

Purpose

The Fisheries Reform Act of 1997 requires the division to prepare FMPs for adoption by the Marine Fisheries Commission for all commercially and recreationally significant species or fisheries that comprise state marine or estuarine resources. The goal of these plans is to ensure long-term viability of these fisheries. Each plan shall:

- a. Contain necessary information pertaining to the fishery or fisheries, including management goals and objectives, status of the relevant fish stocks, stock assessments of multi-year species, fishery habitat and water quality considerations consistent with the Coastal Habitat Protection Plan, social and economic impact of the fishery to the state, and user conflicts.
- b. Recommend management actions pertaining to the fishery or fisheries.
- c. Include conservation and management measures that prevent overfishing, while achieving, on a continuing basis, the sustainable harvest for each fishery.
- d. Specify a time period, not to exceed 10 years from the date of the adoption of the plan, for ending overfishing and achieving a sustainable harvest. This requirement only applies to a plan for a fishery that is overfished and does not apply to a plan for a fishery where the biology of the fish or environmental conditions make ending overfishing or achieving a sustainable harvest within 10 years impracticable.

Sustainable Harvest

The concept of sustainable harvest is central to the FMP process and is defined as the amount of fish that can be taken from a fishery on a continuing basis without reducing the stock biomass of the fishery or causing the fishery to become overfished.

Definition of the Management Unit

The management unit includes the bay scallop (*Argopecten irradians*) and its fisheries in all waters of coastal North Carolina.

North Carolina Bay Scallop Fishery Management Plan Advisory Committee

Commercial

Eugene Ballance – Ocracoke

Recreational

John Speicher – Emerald Isle

Scientists

Troy Alphin – Wilmington

Stephen Fegley – Morehead City

Dennis Spitsbergen – Morehead City

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North Carolina Division of Marine Fisheries Bay Scallop Fishery Management Plan Amendment 2



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The FMP Process

This document provides information concerning an upcoming fishery management plan (FMP) amendment for bay scallops. The initial N.C. Bay Scallop FMP was approved by the N.C. Marine Fisheries Commission in 2007. There was an unscheduled Amendment 1 to the Plan in 2010 which dealt with harvest triggers. It is now time for a legally-required five year review. This amendment will be developed by the N.C. Division of Marine Fisheries, with the aid of an advisory committee (AC) consisting of representatives from the commercial and recreational fishing sectors, and the scientific community.

The draft FMP amendment will include a list of issues associated with the fishery and possible solutions to resolve those issues. As this draft is completed, there will be AC meetings held to discuss these issues as well as provide the public an opportunity to comment. The division and the AC will then review and incorporate comments received, as necessary, and produce a final draft of the FMP amendment. A series of public meetings will be held to invite public review and comment on the final draft prior to adoption by the Marine Fisheries Commission. Public hearings will be held to obtain comment on proposed rules to implement the final FMP recommendations.

Goal and Objectives

The goal of the Bay Scallop FMP is to implement a management strategy that restores the stock, maintains sustainable harvest, maximizes the social and economic value, and considers the needs of all user groups.

To achieve this goal, it is recommended the following objectives be met:

1. Develop an objective management program that restores and maintains sustainable harvest;
2. Promote the protection, restoration, and enhancement of habitats and water quality necessary for enhancing the fishery resource;

3. Identify, enhance, and initiate studies to increase our understanding of bay scallop biology, predator/prey relationships, and population dynamics in North Carolina;
4. Investigate methods for protecting and enhancing the spawning stock;
5. Investigate methods and implications of bay scallop aquaculture;
6. Address social and economic concerns of all user groups;
7. Promote public awareness regarding the status and management of the North Carolina bay scallop stock.

Stock Status

Bay scallops (*Argopecten irradians*) are estuarine-dependent mollusks found in grass beds. Bay scallops are a hermaphroditic (contain both sex cells) bivalve, which mature and spawn in a year. Their lifespan is only 12-26 months. In North Carolina, bay scallops spawn predominantly from August through October and again in March through May. The larvae go through several swimming stages before attaching to a suitable substrate such as seagrass. Upon reaching a size of approximately 1 inch (20-30 mm), bay scallops drop to the bottom. Although other benthic structures can be utilized for attachment, bay scallops utilize seagrass beds almost exclusively, and are therefore highly dependent on this habitat for successful recruitment. Bay scallops are filter feeders and feed on bottom algae. Predators of the bay scallop include cownose rays, blue crabs, starfish, whelks, and herring gulls.

North Carolina bay scallop stocks are listed as **concern**¹, because of low abundance levels (Figure 1). They are considered an annual crop; therefore, there is no stock assessment. Bay scallops are traditionally harvested using dredges, dip nets, or by hand, in Core, Back and Bogue sounds, in the lower portion of New River, and in eastern Pamlico Sound.

¹ Stocks designated as **concern** are those for which an assessment is incomplete or unavailable, that show increased effort and landings, or that have truncated distribution. The bay scallop has been classified as a species of concern or depleted since 2000.

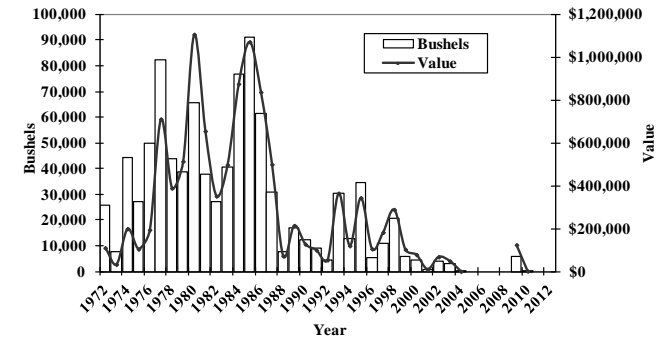


Figure 1. North Carolina bay scallop commercial landings (bushels) and value (dollars), 1972-2012.

* Landings are confidential for 2004 and 2010, less than 100 bushels harvested.

Current Management

Harvest cannot be opened unless at least 50 percent of the fishery independent sampling target index is reached for a region. Harvest triggers (minimum levels at which harvest could be allowed) are set at 50 percent, 75 percent and 125 percent of the target index within each water body (Pamlico, Core, Back and Bogue sounds and all areas south of Bogue Sound). If opened, the season can only occur from the last Monday in January through April 1 and there are daily harvest limits set for the commercial and recreational fisheries at each harvest trigger. No harvest has occurred in the past two years due to the scarcity of scallops.

Management Issues

Management recommendations for restoration and maintaining sustainable harvest of bay scallops are the most important issues to be addressed in the amendment. Management options such as season and area closures, examination of trigger levels, harvest methods and trip limits will be considered. Research on bay scallop culture and stock enhancement is also needed. Recent management issues include impacts of hand harvest versus dredge harvest and examining options for private leaseholders.