

# Timing of Accountability Measure-Based Seasonal Closures

## Draft Scoping Document

April 2014



*149<sup>th</sup> Caribbean Fishery Management Council Meeting*  
*April 22-23, 2014*  
*St. Croix, U.S. Virgin Islands*



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# Chapter 1. Introduction

## 1.1 What is Scoping?

Scoping is the process the National Marine Fisheries Service (NMFS) and the Caribbean Fishery Management Council (Council) use to request feedback from the public on actions they may undertake that will result in changes to the management of federal fisheries in the U.S. Caribbean. During scoping, NMFS and the Council identify possible fishery issues and their potential impacts and discuss management options to address these issues. Scoping is the first opportunity for the public to make suggestions or raise issues to the Council before a fishery management plan (FMP) or an amendment to an existing plan is developed.

## 1.2 How does Scoping Affect Fisheries Management?

The Council uses public comments provided through scoping in the development of management options. Once they develop the management options, the public hearing process will begin, and the public will have the opportunity to comment on the management alternatives included as options. The Council will consider public input as it deliberates and chooses the most appropriate management alternatives.

## 1.3 How to Get Involved?

There are many ways you can help the Council. One way is to identify fishery management needs and develop reasonable management alternatives. The first step to getting involved is to become familiar with the management process by visiting <http://www.caribbeanfmc.com/>. Contact the Council members and staff to discuss your questions or concerns. The public may also attend meetings and serve on panels and committees that advise the Council on fishery issues. For more information on how to participate, please call 787-766-5926.

### *Caribbean Fishery Management Council*

- Responsible for conservation and management of U.S. Caribbean fish stocks.
- Consists of seven voting members:
  - Four voting members appointed by the Secretary of Commerce
  - One voting member appointed by each of the Governors of Puerto Rico and the U.S. Virgin Islands
  - The Regional Administrator of NMFS for the Southeast Region
- Manages the area from 3 to 200 nautical miles (nm) off the coasts of the U.S. Virgin Islands, and 9 to 200 nm off the coast of Puerto Rico.
- Develops fishery management plans and recommends regulations to NMFS and the Secretary of Commerce for implementation.

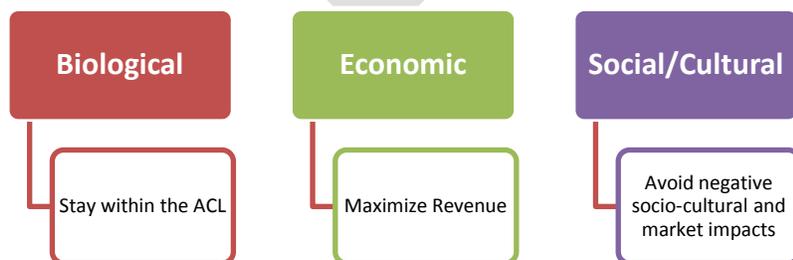
## 1.4 What Action is Being Proposed?

In U.S. Caribbean federal waters, accountability measures (AMs) require NMFS' Assistant Administrator to shorten the length of the fishing season if it has been determined that prior year(s) landings exceeded the annual catch limit (ACL) for a fishery management unit (FMU). The fishing season would be shortened in the year following an overage determination by the amount necessary to constrain landings to the ACL. These AM-based reductions in the length of the fishing season, for any FMU for which the ACL has been exceeded<sup>1</sup>, are implemented beginning on December 31<sup>st</sup> of the appropriate year and extending backwards in the year for the number of days necessary to achieve the required reduction in landings. For example, the fishing season of 2013 was shortened for several units that exceeded their ACL based on an average of landings of previous years. Accountability measures were triggered to reduce the length of the fishing season in the 2013 fishing year by the amount necessary to ensure landings do not again exceed the ACL.

In 2013, the commercial sector of Snapper Unit 2 in Puerto Rico, the recreational sector of wrasses in Puerto Rico, triggerfish and filefish (commercial and recreational) in St. Croix, spiny lobster (commercial and recreational) in St. Croix, and groupers (commercial and recreational) in St. Thomas/St. John had AM-based closures during that year (FR 78 18247).

Fishers have expressed to the Council that the timing of these closures results in negative socio-economic impacts, for example, when a closure affects their Christmas holiday market. To address this issue, the Council is proposing to develop a mechanism that allows them and NMFS to establish closure dates other than the standard end of the year closures in the event of an overage of the ACL for a specific group of species.

The intention of this Scoping Document is to gather ideas that promote the discussion on ways to develop that mechanism considering the goals of remaining within the ACL and lessening the socio-economic impact of AMs (Figure 1.4).



**Figure 1.4.** Biological, economic, and socio-cultural goals of the proposed action.

<sup>1</sup>Accountability measures apply to all species except queen conch, prohibited corals, and species with harvest moratoria (e.g., goliath and Nassau grouper). Additionally, if NMFS determines the ACL for a particular unit has been exceeded because data collection and monitoring improved, rather than because catches actually increased, the length of the fishing season for the applicable FMU will not be reduced the following fishing year.

## Purpose for Action

The purpose of this action is to develop and establish a mechanism that would consider economic and social effects in the protocol to set the timing of accountability measure (AM)-based closures. The ultimate goals of this action are to remain within the corresponding annual catch limits (ACLs) and minimize socio-economic impacts.

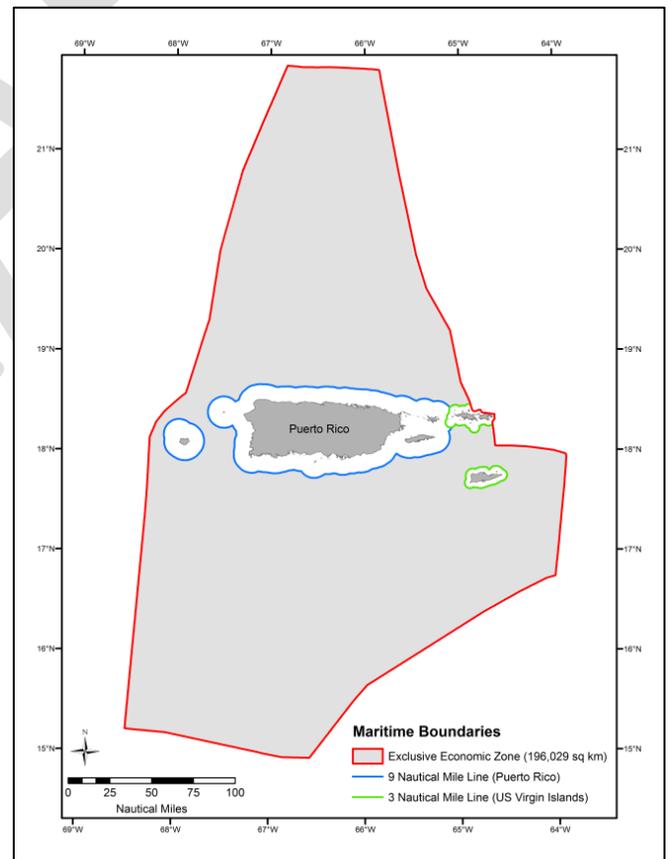
## Need for Action

There is a need to establish a policy and create an environment that provides NMFS and the Caribbean Fishery Management Council with closure options other than the default end of the year closure in the event of an ACL overage, thus lessening the socio-economic impact of AMs to fishers.

The purposes of this Scoping Document are to 1) identify the issue(s); 2) solicit input from the public on ways to deal with the issue(s); and 3) provide means of addressing the identified issue(s) (there could be several ways).

## 1.5 Where is the Project Located?

Fishery resources in federal waters of Puerto Rico and the U.S. Virgin Islands (USVI) are managed by the Council under four extant FMPs: Reef Fish, Queen Conch, Spiny Lobster, and Corals and Reef Associated Plants and Invertebrates. Federal waters in the U.S. Caribbean consist of those waters extending from the nine nautical mile (nm) (17 kilometers (km)) seaward boundary of the Commonwealth of Puerto Rico and the three nm (6 km) seaward boundary of the Territory of the USVI out to 200 nm (370 km) offshore (Fig. 1.5).



**Figure 1.5.** Jurisdictional boundaries of the Caribbean Fishery Management Council, Puerto Rico, and the USVI.

# Chapter 2. Consideration of Approaches to Establish Accountability Measure-Based Seasonal Closures

## 2.1 Overview

In 2013, the Caribbean Fishery Management Council (Council) established a committee (Ad Hoc Committee) to specifically evaluate options for choosing closure periods to apply accountability measures (AMs) that would be more socially and economically advantageous to the fishermen. This committee was composed of representatives from the U.S. Virgin Islands (USVI) and Puerto Rico fishery sectors and representatives from the Council and the National Marine Fisheries Service (NMFS). For this purpose, the Council's economist prepared a general model (i.e., "Seasonal Choices Model") that evaluated different closure options considering the principal goals of the action: stay within the corresponding annual catch limits (ACLs) and minimize socio-economic impacts. This model was presented to the Ad Hoc Committee as well as to Council members, the Council's Scientific and Statistical Committee (SSC), and the Advisory Panel (AP) as a tool that could be used to address the issue at hand.

With respect to the "Seasonal Choices Model", Council members and meeting attendees at the 147<sup>th</sup> Council meeting held in August 2013, expressed the need to get fishers involved in the process to select

potential AM-based closure dates, and to consider that the model is only one component of the process for selecting these dates. Factors such as revenue maximization and least amount of days that a species/species group can be closed are very important to the fishermen. In November 11-14, 2013, the Council's SSC reviewed the model and provided suggestions for improvements. The AP also had the opportunity to review the model and provide feedback on several occasions. The "Seasonal Choices Model" developed by the Council is an option considered in this scoping document as a tool to assist in the selection of potential closure dates.

At the 148<sup>th</sup> Council Meeting held on December 11-12, 2013, the Council requested staff develop an action to establish a mechanism that would consider economic and cultural effects in the protocol to set the timing of AM-based closures. The objectives of this action are 1) to evaluate and consider potential mechanisms to choose AM-based closure dates; 2) to set a new process (if a new mechanism is chosen) to follow when AMs are triggered; and 3) to add a new policy into the Council's fishery management plans (FMPs) to guide when AM closures are implemented consistent with provisions of the framework.

## 2.2 Possible Approaches for the establishment of AM-Based Seasonal Closure

There are several approaches that the Council could consider to evaluate and eventually establish a mechanism to guide the selection of AM-based seasonal closures. These are listed below. It is important to note that this list is not all-inclusive and it would greatly benefit from public input as this is the purpose of this scoping process. Scoping hearings on this subject will be held at pre-determined dates and places in the near future. After the scoping process, the Council will propose actions and alternatives to develop an amendment to the four extant Council FMPs of Puerto Rico and the USVI: Reef Fish, Spiny Lobster, Corals and Reef Associated Plants and Invertebrates, and Queen Conch. The Council will consider the implications of the proposed actions and alternatives with respect to environmental and social consequences, and as appropriate will promulgate the regulations necessary to effect the chosen approach.

### 1) Default AM-Closure Date

The Council could choose to take no action, thus the AM-based closures would continue to be implemented beginning on December 31<sup>st</sup> of the appropriate year and extending backwards in the year for the number of days necessary to achieve the required reduction in landings.

### 2) “Customized” Process/Mechanism

This approach would change the default AM-closure date (closures start from

December 31<sup>st</sup> going backwards). This procedure to set the timing of the closures would consist of performing an analysis every year for those units that exceeded the ACL over the average of a chosen number of years, and choosing the best date to close the season for the next year based on that specific analysis. The analysis to use could be the “Seasonal Choices Model” discussed above or some other method chosen by the Council and approved by its SSC.

### 3) “Upfront” Timing Approach (Pre-Determined AM-Based Closure Dates)

This approach would also change the default AM-closure date but in a different way than the “Customized” Process/Mechanism. This approach would consist of a one-time pre-determination and establishment of closure dates (e.g., start or end date) for all Council fishery management units (FMUs) (or alternatively apply the analysis to a selected group of FMUs) and implement through rulemaking. The start or end date would not have to be the same for each FMU.

The Council could base the selection of pre-determined closure dates for FMUs on any number of considerations, for example:

- Choosing a date or dates that occurs at or near the beginning of the year
- Choosing a date or dates (end or start) that occurs at or near the middle of the year
- Choosing a date or dates that occur near the end of the year, noting that a date at

the end of the year is the “no action” alternative

- Avoid periods when economic, cultural, and biological considerations take precedence (e.g., Christmas, Lent, spawning seasonal closures).
- Use components of the “Seasonal Choices Model” to explore potential dates based on economic, social, and cultural factors.
- Use any other method pre-selected by the Council.

## **DISCUSSION**

Regardless of the approach chosen, the Council could also choose to determine how often the selected approach should be revisited, for example, every year, every three years, every five years, etc. Other considerations when developing the approaches could include:

- Minimal overlap in closure dates among FMUs
- Consider yearly fishing patterns to look at ways to minimize the impact of AM-based closures
- Apply the same approach or use a different approach for every FMU
- Other than selecting the best closure dates based on analyses, are there any other factors to consider selecting one closure date vs. another?
- Choose end closure dates instead of start dates
- Consider changing the current federal fishing year to avoid closures occurring

in economically and culturally important periods

### Default AM-closure Date

As discussed in Section 1.4, the current approach of closing the season from December 31<sup>st</sup> backwards has been identified by fishermen as having negative social and economic effects. One disadvantage of the current approach is that if several units exceed their ACL during the same year and AMs are required, the resultant closures overlap for at least some period of time, negatively affecting fishermen particularly in the multispecies fishery of the U.S. Caribbean. Also, closing the season from December 31<sup>st</sup> backwards results in the fishery being closed during the culturally and economically important Christmas season. On the other hand, AM closures that start in this default date guarantee that the time needed to account for the exceedance of the ACL can be fully accomplished during the year.

### “Customized” Approach

In this approach, the Council with input from the public could make decisions as needed regarding the best closure dates for those units that exceeded their ACL. Although this approach would provide annual flexibility when applying AMs, it has several caveats that could make it unfeasible given the time it would take to implement this approach each year for which AMs must be applied. The revised landings data (for the previous year) that are needed to make the closure determinations are usually not available until late in the following year. For example, the management year in

federal waters runs from January 1 through December 31, while the fishing year in the USVI runs from July 1 through June 30. This creates delays in the availability of the landings data needed to make AM closure determinations. Although the fishing year in Puerto Rico runs from January 1 through December 31, delays in the availability of the data are also common.

In addition, there are other components of the regulatory process that would need to take place to implement closure dates through this approach, further reducing the feasibility of this approach. Regulatory processes that would need to be considered in this “Customized” approach are: 1) the timing of Council meetings for decisions and approval each year; 2) the amount of time needed for creating and publishing proposed rules; 3) the time needed for public comment; and 4) the time needed to prepare and publish the final rule implementing the closure dates. These requirements would not allow a closure to be implemented in time for it to be effective by the start of the next fishing year. This may not be in the best economic interest of the fishery and may prevent the timely implementation of required closures.

#### “Upfront” Approach

The “Upfront” approach would involve pre-setting dates for potential AM closures for all or some FMUs, as selected by the Council. These pre-selected dates could be

revised as needed, but this would not be an annual process. As mentioned above, in this approach the Council may consider several different options to set the closure dates. Because these closure dates would be set in advance, it is impossible to know how long a season would need to be closed to account for an ACL overage. For this reason, the Council may want to select end dates instead of start dates to avoid having the season closed during important periods such as holidays and spawning seasonal closures. The Council could also choose to exclude from the potential suit of closure dates, periods of time, such as the ones mentioned before, that have been determined not to be socio-economically advantageous for fishermen.

Tools such as the “Seasonal Choices Model” also could be used to guide decisions about closure dates. The “Seasonal Choices Model” is a Microsoft Excel based model that uses past commercial landings and other information to identify the relative value of each date to the fishery with regards to economics, ecology, and culture. For example, the model could be used to identify a closure period that reduces or eliminates conflicts with holidays, price peaks, or spawning closures while still achieving the necessary harvest reduction, thereby ensuring achievement of optimal yield while preventing overfishing. For more information about the “Seasonal Choices Model” please see Appendix A.



For information about dates and locations of Scoping Meetings, please contact the Caribbean Fishery Management Council  
Phone: 787-766-5926; Website: [www.caribbeanfmc.com](http://www.caribbeanfmc.com)

# APPENDIX A

## Overview of the “Seasonal Choices Model”

The “Seasonal Choices Model” is an Excel based model that uses past commercial landings and other information to illustrate how a future fishing year might best be structured to ensure maximum cultural and economic yield while preventing overfishing of the target resource. There is a different “Seasonal Choices Model” developed for each island/island group and each species/species group. Each year, each “Seasonal Choices Model” is updated with revised landings data and holiday schedules. The model uses the average of the last three years of daily commercial landings and commercial ex-vessel revenue data from trip reports (when available) to create a picture of what the next year (on a daily basis) might look like. It is important to note, that fishing trip cost data are not currently collected and therefore, ex-vessel revenue data are used as a proxy for fishermen profits (ex-vessel revenue less fixed and operating costs).

With regard to determining a closure, the model first determines if the average of the total of the last three years of commercial landings data indicate an exceedance of the ACL. Second, the model calculates how long the default closure (starting at the end of the year and counting backward) would need to be to reduce the landings by the number of pounds the ACL was exceeded on average over the past three years. Thirdly, the model calculates how long a

closure would have to be, to achieve the required harvest reduction. The model does this for each and every day of the year. All closure options present a scenario where the ACL is adhered to. Each closure option has an ex-vessel revenue loss associated with it. The revenue loss is calculated by adding together the daily ex-vessel revenue that occurred on average over the past three years during the time of the closure (for each day of the year). Fourth, the model ranks the closure options by the least ex-vessel revenue loss.

The ex-vessel revenue results are displayed alongside the number of days the closure lasts, start and end dates of the closure, a listing of biological information pertaining to those dates (e.g., spawning aggregations), economic information (e.g., historical price fluctuations and market changes), and social and cultural events that affect markets for fish (e.g., festivals). This information is gathered from biologists, fishermen, and community members and is displayed in order to make Council members and others aware of the effect that a closure might have on markets and communities. In this way, the Council may conclude that while a high ranking closure option might satisfy biological (adhere to ACL) and economic (maximize profitability) goals, it could disrupt fish markets or community life and result in more severe economic and social effects than predicted.

For these reasons, the socio-cultural information is very important and will change over time. It is important that the

socio-cultural information is island-specific and that fisherman and seafood industry contributions to this category of data are incorporated.

Some things that the model does not incorporate *directly* include: 1) weather events (due to lack of predictive capability, 2) effort increases that might occur before or after a closure, and 3) changes in market demand due to a closure in a previous year.

One important aspect of Council discussion regarding the “Seasonal Choices Model”

concerned the consideration of effort shifting to harvest other species that are not experiencing a closure. Effort shifts may occur regardless of how the required AM closure is established or when it goes into effect. Decision-makers will likely try to predict how a closure might result in effort shifts to other fisheries. That information could be used to attempt to distribute closures to minimize negative biological and socioeconomic effects. Fishermen input will be particularly helpful in making these decisions.