



**Strategic Plan
for the Conservation and
Improvement
of North Carolina's
Marine Resources
through Funding from the
Coastal Recreational
Fishing License**



Updated May 8, 2013

Executive Summary

In 2005, the N.C. General Assembly enacted N.C.G.S. § 113-175, which requires those who harvest finfish recreationally in state coastal waters to purchase a fishing license. Revenues from license sales are deposited into two funds, depending upon the type of license: the N.C. Marine Resources Fund and the N.C. Marine Resources Endowment Fund. The legislation directs that the funds will be used “*to manage, protect, restore, develop, cultivate, conserve, and enhance the marine resources of the State.*” Furthermore, the state treasurer will disburse these revenues “*only upon written direction of both the Marine Fisheries Commission and the Wildlife Resources Commission.*”

To guide management efforts and research to be funded by the license, Division of Marine Fisheries staff developed the Strategic Plan for the Conservation and Improvement of North Carolina’s Marine Resources through Funding from the Coastal Recreational Fishing License. The plan identifies three broad management goals: Fish, Habitat Enhancement, and People. Objectives and strategies are identified to achieve each goal. As with all management plans, the plan is a working document that will be modified as objectives are accomplished and priorities change. Activities identified under plan goals include:

Fish- Biological research and surveys that provide crucial information on the abundance and characteristics of fish stocks, harvest rates, and other information necessary for developing and implementing fishery management plans. Specific project examples include: sampling juvenile and adult stages of recreationally important fishes, expanding the Division of Marine Fisheries creel survey program to estimate fish harvest, and implementing studies designed to estimate the contribution of recreational anglers to the State’s economy.

Habitat Enhancement- Activities related to identifying, protecting, managing, conserving, restoring, enhancing, and mapping critical aquatic habitats, including implementation of the Coastal Habitat Protection Plan recommendations. Specific project examples include mapping of vital aquatic vegetation beds by aerial photography or acquisition of wetlands adjacent to fish nursery areas.

People- Activities related to public outreach and education, and improving public fishing and boating access and angling opportunities. Specific project examples include boating access areas, fishing piers, expansion of the artificial reef program, and public education programs on marine resource conservation.

Revenues from the saltwater fishing license improve the Division of Marine Fisheries’ abilities to manage coastal recreational fisheries. Wildlife Resources Commission Division of Inland Fisheries staff work cooperatively with Division of Marine Fisheries staff to evaluate proposed projects and recommend those to the Wildlife Resources and Marine Fisheries Commissions that will meet marine resources management and research priorities.

I. Introduction

A Coastal Recreational Fishing License statute was enacted by the N.C. General Assembly in 2005 (N.C.G.S. § 113-175) and the requirement for licenses began on January 1, 2007. The license is required to recreationally harvest finfish in the state's coastal fishing waters, which include sounds, coastal rivers and their tributaries, out to three nautical miles in the ocean. Recreational anglers who catch fish in the ocean further than three nautical miles offshore are required to have this license to land fish in state waters. Persons fishing in joint fishing waters (areas managed by both the Marine Fisheries Commission and the Wildlife Resources Commission) are required to purchase either the Coastal Recreational Fishing License or a Wildlife Resources Commission inland fishing license.

The law establishes the N.C. Marine Resources Fund and the Marine Resources Endowment Fund to provide monies for the enhancement of the marine resources of the state. The Marine Fisheries Commission and the Wildlife Resources Commission are authorized to jointly disburse these funds *to manage, protect, restore, develop, cultivate, conserve, and enhance the marine resources of the state*. All proposals to the Marine Fisheries Commission and Wildlife Resources Commission for these funds are to be made through the Division of Marine Fisheries' director. It should be noted that this plan is a working document subject to change or modification as objectives are met and priorities are adjusted.

II. Goal

The overall goal for the use of funds is *to manage and enhance the marine resources of North Carolina based on sound science and strategies*. This plan sets forth a framework of objectives and strategies to meet this goal. The plan provides the basis upon which to evaluate and select proposals for Coastal Recreational Fishing License funds. The objectives and strategies described have been compiled based on priority research needs in fishery management plans approved by the Marine Fisheries Commission, issues identified in the [Coastal Habitat Protection Plan](#), and needs identified cooperatively with other state and federal agencies. [The Research Priorities for the N.C. Division of Marine Fisheries document](#) is scheduled for annual reviews which will occur in April.

III. Program Areas

There are three important programmatic areas under which strategies have been proposed to achieve the goal:

- A) Fish: Biological research and surveys that provide crucial information on the abundance and life history parameters of fish stocks, social and economic factors affecting abundance levels, interdependence of fisheries or stocks

of fish, and other data necessary for developing and implementing fisheries management plans.

- B) Habitat: Activities related to protecting, managing, conserving, identifying, restoring, enhancing, and mapping critical aquatic habitats; including implementation of the Coastal Habitat Protection Plan recommendations.
- C) People: Activities related to public outreach and education, and improving public fishing access and fishing opportunities.

Division of Marine Fisheries' data collection programs are more extensive than most, if not all, other East Coast states, but data gaps remain. As a result, a major area of emphasis will be to ensure that fisheries-independent (e.g., sampling of fish populations by Division of Marine Fisheries staff) and fisheries-dependent (e.g., Marine Recreational Fishing Statistics Survey) sampling programs adequately and sufficiently represent the target species and fisheries and the resultant data are accurate and unbiased. Implementation of the provisions of the Coastal Habitat Protection Plan directly addresses the statutory charge to identify, protect, restore, and enhance critical fish habitats in order to provide the substrate and water quality necessary to maintain our fisheries at healthy and productive levels. Enhancing public fishing access to coastal waters and conservation education programs will build public confidence in the benefits of the Coastal Recreational Fishing License.

FISH

Management and Science

The following objectives (in no order of priority) are established to improve fishing through the collection and use of sound science.

Objective 1

Estimate fishing effort, catch, harvest, bycatch and mortality of important coastal fish species

Fishery management plan development and stock assessments require information and data from both recreational and commercial fisheries. Precise estimates of recreational fishing effort, catch, harvest, bycatch and mortality are needed to manage important recreational species. Stock abundance, harvest, bycatch and life history information are necessary inputs for population models that enhance management programs by estimating mortality rates and determining appropriate harvest levels. Fishery-independent sampling provides key components of stock assessments, including stock and age class abundance. The precision of recreational harvest data, currently collected by the National Marine

Fisheries Service and by the Division of Marine Fisheries through telephone surveys and intercept surveys, may be enhanced by evaluating sampling methodologies.

Strategy F.1.1 Increase current recreational sampling levels to obtain estimates with greater precision.

Strategy F.1.2 Develop and expand statistically sound juvenile and adult fishery-independent sampling programs.

Strategy F.1.3 Identify and gather life history information needed for stock assessment models for recreationally important fish species.

Strategy F.1.4 Conduct surveys of recreational fishermen targeting shellfish, crustacea, and bait.

Strategy F.1.5 Establish a carcass collection program for recreationally important fish to expand life history sampling and analysis.

Strategy F.1.6 Conduct bycatch and discard mortality studies of recreationally important fish and fisheries.

Strategy F.1.7 Develop gear and methodology for reducing release mortality from recreational fishing.

Objective 2

Characterize socio-economic attributes of coastal fisheries

The collection and analyses of socio-economic data are needed for descriptive and behavioral information on recreational fishermen who fish in coastal fishing waters of North Carolina. These data can provide estimates of value and economic contributions of recreational fishing. These data may also be used to evaluate the impacts of fishery management plans and fishing regulations on recreational fishing.

Strategy F.2.1 Conduct socio-economic surveys of recreational fishermen.

Strategy F.2.2 Conduct socio-economic valuation studies of recreational angler preferences.

HABITAT AND ENHANCEMENT

The goal of the following objectives is to enhance coastal fisheries through the protection, enhancement, and restoration of coastal fish and fish habitats.

The health of North Carolina's fishery resources is dependent upon the health of its habitats. Human activities, however, can degrade these habitats and impact the important ecological functions they provide. The Fisheries Reform Act of 1997 required the Department of Environment and Natural Resources to prepare plans to protect coastal habitats. The [Coastal Habitat Protection Plan](#) was adopted by the Marine Fisheries, Coastal Resources, and Environmental Management commissions. The Coastal Habitat Protection Plan and its Implementation Plan are approved every two years. The objectives and strategies here are based on the Coastal Habitat Protection Plan and its Implementation Plan.

Objective 1

Improve effectiveness of existing programs

Numerous programs are in place to protect coastal habitats. Improvements to these existing programs and better coordination among agencies was a primary need identified by many stakeholders in the Coastal Habitat Protection Plan process.

Strategy H.1.1 Establish standard indicators of estuarine and near-shore ocean habitat conditions and conduct coastal habitat status assessments using those indicators.

Strategy H.1.2 Enhance Department of Environment and Natural Resources habitat alteration permit compliance monitoring and Division of Marine Fisheries habitat alteration permit program review capability.

Strategy H.1.3 Contribute to Department of Environment and Natural Resources initiatives to improve comprehensive water quality monitoring.

Strategy H.1.4 Enhance education of fishermen and the public concerning fish habitats, how they function, and what people can do to protect them.

Objective 2

Identify, designate, and conserve fish habitat and Strategic Habitat Areas

Strategic Habitat Areas are defined as specific locations of individual fish habitat or systems of habitat that have been identified to provide exceptional habitat functions or

that are particularly at risk due to imminent threats, vulnerability, or rarity. These areas include unique habitats and combinations of habitats that result in greater production of fish resources than other habitats. A number of other important coastal fish habitat areas are already recognized under existing programs, while some others are not. This effort will develop and implement a coordinated program to apply standardized methods to locate, delineate, and protect these critical areas.

Strategy H.2.1 Map coastal fisheries habitat such as submerged aquatic vegetation, shell bottom and other bottom types.

Strategy H.2.2 Identify and delineate candidate sites for designation as Strategic Habitat Areas.

Strategy H.2.3 Conduct research and monitoring to determine status of and trends in the six basic fish habitats (submerged aquatic vegetation, shell bottom, wetlands, water column, hard bottom, soft bottom).

Strategy H.2.4 Conduct research to clarify the linkages between coastal fish habitat and fish production and identify the key aspects of habitat function and how these functions are affected by human activities.

Objective 3

Enhance habitat and protect it from physical harm

Coastal fish habitats have been damaged by direct physical impacts (e.g., dredging, filling and damming). The Division of Marine Fisheries conducts several activities intended to protect, enhance, and restore important fish habitats. These efforts will be enhanced to ensure that important fish habitats are protected and restored so they can continue to help produce fish for the benefit of North Carolina.

Recent efforts to enhance fishery resources have focused on providing increased fishery habitat, such as estuarine and ocean artificial reefs, cultch planting for oyster habitat, and establishment of no-take oyster sanctuaries. Research, monitoring, and sampling have focused on improving the quality and function of created or enhanced habitat by improving materials, deployment strategies, and techniques. Successful management and enhancement of estuarine and marine resources depends on the timely identification, location, and health of habitat resources. Enhanced research and monitoring, and incorporation of research results into enhancement projects will be necessary to ensure the efforts provide the most effective and efficient use of available funds. The identification, protection, and enhancement of essential fisheries habitats are vital to successful management and preservation of our fisheries resources.

Strategy H.3.1 Implement restoration measures where habitat has been degraded or lost.

Strategy H.3.2 Conduct monitoring programs to evaluate success of restoration and enhancement projects

Strategy H.3.3 Conduct research and refine restoration/enhancement techniques to maximize long-term ecological function and structural integrity of these efforts

Strategy H.3.4 Enhance the ongoing oyster sanctuary program.

Strategy H.3.5 Expand oyster shell recycling program outreach and public participation to enhance public awareness and foster volunteer, government agency, and non-government organization partnerships.

PEOPLE

Fishing Access and Public Information and Education

Anglers, environmental organizations, and other interested parties, have expressed the need for an expansion of our recreational fisheries information program. Major topics of interest include public access, methods to improve the quality and frequency of publications and events aimed at the recreational fishing public.

Objective 1

Provide fishermen increased access to fisheries resources and enhancement structures.

Successful enhancement of fishery and habitat resources cannot fully benefit the residents of North Carolina, especially the recreational fishing community, without improved access to these resources. Additional access sites including boat ramps, fishing piers, and beach access, and more accessible habitat enhancements should be constructed to support and provide broader use of these resources. Careful consideration of habitat disturbance and responsible design and construction of the access structures will be necessary, as will restoration of degraded habitat. Acquisition, preservation, and limited development (access structures) of coastal lands should be included in the overall goal of increasing access to enhanced fishery resources while limiting environmental impacts of such development. Collaboration with other agencies including the Department of Transportation, the Wildlife Resources Commission and the Department of Environment and Natural Resources, will result in multiple use facilities at locations already owned by the State.

Strategy P.1.1 Develop fishing access areas and artificial reef structures that are sited to enhance public fishing opportunities.

Strategy P.1.2 Use public fishing access sites and structures for outreach, environmental education, and community based environmental enhancement activities.

Strategy P.1.3 Increase the function of artificial reefs through refinement of materials and techniques based on research and monitoring.

Objective 2

Provide products and programs aimed at improving public information, education,

and enrichment

Fishing effort in North Carolina's recreational fisheries is at an all-time high. North Carolina is one of the top states in the country in the numbers and poundage of recreationally-caught fish from coastal fishing waters. These numbers are anticipated to rise as coastal populations and visitation continue to increase. It is imperative that this expanding segment of the fishing industry understand the dynamics of our fisheries so that they become active participants in our management system, observe conservation-based fishing practices, and become stewards of the resource. It is important to deliver products and services to meet the expectations of the recreational fishing community.

Strategy P.2.1 Develop workshops, clinics and materials on ethical fishing practices, conservation methods, and how-to seminars.

Strategy P.2.2 Expand recognition programs such as the Governor's Cup series, citation catch, and state record programs.

Strategy P.2.3 Develop and update recreational fishing information for the public via the Division of Marine Fisheries website and production of printed and electronic materials.

Strategy P.2.4 Develop a comprehensive guide to recreational fishing in North Carolina.

Record of Revisions:
Created March 12, 2007
Revised May 8, 2013