying the Interstate Fishery Management Plan for Spiny Dogfish (FMP) to: 1) allow greater than 5% spiny dogfish commercial quota rollover from one year to the next with Board approval and 2) update the spiny dogfish overfishing definition consistent with Technical Committee (TC) recommendations.

2.0 Overview

2.1 Statement of the Problem

5% Rollover Provision:

The FMP allows up to 5% of a state's or region's commercial allocation to rollover from one fishing year to the next, when the stock is above the biomass target. In the 2011/2012 fishing season, several states had more than 5% of their commercial allocation remaining when federal waters closed on January 13, 2012. These states petitioned the Board to consider rollovers in excess of 5% to allow full harvest of state allocations.

Overfishing Definition:

Since 2009, the Commission and Mid-Atlantic Fishery Management Council (MAFMC), who have management authority for state and federal waters fisheries, respectively, have been operating under different overfishing definitions. The MAFMC updated its overfishing definition in 2009 as part of Framework Adjustment 2 to the Spiny Dogfish Fishery Management Plan (Framework 2), while the Commission continued to use its original $F_{\text{threshold}}$ definition, as specified in the 2002 Interstate FMP, creating inconsistencies in the setting of annual quotas for state and federal waters. Updating the ASMFC overfishing definition is necessary to establish a consistent $F_{\text{threshold}}$ based on the best available science and to reconcile differences between the MAFMC and ASMFC reference points for this complementarily-managed species.

2.2 Background

5% Rollover Provision

Under Addenda II and III, 58% of the annual quota is allocated to states from Maine – Connecticut (Northern Region) and 42% divided into state shares for states New York – North Carolina. Overages to a region or state are paid back the following fishing season by the region or state responsible for the overage. States that are allocated an individual quota (NY – NC) are responsible for opening and closing their fisheries as best meets their needs. The payback provision is intended to hold a state or region accountable for harvesting more than their share. Additionally a state or region may rollover up to 5% of its unharvested quota to the next fishing season. For example, a state allocated 100,000 pounds in the 2012/2013 fishing season could rollover up to 5,000 pounds of unharvested quota into the 2013/2014 fishing season given the stock is above its biomass target.

The 5% quota rollover provision was included in Addendum III as a buffer to allow states to close their fisheries in a timely manner without losing access to quota. If a state does not harvest

its full allocation, it does not lose access if a small amount goes unharvested because its fishermen can land the remaining quota the following fishing season. Without a rollover provision, states may have an incentive to err on the side of harvesting slightly more than their share because they will lose any unharvested quota.

The 5% maximum rollover provision was carried over from the 2002 FMP which allowed for 5% rollovers by season (replaced by Addenda II & III regional/state allocations) when the stock is rebuilt. When taking final action on Draft Addendum III for Public Comment, the Board limited rollovers to 5% of a state’s final allocation (including transferred quota) to prevent states from stockpiling quota.

Specifically, Section 3.3 Quota Rollover of Addendum III specifies that:

A state or region may roll any unused quota from its final allocation (including transferred quota) from one fishing year to the next. The maximum total rollover may not exceed 5% of a state or regional allocation for the fishing year in which the under-harvest occurred. For example if a state’s final allocation is 1.5 million pounds and that state only lands 1 million pounds during the fishing season, the state may only roll 75,000 pounds (5%) into the subsequent fishing season.

For federal waters, the annual quota is distributed seasonally: 57.9% of the quota is allocated to Period I (May – October) and 42.1 % allocated to Period II (November – April). However, the fishery closes when the overall coastwide quota is harvested, independent of seasonal allocations. In other words, overages in Period I result in less dogfish being available during Period II causing a shift in the seasonal allocation. Due to a roughly one million pound Period I overage¹, Period II landings accounted for only 38.7% of the coastwide quota in the 2011/2012 fishing season (Table 1 & 2).

Table 1. Federal waters 2011/2012 seasonal allocation open dates, quota allocation (based on 20 million pound federal quota), landings and percent of landings (values provided in pounds). Landings Source: SAFIS Dealer reports queried on April 12, 2012 and personal communication with NC DMF.

	Open Dates	Quota Allocation	Landings	Over+/Under-	% of Landings
Federal Period I (May 1– Oct. 31) 57.9%	May 1 – Aug. 26, 2011	11,580,000	12,615,003	1,035,003	61.3%
Federal Period II (Nov. 1 – Apr. 30) 42.1 %	Oct. 1, 2011 – Jan. 13, 2012	8,420,000	7,953,446	-466,554	38.7%

¹ There was a roughly 1.3 million pound ASMFC Northern Region (ME – NY) overage in 2011/2012.

Table 2. State waters 2011/2012 regional allocation of quota, landings, and % allocation. Landings were queried on May 2, 2012. Source: Landings in Maine – Virginia during May 1 – December 31, 2011 are from the ACCSP data warehouse. Landings in Maine – Virginia during January 1 – April 24, 2012 are from SAFIS dealer reports. North Carolina’s landings are from a direct communication with North Carolina Department of Marine Fisheries staff.

Region/State	Landings	% Allocation	2011/2012 Allocation (Pounds)	Over+/Under- (Pounds) Negative Value Indicates Overage
Northern Region	12,504,506	58%	11,145,453	-1,359,053
NY	407,710	2.71%	538,698	+26,935
NJ	1,622,678	7.64%	1,521,170	-101,508
DE	30,670	0.90%	178,306	+3,915
MD	1,264,978	5.92%	1,228,091	+13,113
VA	2,236,660	10.80%	2,148,224	-88,435
NC	2,717,708	14.04%	2,738,552	+20,844

Overfishing Definition:

The spiny dogfish fishery is managed complementarily by the MAFMC and New England Fishery Management Council in federal waters (with MAFMFC taking the lead for federal management), and ASMFC in state waters. While the quota allocation schemes differ (seasonal in federal waters, regional in state), the process to set the annual quota is similar and includes a joint meeting between the ASMFC TC and MAFMC Monitoring Committee (MC). Each fall, the TC and MC review the best available science and make quota recommendations to the Board/MAFMC for the following fishing year’s quota. The first step to making a quota recommendation is to calculate a harvest level that coincides with the appropriate F rate ($F_{\text{threshold}}$, F_{target} , F_{rebuild} , etc).

In 2002, ASMFC adopted the MAFMC’s target, threshold, and rebuild fishing mortality rates in the ASMFC FMP. The FMP defines the F_{target} as “allows for the production [of] 1.5 female pups per female [that] recruit to the spawning stock biomass” and $F_{\text{threshold}}$ as “allows for the production of 1 female pup per female that will recruit to the spawning stock biomass”. F_{rebuild} is not defined in the ASMFC FMP but was defined in the MAFMC plan as “allowing for the production of 2 female pups per female that recruit”. Initial values were $F_{\text{target}} = 0.082$, $F_{\text{threshold}} = 0.11$, and $F_{\text{rebuild}} = 0.03$. These estimates were most recently updated in the Northeast Fisheries Science Center’s (NEFSC) 2010 Biological Reference Points for Spiny Dogfish Report to be $F_{\text{threshold}} = 0.325$ and $F_{\text{target}} = 0.207$.

In 2009, Framework 2 revised the MAFMC’s status determination criteria to define $F_{\text{threshold}}$ as “ F_{MSY} (or a reasonable proxy thereof) as a function of productive capacity, and based upon the best scientific information consistent with National Standards 1 and 2” and did not include an F_{target} value (full text in appendix). The August 2011 NEFSC’s Estimation of an F_{MSY} Proxy

Reference Point for Spiny Dogfish Report calculated F_{MSY} as 0.2439. From this point forward, the MAFMC and ASMFC plans have had inconsistent overfishing definitions.

Historically, F target and threshold definitions and values were immaterial because the ASMFC FMP specifies that the stock will be managed under $F_{rebuild}$ until spawning stock biomass (SSB) reaches the target. Accordingly, quotas from 2002 – 2008 were based on $F_{rebuild}$. The stock was declared rebuilt in late 2008 when SSB exceeded the target for the first time since the ASMFC began managing spiny dogfish.

The rebuilt status triggered consideration of quotas based on the F_{target} (or threshold) when the TC made recommendations to the Board for the 2009/2010 annual quota. The TC recommended the Board set the 2009/2010 quota based on $F_{rebuild}$ rather than F_{target} because of concerns surrounding the rebuilt determination, and the Board followed the TC's advice. In 2009, dogfish continued to not be overfished, but the TC again recommended a quota (for 2010/2011) based on $F_{rebuild}$ on account of concerns that the updated SSB estimates did not include updated estimates of key parameters, such as fishery selectivity and survival of pups. The TC noted that results from the Transboundary Resource Assessment Committee (TRAC) assessment would be available in early 2010 and the Board could increase the quota if the updated information allowed for it. The 2010 TRAC assessment updated key model parameters (including selectivity) and revised the F_{target} and $F_{threshold}$ (0.207 and 0.327, respectively).

The September 2010 Board meeting was the first time the TC gave full consideration to a quota based on F_{target} rather than $F_{rebuild}$. Previously, concerns about model parameters that may not reflect the current fishery, annual SSB increases that were biologically unlikely given the life history of dogfish, and a looming recruitment deficit payback prevented TC members from recommending a quota based on F_{target} even if the rebuilt status allowed for it. The 2010 TRAC provided F_{target} and $F_{threshold}$ values that the TC believed accurately represented the fishery for the first time since the stock was declared rebuilt. The TC recommended the 2011/2012 quota be based on 75% F_{target} (rather than the full $F_{threshold}$) because this amount allowed for a considerable increase in quota (5 million pounds or 25% increase) and minimized future SSB decreases.

In September 2011, the TC recommended a quota based on F_{MSY} (rather than the F_{target} as defined in the FMP) to calculate the 2012/2013 quota recommendation. The TC considered this approach to promote consistent quota recommendations between the MAFMC MC and the ASMFC TC. The MC is bound by the recommendations of the Science and Statistical Committee who set the acceptable biological catch as a reduction from F_{MSY} — the MAFMC's $F_{threshold}$. The TC supported use of F_{MSY} reduction because the approach would likely allow for consistent future quotas (as opposed to annual fluctuations).

In December 2011, the TC reviewed the ASMFC overfishing definition and recommended to the Board that it initiate an addendum to update the overfishing definition consistent with the best available science and MAFMC's $F_{threshold}$ definition. The TC noted that quotas are calculated using an F rate as a starting point and inconsistent $F_{thresholds}$ between the MAFMC and ASMFC add to the likelihood of inconsistent state and federal quotas for this complementarily managed species. Specifically, the TC recommended establishing a less rigid definition based on F_{MSY} or a reasonable proxy that allows for adaptive management based on the best available science

3.0 Management Program

3.1 Quota Rollover

The Board maintains the status quo: a maximum total quota rollover for any state or region may not exceed 5% of that state or regions final allocation (including transfers).

3.2 Fishing Mortality Threshold

The Board adopts the fishing mortality threshold to be consistent with the federal plan. The $F_{\text{threshold}}$ is defined as F_{MSY} (or a reasonable proxy thereof) and based upon the best available science. The maximum fishing mortality threshold (F_{MSY}) or a reasonable proxy may be defined as a function of (but not limited to): total stock biomass, SSB, total pup production, and may include males, females, both, or combinations and ratios thereof which provide the best measure of productive capacity for spiny dogfish. This definition is consistent with the federal Spiny Dogfish FMP. Currently $F_{\text{MSY}} = 0.2439$.

Overfishing is defined as an F rate that exceeds the $F_{\text{threshold}}$.

3.3 Fishing Mortality Target

The Board retains the authority to set an F_{target} based on the TC's recommendations. While the federal plan does not specify an F_{target} and quotas are calculated based on F_{MSY} , specifying an F_{target} can provide a level of catch that accounts for management and scientific uncertainty to help prevent overfishing. The Board is not required to specify an F_{target} and if specified, an F_{target} would apply to one fishing season only.

The TC will annually make an F_{target} recommendation when it develops quota. The Board is not required to implement the TC recommended F_{target} and can choose to not specify an F_{target} instead.

4.0 Compliance

This Addendum will provide future clarification and flexibility only. The measures are not anticipated to require states to change their current regulations. This Addendum is, thus, implemented upon approval, August 2012.

Appendix

Overfishing Definition from Framework Adjustment 2 to the Spiny Dogfish Fishery Management Plan:

The maximum fishing mortality threshold is defined as F_{MSY} (or a reasonable proxy thereof) as a function of productive capacity, and based upon the best scientific information consistent with National Standards 1 and 2. Specifically, F_{MSY} is the fishing mortality rate associated with MSY . The maximum fishing mortality threshold (F_{MSY}) or a reasonable proxy may be defined as a function of (but not limited to): total stock biomass, spawning stock biomass, total pup production, and may include males, females, both, or combinations and ratios thereof which provide the best measure of productive capacity for spiny dogfish. Exceeding the established fishing mortality threshold constitutes overfishing as defined by the Magnuson-Stevens Act.