



North Carolina Coastal Habitat Protection Plan

**DRAFT
RECOMMENDATIONS**

BE PART OF THE PLAN

Write a letter ...

Attend A Meeting ...

Send an Email ...



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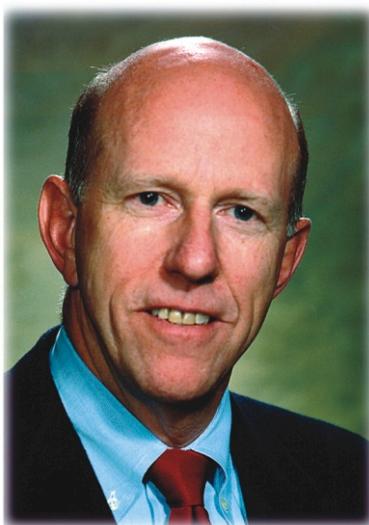
THANKS

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N.C. DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
1601 Mail Service Center, Raleigh, NC 27699-1601
Phone: 919-733-4984 • Fax: 919-715-3060
www.enr.state.nc.us



Be Part of the Plan

Last spring, Governor Mike Easley encouraged North Carolinians to get involved in a plan designed to protect those special places along our coast that are critical to the survival of our marine fisheries. More than 500 residents attended public meetings to share ideas on how to protect these resources. Others sent emails and letters or left telephone messages.

Many of those ideas are reflected in the recently released draft of the North Carolina Coastal Habitat Protection Plan (CHPP). A requirement of the Fisheries Reform Act of 1997 passed by the General Assembly, the plan identifies important habitats that sustain our state's billion-dollar commercial and recreational fishing industries and recommends ways to protect and enhance them.

We tried to keep the plan concise and straightforward and the recommendations achievable. The plan also recognizes the value of our existing management programs and relies on them as foundations to protect important coastal fish habitats. We have researched and consulted with the highest regarded scientists and regulators.

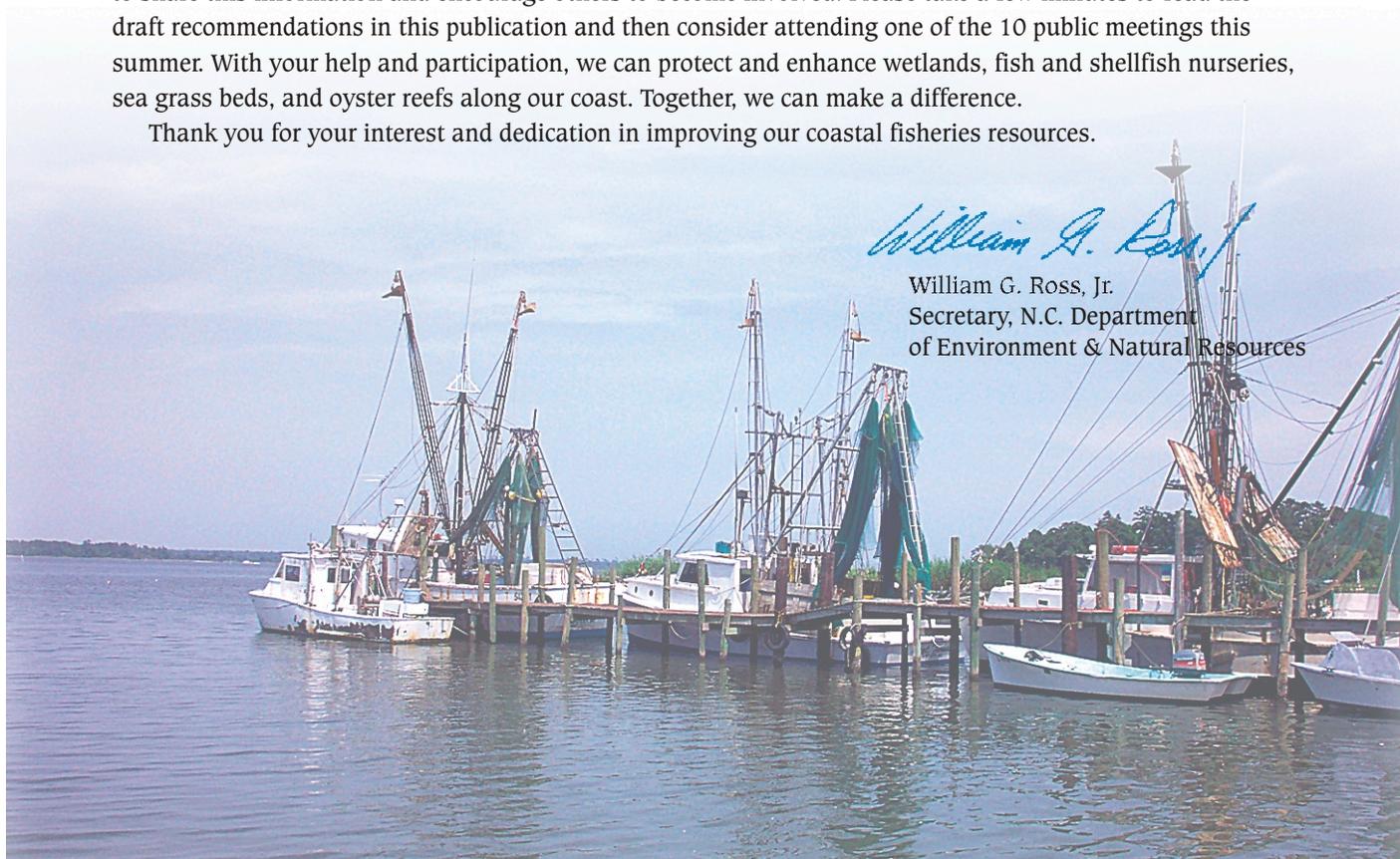
At meetings this summer, you will have an opportunity to tell us what you think about the recommendations. We'll take those ideas and fashion the final plan, which will then go before three of North Carolina's environmental regulatory commissions (Environmental Management, Coastal Resources, Marine Fisheries Commissions) for consideration and adoption later this year.

As we seek a broad spectrum of feedback, including those who attended last summer's events, we ask you to share this information and encourage others to become involved. Please take a few minutes to read the draft recommendations in this publication and then consider attending one of the 10 public meetings this summer. With your help and participation, we can protect and enhance wetlands, fish and shellfish nurseries, sea grass beds, and oyster reefs along our coast. Together, we can make a difference.

Thank you for your interest and dedication in improving our coastal fisheries resources.

William G. Ross, Jr.

William G. Ross, Jr.
Secretary, N.C. Department
of Environment & Natural Resources



What is the CHPP?

North Carolina is home to a tremendous variety of fish and shellfish largely because the state has such a great diversity of productive habitats where those animals feed, spawn and grow. More than 2.5 million acres of coastal waters provide habitat for most of the state's commercially and recreationally important fish species as well as many that migrate along the East Coast from Florida to Maine.

Commercial and recreational fisheries contribute a billion dollars a year to the economy of North Carolina and our fish stocks have long been considered inexhaustible resources. Even though the state is among the top 10 seafood producers in the country, increasing pressures on coastal habitats, including habitat loss and degradation and poor water quality, now threaten our fisheries.

Important fish habitats provide the basic needs of fish and shellfish, including food, shelter, and places to reproduce and grow. The North Carolina coast includes almost 4,000 miles of estuarine shoreline, with a wide range of habitats. Whether it is a freshwater swamp, a salt marsh, an oyster rock or a mud flat, each of these habitats plays a vital role in sustaining our fisheries.

AMBITIOUS GOAL

The North Carolina General Assembly, recognizing the need to protect such special places, passed the Fisheries Reform Act in 1997. The law contains the directive to protect and enhance habitats that are vital to coastal fish and shellfish. To achieve that ambitious goal, the law requires the cooperation of three of the state's regulatory commissions. The Environmental Management, Coastal Resources, and Marine Fisheries commissions must work together to prepare and adopt a plan that protects and restores these critical coastal habitats and to enact rules to implement the plan. The commissions also must ensure that they act in a manner consistent with the adopted plans.

The Division of Marine Fisheries has been assigned the task of formulating the Coastal Habitat Protection Plan, or CHPP. It has been working since 1999 with several other state agencies on the framework of the plan, a broad-brush examination of the six critical marine habitats coast-wide.

THE CHPP PROCESS

The first draft of the CHPP is now complete. It's a detailed document that describes the habitats and includes scientific information on their ecological function and importance to coastal fisheries resources. It also identifies the threats to each habitat and recommends needed research and the steps that should be taken to protect and enhance each habitat.

Two representatives of each of the three regulatory commissions sit on an oversight board called the Intercommission Review Committee, which reviewed and modified the draft plan. The public also had an opportunity to comment on the plan at a series of public meetings last summer. Many of those comments helped shape the recommendations, which will be the focus of another series of public meetings in the summer of 2004.

Comments from those meetings will also be incorporated into the final plan, which will be adopted by the commissions by the end of 2004. The CHPP is to be reviewed and revised every five years.

Coastal Fish Habitats and Threats They Face

The CHPP has identified six coastal fish habitats that need to be protected and enhanced and detailed the threats each faces.

Water Column: The water column is essential to aquatic life. Fish and shellfish live in the water and are highly affected by what happens to it. **Threats:** Excessive sedimentation and turbidity, excess nutrients, bacteria, toxins and alteration of the natural flow of water.

Shell Bottom: Oysters live in the shallow waters of our tidal rivers, creeks, and sounds. More than 5,000 oysters can grow in an area of one square yard of healthy habitat, and a single oyster can purify almost 1.5 gallons of water an hour. Oyster beds also are home to a great variety of other aquatic life, especially juvenile fish. **Threats:** Diseases, fishing gear, boat wakes, dredging, sedimentation, and stormwater runoff.

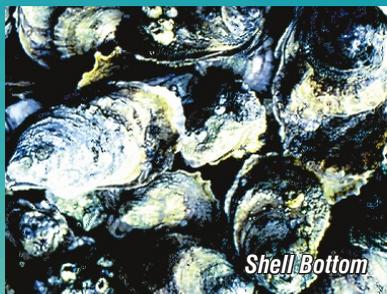
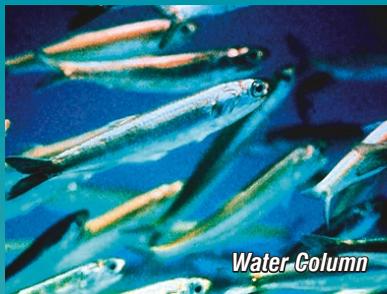
Submerged Aquatic Vegetation (SAV): Sea grasses and other underwater plants grow in the shallows of coastal sounds and rivers. The grass beds provide critical sources of food and shelter for many species of fish and other marine life, such as bay scallops. **Threats:** Boat props, boat wakes, fishing gear, turbidity, and polluted stormwater runoff.

Wetlands: Wetlands include coastal marshes, freshwater swamps, and bogs. Coastal marshes grow along much of the 4,000 miles of shoreline along the state's coastal rivers, creeks and sounds. Wetlands filter stormwater pollution and protect shorelines by slowing wave energy. They also provide nursery and feeding areas for many types of fish and shellfish. **Threats:** Dredging, filling and draining for development; intensive agriculture and timber production; stormwater runoff; boat wakes; bulkheads and rip-rap.

Sand and Mud Bottoms: Most of the bottoms of our rivers, sounds and ocean have no vegetation. They are made up of a mixture of mud and sand. These areas provide key habitat for burrowing species such as clams, mole crabs and worms. Many small fish feed along these bottoms, and in turn provide food for bigger fish. **Threats:** Dredging, mining, and toxic contamination of sediments from sewage discharges and contaminated stormwater runoff.

Ocean Hard Bottom: Just off the beach and well offshore are exposed areas of rock or hardened sediments that may have plants and animals growing on them. These areas provide spawning grounds for reef fish, and shelter and food for snappers, groupers, sea bass, king mackerel, trout, flounders and many other fish. **Threats:** Fishing gear, boat anchors and beach re-nourishment.

NC's Coastal Fish Habitats



Four Goals to Protect and Enhance Coastal Fish Habitats

The draft Coastal Habitat Protection Plan, or CHPP, outlines hundreds of steps that should be taken to protect and enhance the six coastal fish habitats that the CHPP identified.

After reviewing those management needs and suggested actions to address them, members of the Intercommission Review Committee compiled them into four general goals:

- *Improve effectiveness of existing rules and programs to protect coastal fish habitats*
- *Identify, designate, and protect Strategic Habitat Areas*
- *Enhance and protect important habitats*
- *Enhance and protect water quality*

The chart on page 5 summarizes the goals and the 18 suggested recommendations to reach them and notes which would require new, or changes to existing, state rules. In an attempt to make each goal achievable, the CHPP uses existing state programs as the foundation for the recommendations. Many could be done under existing regulatory authority.

Many of the recommendations incorporate the concerns voiced at public meetings last year. More than 500 people attended those meetings, which generated almost 1,000 comments. About a third of those comments dealt with development issues, such as stormwater runoff, sewage discharges and wetland filling. Those who attended the meetings also cited inadequate enforcement of existing environmental rules and fishing and boating practices as threats to fish habitats.

You'll find those issues addressed in the recommendations, which are explored in more depth on page 6-7.





Summary of Recommendations to Protect and Enhance Coastal Fish Habitats

RECOMMENDATION	NEW RULES?
GOAL 1: IMPROVE EFFECTIVENESS OF EXISTING RULES	
Expand enforcement of, and compliance with, rules and permit conditions of the Coastal Resources Commission, Environmental Management Commission, and Marine Fisheries Commission.	No
Coordinate rulemaking and enforcement among regulatory commissions and agencies.	No
Coordinate and enhance water quality, physical habitat, and fisheries resource monitoring from headwaters to the nearshore ocean.	No
Enhance and expand public education on the value of fish habitat, threats from human activities, effects of non-native species, and the reasons for management measures.	No
GOAL 2: IDENTIFY, DESIGNATE & PROTECT STRATEGIC HABITAT AREAS	
Evaluate potential Strategic Habitat Areas by coordinating, completing and maintaining habitat mapping; monitoring the status of those habitats; and assessing effects of land use and human activities on those habitats.	No
Identify and designate Strategic Habitat Areas, analyze existing rules and enact measures needed to protect these areas, and improve programs for conservation and acquisition of areas.	Yes
GOAL 3: ENHANCE AND PROTECT COASTAL FISH HABITATS	
Prepare and implement a coastwide beach and inlet management plan that requires ecologically-based guidelines that minimize the effects on fish habitat, while addressing socio-economic concerns.	Yes
Protect fish habitat by revising rules to stabilize estuarine and public trust shorelines and developing and promoting incentives to use alternatives to bulkheads and rip-rap.	Yes
Protect underwater grass beds, shell bottom, and ocean hard bottom from fishing gear impacts through improved enforcement, establishment of protective buffers around habitats, and further restriction of mechanical shellfish harvesting.	Yes
Protect and enhance habitat for anadromous fishes by incorporating the water quality and quantity needs of fish when planning and regulating the use of surface water and by eliminating obstructions to fish movements, such as dams, locks and road fills.	Yes
Greatly expand habitat restoration, including creation of subtidal oyster reef sanctuaries and re-establishing streamside wetlands and natural stream flow.	No
GOAL 4: ENHANCE AND PROTECT WATER QUALITY	
Reduce point source pollution from sewage by increasing inspections of all aspects of sewage treatment and providing incentives for upgrading all types of sewage-treatment systems.	No
Adopt or modify rules or statutes to prohibit sewage discharges into the ocean.	Yes
Prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters and continue to phase-out existing stormwater outfalls by implementing alternative management strategies.	Yes
Improve land-based strategies to reduce non-point pollution and minimize cumulative losses to wetlands and streams through larger vegetated buffers, more stringent limits on impervious surface, expansion of Areas of Environmental Concern upstream and landward, and establishment of setbacks along estuarine shorelines.	Yes
Improve land-based strategies to reduce non-point pollution and minimize cumulative losses to wetlands and streams through voluntary actions, Best Management Practices, and incentives, including improved methods to reduce sediment pollution from construction sites, agriculture, and forestry; increased on-site infiltration of stormwater; document and monitor small but cumulative impacts to wetlands and streams resulting from unpermitted/unmitigated legal activities; incentives for low-impact development, and increased water re-use and recycling.	No
Reduce non-point source pollution from concentrated animal operations by continuing the moratorium on new/expanded swine operations until alternative waste-treatment technology is implemented, using a greater percentage of agricultural conservation funds to phase-out or relocate concentrated animal operations in sensitive areas, mandating the phase-out of waste lagoons by a specific deadline, and using improved siting criteria to protect fish habitat.	Yes
Develop and implement a comprehensive coastal marina and dock management plan and policy to prevent closures of shellfish harvest waters and minimize cumulative impacts on fish habitat.	Yes



CHPP Goals and Recommendations

GOAL 1: IMPROVE THE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS

Every year, an average of more than 100 acres of Outstanding Resource Waters – the highest quality waters in North Carolina – are closed permanently to shellfish harvest because of pollution. Every year, thousands of acres of forests and farmland are uprooted, developed, and paved. Every year, fish die because too many nutrients in the water cause algae to bloom and rob the fish of oxygen.

Existing rules and programs have had only limited success in protecting and enhancing coastal fish habitat and fisheries.

RECOMMENDATIONS

- Enhance enforcement of, and compliance with, the rules and permit conditions of the Coastal Resources Commission, Environmental Management Commission, and Marine Fisheries Commission.
- Coordinate and enhance monitoring of water quality, physical habitat, and fisheries resource from headwaters to the nearshore ocean.
- Enhance and expand educational outreach on the value of fish habitat, threats from human activities, effects of non-native species, and reasons for management actions.
- Coordinate rulemaking and enforcement among regulatory commissions and agencies.

GOAL 2: IDENTIFY, PROTECT AND ENHANCE STRATEGIC HABITAT AREAS

Population growth in coastal North Carolina will continue to stress productive fish habitats as the landscape is developed to satisfy that growth. Inland development

also degrades the water quantity and quality of streams that flow to the coastal sounds, as do increased boating and some fishing activities.

The Coastal Resources Commission, the Environmental Management Commission and the Marine Fisheries Commission in 1998 agreed that Strategic Habitat Areas are those special places that “provide exceptional habitat functions or that are particularly at risk due to imminent threats, vulnerability, or rarity.”

These special areas should be the primary focus of our efforts to protect fish habitat.

Greater protection for these Strategic Habitat Areas must be a high priority in order to maintain a healthy coastal ecosystem.

RECOMMENDATIONS

- Gather information to identify Strategic Habitat Areas by coordinating, completing and maintaining habitat mapping; monitoring the status of those habitats; and assessing effects of land use and human activities on those habitats.
- Identify and designate Strategic Habitat Areas using ecologically based standards. There are no such areas currently designated. Strategic Habitat Areas could include natural hard bottom ledges in state waters, primary nursery areas or shellfish beds.
- Analyze existing rules and enact measures needed to protect Strategic Habitat Areas.
- Improve programs for voluntary conservation and acquisition of areas supporting Strategic Habitat Areas.

GOAL 3: ENHANCE AND PROTECT CRITICAL HABITATS

Studies estimate that as much as half of North Carolina’s original

wetlands have been destroyed since colonial times. Uncontrolled fishing more than a century ago decimated our state’s oyster reefs, and in recent times, turbidity has begun degrading seas grass beds. Grass beds in low salinity waters, such as Albemarle Sound and western Pamlico Sound, have all but disappeared over the last 20-30 years.

Strong steps are necessary to reverse historic and current habitat losses and restore wetlands, shellfish beds, sea grasses and other critical fish habitats.

RECOMMENDATIONS

- Greatly expand habitat restoration, including the creation of subtidal oyster reef no-take sanctuaries. There are currently only five such sanctuaries along our coast. In some other states, sanctuaries that are off limits to fishing are major components of restoration efforts. They provide protection for oyster brood stock, disease-resistant oysters and for fish that depend on oyster reefs. The larval oysters from these protected areas also enhance oyster populations in surrounding waters that can be opened for harvest.
- Re-establish streamside wetlands and natural flow in streams.
- Prepare and implement a coastwide beach and inlet management plan that requires ecologically based guidelines for minimizing the effects of beach re-nourishment and inlet relocations on fish habitats, while addressing socio-economic concerns. As beach re-nourishment projects grow in number and extent, the need for a comprehensive approach becomes greater. A comprehensive plan would carefully review the cumulative effects of re-nourishment projects



and provide ecologically based guidelines, including standards to ensure that the sand placed on the beach is similar to native sand and that there is adequate monitoring of surf fish, invertebrates and sea bird populations.

- Protect underwater seagrass beds (submerged aquatic vegetation – SAV), shell bottom, and ocean hard bottom areas from the adverse effects of some types of fishing gear through improved enforcement, further restriction of mechanical shell harvesting and establishment of protective buffers around habitats. Because oyster dredging breaks down the vertical structure of oyster reefs, degrading fish habitats and compromising restoration efforts, use of this method should be greatly curtailed.
- Protect fish habitat by revising the rules managing stabilization of estuarine and public-trust shorelines. Wooden bulkheads, rock rip-rap and other types of hard structures used to stabilize a shoreline can have severe effects on fish habitat, including the loss of fringe marshes and shallow intertidal bottom as well as increased scouring and turbidity. Studies in North Carolina and elsewhere have shown that there are fewer fish and invertebrates along a bulkheaded shoreline compared to an unaltered marsh, beach or forested wetland. New rules should be based on the best available scientific information that considers estuarine erosion rates and land development. The rules should also provide incentives for natural alternatives to bulkheads and other

types of vertical hard structures.

- Protect and enhance habitat for anadromous fishes – ocean-dwelling species that spawn in freshwater rivers – by including their needs when planning and permitting industrial or municipal withdrawals of water from rivers. Eliminating or bypassing obstructions to fish movements, such as dams, locks, and road fills, would have immediate beneficial effects on striped bass, river herring, sturgeon and other anadromous fish by re-opening historic spawning grounds.

GOAL 4: PROTECT AND ENHANCE WATER QUALITY

Water is the lifeblood of our coastal ecosystems. All marine life needs clean water, and all fish habitats are connected by water. Maintaining and restoring water quality, then, is the basic component of protecting and enhancing all coastal fish habitats.

Stormwater runoff and sewage discharges can carry excess nutrients, sediments, bacteria, and toxic chemicals. These pollutants trigger a variety of ills: fish kills, closure of shellfish beds to harvest, algae blooms that reduce water clarity and lower dissolved oxygen, turbidity that clouds the water and suppresses the growth of sea grass, and heavy metals that contaminate fish so they become unsafe to eat.

RECOMMENDATIONS

Point sources

- Expand inspections of sewage treatment plants, collection lines, and land disposal sites; and provide incentives for upgrading all types of sewage systems. Almost 60 million gallons of untreated or partially treated sewage spilled into coastal waters in 2002, a relatively dry year. The reported spills in wet

years are generally higher.

- Amend rules to prohibit the discharge of sewage into the ocean. There are no such discharges currently in North Carolina, but some communities may consider it in the future as the coastal population grows. In several other states, dumping sewage into the ocean has led to beach pollution and swimming closures.
- Prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters and continue to phase-out existing outfalls by implementing alternative stormwater management strategies. Several beach towns dispose of stormwater directly on the ocean beaches or among the dunes behind their beaches, areas heavily used by visitors. The state has posted warning signs on the beaches of several towns because of high bacteria levels from stormwater runoff. The state should encourage alternatives to beach outfalls, such as the one being developed in Emerald Isle, which plans to eliminate its outfall by pumping stormwater to 40 acres of wetlands that the town bought for that purpose.

Non-point sources

- Improve land-based strategies to reduce non-point pollution and minimize cumulative losses to wetlands and streams through voluntary actions, Best Management Practices and incentives, including improved methods for reducing sediment pollution from construction sites, agriculture, and forestry; increased on-site infiltration; document and monitor small but cumulative impacts to

wetlands and streams resulting from legal unpermitted/un-mitigated activities; provide incentives for low-impact development; enhance inspections of onsite sewage-treatment facilities; and increase water re-use and recycling.

- Improve land-based strategies to reduce non-point pollution and minimize cumulative losses to wetlands and streams, through regulations that include larger vegetated buffers, more stringent impervious surface limits, expansion of Areas of Environmental Concern upstream and landward, and setbacks along estuarine shorelines. Any activity that reduces vegetative buffers along streams and sounds can negatively affect water quality.
- Develop and implement a comprehensive coastal marina and dock management plan and policy to prevent closures of shellfish waters and cumulative impacts to fish habitats. Such a policy could address how to appropriately design, site and operate marinas to reduce their effects on fish habitat.
- Reduce non-point source pollution from animal operations by continuing the moratorium on new or expanded swine operations until better ways of treating the waste are in place, mandating the phase-out of waste lagoons by a specific deadline, phasing out or relocating concentrated animal operations out of sensitive areas and using criteria that protect fish habitat when siting such operations.

Be Part of the Plan

Attend Public Meetings on the draft Coastal Habitat Protection Plan. For more information please call the CHPP office at 252-726-7021 or 800-682-2632. All meetings begin at 7 pm.

**Tuesday
July 13, 2004
NC Aquarium
374 Airport Rd.
Manteo**

**Wednesday
July 21, 2004
East Carteret High School Auditorium
3263 Hwy 70 East
Beaufort**

**Thursday
July 29, 2004
NC Estuarium
223 East Water St.
Washington**

**Wednesday
July 14, 2004
Town Council Chambers
500 South Broad St.
Edenton**

**Thursday
July 22, 2004
Craven County Court House
411 Craven St.
New Bern**

**Tuesday
August 3, 2004
Charles Mack Citizens Center
215 North Main St.
 Mooresville**

**Monday
July 19, 2004
Quality Inn Ballroom
701 North Marine Blvd. (Hwy 17)
Jacksonville**

**Tuesday
July 27, 2004
County Commission Chambers
Brunswick Co.
Government Complex Bldg. I
Bolivia**

**Wednesday
August 4, 2004
NC Museum of Natural Sciences
11 West Jones St.
Raleigh**

**Wednesday
July 28, 2004
New Hanover County
Northeast Regional Library
1241 Military Cutoff Rd
Wilmington**

To Learn How to Get Involved in the CHPP Process:

- Go to www.ncfisheries.net
- Send an email to chpps@ncmail.net
- Call 800-682-2632 or 252-726-7021. Ask for the CHPP office.
- Attend regional public meetings on the CHPP to share your experience and ideas.



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