



Streamlined Fishery Management Plan Documents

An overview of the division's efforts to streamline and make efficiencies in fishery management plan documents

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

Marine Fisheries Commission | Catherine Blum | Aug. 16, 2018



Requirements for Fishery Management Plans

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Fisheries Reform Act of 1997

Management of North Carolina's coastal fisheries is largely governed by this law, which revamped the state fisheries management process by:

- Mandating fishery management plans for significant species
- Requiring the Coastal Habitat Protection Plan
- Restructuring the Marine Fisheries Commission
- Implementing a new license structure



Fishery Management Plans

- A comprehensive document that guides management of coastal fishery stocks with the goal of ensuring the long-term sustainability of those stocks
- Includes informational background sections, review of substantive issues, determination of management strategies and measures, and identification of research needs
- Based on a stock assessment, when applicable



Roles and Responsibilities

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Roles and Responsibilities: Division of Marine Fisheries



- State agency, under the N.C. Department of Environmental Quality, responsible for managing the state's coastal fishery resources
- Works in partnership with the Marine Fisheries Commission
- Prepares fishery management plans with the assistance of advisory committees for adoption by the commission
- Implements supporting rules and policies



Roles and Responsibilities: Division Plan Development Teams

- Consist of co-lead scientists, a stock assessment scientist, and other division staff with technical and scientific expertise and knowledge of the fishery, including licensing and statistics, enforcement, habitat enhancement, protected species, and fisheries management
- Prepare all documents and serve as a contact for the public for all activities related to the plan



Roles and Responsibilities: Co-Lead Scientists

- Division subject-matter experts and key contacts for the public regarding management issues and fishery management plan development
- Attend each advisory committee meeting and assist the chairman with the meeting administration
- Prepare meeting materials and minutes



Roles and Responsibilities: Fishery Management Plan Advisory Committees

- Assist the division with development of fishery management plans
- Comprised of commercial fishermen, recreational fishermen and scientists, all with expertise in the fishery for which the plan is being developed



Roles and Responsibilities: Marine Fisheries Commission

- Chairman appoints advisory committees, as well as the committee chair and vice-chair
- Approves state fishery management plans and adopts implementing rules



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Fishery Management Plan Documents

- The document can take several forms:
 - Original plan
 - Five-year review
 - ❑ Amendment (management changes)
 - ❑ Information update (no management changes)
 - Supplement
 - Implementation of Adaptive Management: Revision
- Annual review of every state plan also undertaken, including for interjurisdictional species



Fishery Management Plans Must: (G.S. 113-182.1)

- End overfishing within two years of final adoption of a plan*;
- Achieve a sustainable harvest within 10 years of final adoption of a plan*;
- Include management options that have at least a 50 percent probability of achieving a sustainable harvest*;
and
- Be reviewed at least once every five years.

* *Unless the division director determines the biology of the fish, environmental conditions or lack of sufficient data makes implementing the requirement incompatible with professional standards for fisheries management.*



Fishery Management Plans Completed and Lessons Learned

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Inventory of Completed Fishery Management Plan Documents

Fishery Management Plan	Original	Amendments	Information Updates	Supplements	Revisions
Bay Scallop	✓	2			
Blue Crab	✓	2			1
Estuarine Striped Bass	✓	1			1
Hard Clam	✓	2			
Interjurisdictional	✓	1	1		
Kingfishes	✓		1		
Oyster	✓	4		1	
Red Drum	✓	1	1		
River Herring	✓	2			
Shrimp	✓	1			
Southern Flounder	✓	1		2	
Spotted Seatrout	✓			1	
Striped Mullet	✓	1			
TOTALS	13	18	3	4	2



Contents of Current Fishery Management Plan Documents

- List of existing plans, statutes, and rules
- Life history of species
- Characterization of the fisheries
- Socioeconomic section
- Environmental and habitat considerations
- Principal issues and management options
- Management strategies
- Research recommendations
- Stock assessment included as appendix



Reasons for Changing Fishery Management Plan Documents

- All plans from priority list are complete
- Address stakeholders complaints about process:
 - Not easy to follow
 - Perceived as delaying management actions
 - Lengthy
- Improved technology available to readily disseminate information on division website



Reasons for Changing Fishery Management Plan Documents

- Limited biological staff to create documents due to a more than 40 percent reduction in funds since 2010 and ever-increasing demands on staff, including:
 - State legislative mandates
 - Federal management tasks
 - Data requests
 - Expanding survey programs



Reasons for Changing Fishery Management Plan Documents



Program
Lead

Staff
Supervisor

Grant
Writer

Equipment
Procurer

Data
Analyst

Problem
Solver

Species Leads Wear Many Hats

Division
Rep. to
Other
Agencies



FMP PDT
Lead

Proclamation
Reviewer

Field
Researcher

Public
Educator

Scientific
Writer

Technology
Innovator

Objectives for Changing Fishery Management Plan Documents

- Achieve a more efficient fishery management plan with improved understanding of the plan.
- Pinpoint management issues that are based on sustainability of the resource.
- Balance flexibility with structure for management.
- Use photographs, color printing, text boxes, and other elements to help documents be reader-friendly, create visual interest, and highlight key components.
- Work towards increased reliance on annual plan updates satisfying statutorily-required review of existing state plans, in lieu of complete overhaul of plan every five years.



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Changes in Contents of Streamlined Fishery Management Plan Documents

- Focus on management issues that are based on sustainability of the resource, in support of management strategies, not “housekeeping” or non-resource based issues.
- Cite other existing documents instead of duplicating information, such as the Coastal Habitat Protection Plan, stock assessment, and pertinent regulations.
- Synthesize socioeconomic factors within the characterization of the fisheries.
- Clearly demarcate the management in place at the start of the plan review from management implemented as a result of the amendment being adopted.
- Visually “package” fishery management plan documents to be more interesting, relevant, and readable.

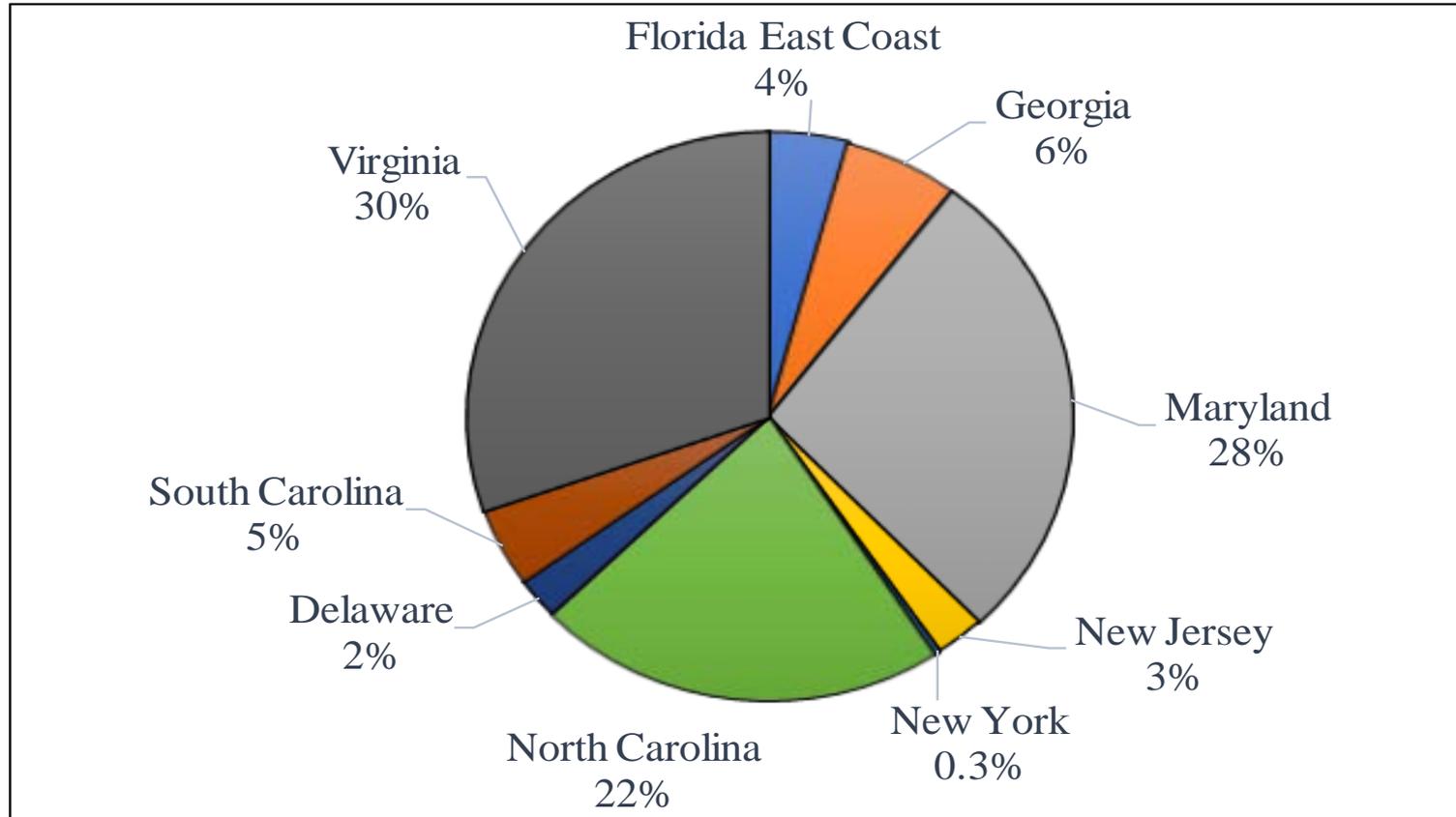


Streamlined Fishery Management Plan Documents



Streamlined Fishery Management Plan Documents

Average contribution to U.S. Atlantic coast blue crab landings by state, 1950-2016.



Streamlined Fishery Management Plan Documents

FISHERY MONITORING

NCDMF monitors commercial landings and fishing effort through a trip ticket program. Through this program, NCDMF collects information about commercial fishermen's harvest (i.e., what it is, where it was caught, how it was caught, and how much was caught) from licensed seafood dealers. NCDMF also conducts economic research pertaining to North Carolina and Atlantic coastal fisheries resources using information from the trip ticket program and mail surveys.

A more in depth analysis and discussion of North Carolina's commercial and recreational blue crab fisheries can be found in earlier versions of the Blue Crab FMP (NCDMF 1998, NCDMF 2004, and NCDMF 2013; all documents are available on the NCDMF website at:

<http://portal.ncdenr.org/web/mf/fmps-under-development>) or the License and Statistics Annual Report produced by the division which can be found at:

<http://portal.ncdenr.org/web/mf/marine-fisheries-catch-statistics>.

Commercial Fishery

Blue crab supports the largest and most valuable commercial fishery in North Carolina, accounting for landings of 27.8 million pounds with a dockside value of \$26.9 million in 2016 (Table C1). North Carolina has historically accounted for approximately 22 percent of annual Atlantic coast blue crab landings since 1950 (Figure C1).



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Description of the Fishery

Annual real dockside value of commercial blue crab landings averaged \$27.7 million from 2007 to 2016 (Table C2). Annual real dockside value reached a high just under \$34.0 million in 2015 and a low of \$21.3 million in 2011.

Real dockside price per pound of blue crabs (annual real dockside value divided by annual commercial landings) average \$0.98 per pound from 2007-2016 (Table C2). Dockside price per pound reached a low of \$0.71 per pound in 2011 and a high of \$1.35 per pound in 2013.

Table C2. North Carolina commercial blue crab landings and value, 2007-2016.

Year	Harvest	Real Dockside Value	Real Dockside Price per Pound
2007	21,424,960	\$21,431,954	\$1.00
2008	32,916,691	\$27,555,386	\$0.84
2009	29,707,232	\$27,428,995	\$0.92
2010	30,683,011	\$26,543,791	\$0.87
2011	30,035,392	\$21,282,264	\$0.71
2012	26,785,669	\$22,806,937	\$0.85
2013	22,202,623	\$30,006,447	\$1.35
2014	26,230,965	\$32,300,940	\$1.23
2015	32,134,501	\$33,987,383	\$1.06
2016	25,459,475	\$24,112,716	\$0.95
Average	27,758,052	\$26,745,681	\$0.98



Changes in Contents of Streamlined Fishery Management Plan Documents

- Trimmed down sections
- “Global” information included across plans, for consistency
- Focused management issues
- Photographs
- Color charts and graphs
- Text boxes
- Concise tables
- Citations to reference documents



Conclusions

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Conclusions

- The key to successful management under the Fisheries Reform Act is to base management decisions on sound scientific data and analysis.
- The new streamlined fishery management plan document format more effectively disseminates to the public the rationale for the science-based management strategies.
- A healthy resource fairly and equitably benefits all user groups.





Questions?

