CRC-10-43

NORTH CAROLINA'S COASTAL HABITAT PROTECTION PLAN

2009 - 2010

ANNUAL REPORT

TO THE

JOINT LEGISLATIVE COMMISSION ON SEAFOOD AND AQUACULTURE

AND

ENVIRONMENTAL REVIEW COMMISSION

OF THE

NORTH CAROLINA GENERAL ASSEMBLY

FROM

NORTH CAROLINA MARINE FISHERIES COMMISSION,
NORTH CAROLINA COASTAL RESOURCES COMMISSION,
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION, AND
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION
AND
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

September 2010

Introduction

Fisheries Reform Act

The North Carolina General Assembly established the Coastal Habitat Protection Plan program within the North Carolina Department of Environment and Natural Resources (DENR) with passage of the Fisheries Reform Act of 1997. The Act (General Statute or G.S. 143B-279.8) requires preparation of Coastal Habitat Protection Plans (CHPPs) for critical fisheries habitats in the coastal area. The Act states "[t]he goal of the Plans shall be the long-term enhancement of coastal fisheries associated with each coastal habitat." Within DENR, the Divisions of Marine Fisheries, Water Quality, and Coastal Management are designated as the lead agencies for implementing the CHPP program. Many other DENR agencies also participate in CHPP work. By law the CHPP must describe and evaluate the functions, values, status, and trends of all habitats, identify existing and potential threats, and recommend actions to protect and restore the habitats.

Role of the Commissions

The Coastal Resources, Environmental Management, and Marine Fisheries commissions adopted the CHPP in December of 2004. The CHPP was adopted, along with implementation plans were adopted by each of the three original commissions in June and July 2005 (see Implementing the North Carolina Coastal Habitat Protection Plan 2005). The second iteration of the plan and updated recommnedations were approved by these same commissions, as well as the Wildlife Resource Commission in 2010. Rule making and policy actions taken by all three commissions are to comply "to the maximum extent practicable" with the plan.

The commissions with membership on the CHPP Steering Committee are to report by 1 September each year to the Joint Legislative Commission on Seafood and Aquaculture and the Environmental Review Commission on their progress in implementing the Coastal Habitat Protection Plan. This document reports on the progress made by the respective commissions and their supporting agencies, as well as other DENR agencies, in implementing the CHPP during year beginning in September 2009 and ending in August 2010. Attachment 1 lists the members of the CHPP Steering Committee for the 2009-2010 year.

North Carolina Coastal Habitat Protection Plan (CHPP)

The CHPP focuses on six basic fish habitats: water column, shell bottom, submerged aquatic vegetation (SAV), wetlands, soft bottom, and hard bottom. A chapter is devoted to each type. Each of the habitat chapters is organized to provide the information specified in the Act.

The CHPP describes the functions of habitats necessary for production of economically important fish stocks and the links between those habitats and various life history stages of the fish. The CHPP also discusses the various types of threats to the habitats upon which productive coastal fisheries depend. Moreover, the plan summarizes the institutional structures for management of fisheries habitat, adjacent lands, water quality, and fisheries in eastern North Carolina. Finally, the plan includes numerous management recommendations for the Coastal Resources, Environmental Management, Marine Fisheries and Wildlife Resources Commissions, DENR and its other agencies and others to implement in order to address the identified threats.

Annual Highlights

September 2009 – August 2010 Accomplishments

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

- The CHPP was updated and completed in 2010 (DMF, CHPP Team).
- Two permit review positions were hired for the Wilmington and Washington Regional Offices to enhance DMF's permit review capacity (DMF).
- The NC Coastal Reserve Program produced a technical paper series on SAV, ecosystem services, living shorelines and shellfish closures; produced a brochure for homeowners on various shoreline stabilization choices; and developed an education plan incorporating educational awareness of fish and fish habitat conservation for the Division that includes elements of the CHPP. Budgetary constraints are limiting implementation of the plan (DCM).
- DWQ developed an educational brochure about riparian buffer rules in the Neuse and Tar-Pamlico River Basins, a factsheet about the 401 Water Quality Certification program, and conducted three workshops with Division of Parks and Recreation on various topics. Workshops regarding the impact of stormwater rules are under development which will be directed toward realtors for continuing education credits (DWQ).
- FerryMon was funded by the General Assembly for this year and the program continues to gather water quality data across the Pamlico Sound (DENR).
- Monitoring data being collected for the Pasquotank and Chowan River basins, including Virginia portions, on water quality and living resources as well as land use, population trends and other potential ecosystem stressors, with the goal of developing a preliminary State of the River Basin report for the Pasquotank and Chowan Rivers (APNEP).
- A second Forestry BMP survey was completed and the report is being drafted (DFR).
- The Shoreline Survey Task Force proposed an inspection program and presented their report to the CHPP Steering Committee. Another action is needed to implement recommendations of the report (DEH-SS).

Goal 2: Identify, designate and protect strategic habitat areas

- NC Coastal Reserve staff working with the NC SAV Interagency Partnership, conducted a survey to determine SAV outreach needs (DCM/CRC).
- Photo-interpretation of the 2007-08 coast-wide SAV imagery effort continues. Don Field (NOAA) has delineated SAV in portions of Bogue and Core Sounds and eastern Pamlico Sound., The DMF GIS position that would complete the work was vacated and frozen two year ago due to budget, but is in the process of getting refilled (DMF/MFC).
- Mapping of all shallow estuarine bottom and bottom types continues. 41,570 and 37,172 acres mapped were in 2009 and 2010, respectively. Counties where some mapping has occurred include Hyde, Carteret, Brunswick, and Onslow (DMF).
- An advisory committee was formed and, along with staff and a Sea Grant fellow, began to evaluate and designate Strategic Habitat Areas (SHA) for Region 2, which includes Pamlico Sound and Pamlico and Neuse River systems. (DMF/MFC)
- EEP and DMF are currently working with East Carolina University to select ecosystem restoration efforts that will enhance SHAs and local watershed plans EEP incorporating data from

SHA analyses into the River Basin Restoration Priority updates for the Pasquotank, Chowan, and Roanoke plans (EEP).

- WRC worked with DMF and USFWS conducting an Atlantic sturgeon survey on the Roanoke River, and acoustically tagged fish, and mapped the rocky bottom where they occurred (WRC).
- WRC staff participated in SHA Region 1 and 2 committees (WRC).
- ECU was contracted by DCM to delineate the estuarine shoreline and shoreline structures. Seven counties are complete, eleven pending. The QA/QC process was completed for Tyrell County with the others remaining (DCM).
- DMF-Habitat section submitting both habitat data and Strategic Habitat Area nominations to DENR's Conservation Plan Tool (DMF).

Goal 3: Enhance habitat and protect it from physical impacts

- The draft Beach and Inlet Management Plan (BIMP) was completed and is under review by DENR (DCM).
- The NC Coastal Reserve Program has initiated a multiagency research project (NOAA, NC NERR, UNC-W, UNC-Chapel Hill, CICEET grant funded) to assess the ecosystem impacts of shoreline stabilization. The project also includes the design and construction of a demonstration project based on alternative shoreline stabilization techniques at the Rachel Carson Reserve. During the project, an approach to evaluate ecological and socioeconomic costs and benefits of shoreline erosion and protection alternatives will be developed. The NC NERR will develop outreach and educational products to disseminate the knowledge and tools developed by the research team (DCM).
- A sea level rise forum was held in January 2010 to discuss the best available science on current and projected sea level rise for NC and provide the scientific basis for policy and management decisions. The target audience included legislators, state and local policy makers, resource managers, planners, and others. The forum focused on how much relative sea level rise should NC prepare for by 2100 (DCM, DENR).
- A climate change workshop was held to discuss and better understand impacts from climate change, and opportunities for climate change adaptation. They are incorporating climate change information into the NC Wildlife Action Plan (WRC).
- Marsh sills were added as a cost-share practice for the Community Conservation Assistance Program (CCAP) (DSWC).
- Using federal stimulus funding and partnering with NC Coastal Federation, an additional sanctuary was constructed in Pamlico Sound and additional cultch material was put out in shallow estuaries using local fishermen (DMF).
- 19,724 bushels of recycled oyster shells were collected and placed back in the waters FY 09/10 (DMF).
- Construction of a research hatchery in Wilmington was completed. Permanent operation funding is needed (DMF, UNC-W).
- River herring spawning surveys have been completed for the Chowan, Perquimans, and Little Rivers (DMF).
- Procured funding to conduct water quality and biota monitoring associated with a restored stream (DFR).
- The DSWC is incorporating Region 1 SHA data layers to use in the 2010 CREP Priority Areas and other priority ranking systems, and share with other SWCDs (DSWC).
- As of April 2010, EEP had over 170 restoration, enhancement, and preservation projects with the drainages containing SHAs. These projects encompass more than 120 miles of streams, 25,000 acres of wetlands, 520 acres of coastal marsh, and 860 acres of buffers (EEP).

- To improve effectiveness of mitigation, EEP presented two non-traditional mitigation strategies to the Interagency Review Team that oversees the approval of mitigation credits for the program, including (1) barrier removals, and (2) water storage and treatment under agriculture fields in the coastal plains. Discussions about their viability as mitigation projects are ongoing (EEP).
- DWR established an agreement to contact DMF prior to spraying any SAV in coastal or joint waters (DWR).

Goal 4: Enhance and protect water quality

- A part-time Clean Marina/Clean Vessel Act coordinator was hired (DCM).
- Workshops for low impact development were hosted in September 2010 and additional workshops are planned for 2011 on topics such as water reuse, stormwater, microbial pollution, and grant writing, depending upon budget constraints (DCM).
- An issue paper was presented to Joint Legislative Commission for Seafood and Aquaculture in March of 2010 to increase awareness and explain the need for research funding regarding the impacts of endocrine-disrupting chemicals to blue crabs and oysters (DMF/MFC).
- One stormwater BMP has been installed in the Nags Head ocean outfalls and 8 more BMP's are planned. A monitoring report is expected by the Fall of 2011 (DWQ).
- DWQ partners with WRRI to conduct two educational workshops a year for engineers, consultants, local government staff and others. Past workshops have focused on stormwater but also had talks on buffers, wetlands, and 401 certifications. Also, there is the Consolidated Buffer Rules proposal under consideration (DWQ).
- Compensatory mitigation for all impacts to intermittent streams over 150 linear feet now required (DWQ).
- Outreach materials are being provided to the marinas industry with information on how to reduce impacts to water quality from boat-cleaning operations. Marinas and boatyards that provide services for boat maintenance, repairing, or building are required to obtain an NPDES Stormwater General Permit called the NCG190000. This permit was renewed on October 1, 2009 and contains a few additions and changes that were partially affected by a DWQ study in 2008. 205J funding has been allocated for up to 4 workshops in the Fall of 2010. A new website has been developed and a factsheet has been mailed to all marinas (DWQ).
- The Town of Nags Head implemented a Septic System Inspection and Tank Pumping Program which offers incentives for system inspections, septic tank pumped, and a low interest loan program for replacement of malfunctioning systems needing repair. Inspection reports are entered into a data-base to track failures, site use, age of system, size of tank, etc. (DENR).
- HB 1746, Water Infrastructure Information Needs, directs DENR, to establish a task force to develop a statewide water and wastewater infrastructure needs assessment survey, develop a plan for incorporating all information into the state water supply plan, and make recommendations consolidating and integrating information infrastructure needs, resources and funding. (DENR).
- A BMP video #4 was produced in June 2010 on the topic of sediment control and site stabilization. The video is being incorporated into the statewide 2010-2011 NC ProLogger Program's annual training module that is expected to reach approximately 1,400 loggers (DFR).
- For FY2011, $136,000 of recurring funds for CCAP was included in the state budget. In coming months, grant funds will be pursued to supplement the state allocation. These funds are targeted towards stormwater issues in the coastal counties (DSWC).
- Primary Nursery Areas are now considered in the screening process for its River Basin Restoration Plans in the Albemarle Sound area. This action is included in the implementation steps for the DMF River Herring Fishery Management Plan (EEP).

September 2010 – August 2011 Planned Action and Needs

- Complete SHA evaluation and designation process for Region 2 (Pamlico Sound and tributaries). (DMF, WRC)
- Delineate SHAs in Region 3 (Approximately White Oak River Basin). (DMF/MFC, WRC, EEP/DENR).
- Continue to review "Inner Banks" development issues and address environmental issues. (CRC/DCM, DWQ/EMC)
- Begin to address the challenges associated with Sea Level Rise and climate change more broadly in a context consistent with the reports of the Legislative Committee on Climate Change to NC.(DENR)
- Continue to increase public awareness on the value of, and threats to, coastal fish habitats and the role of the CHPP process to protect and enhance these resources.(DMF, DCM, EEP/DENR)
- Continue to assess and implement where feasible dam and barrier removal for fish passage restoration and mitigation.(DMF/DCM, EEP/DWR/DENR, WRC)
- Examine the feasibility and preferred siting of wind turbines in North Carolina without significantly impacting fish habitat.(DENR)
- Seek dedicated funding to staff DCM's Clean Marina Program and effectively implement Best Management Practices as a non-regulatory way to improve water quality in and around marinas and docks.(DCM, DENR)
- Continue development and refinement of shoreline stabilization rules that preserve ecosystem function and consider rising sea levels and a changing land/water interface.(DCM/CRC, EEP/DENR)
- Take steps to accelerate restoration of degraded waters and work towards removal from the Federal 303-d listing.(APNEP, DWQ)
- Continue to identify problems regarding infrastructure for Waste Water Treatment Plants and system maintenance. Work with the local governments to develop and implement plans to correct deficiencies.(DWQ)
- Consider development of a conservation lease for the purpose of oyster and other habitat restoration.(DMF/MFC)
- Work with the Department of Agriculture and Consumer Services to develop and implement a drug disposal program for pharmaceuticals.(DMF/MFC)
- Complete photo-interpretation of SAV imagery of coast.(DMF, APNEP)
- Continue to study the feasibility and benefits of developing an SAV Restoration Program.(DMF, APNEP, EEP/DENR)
- Seek dedicated funding for a state SAV mapping and monitoring program.(DMF, APNEP)
- Complete river herring spawning surveys in Albemarle system and prioritize obstruction removals.(DMF)
- Continue expanding the oyster sanctuary program, and seeding sanctuaries with live oysters . (DMF)
- Continue to work toward more funding for the Community Conservation Assistance Program. (DSWC)
- DWQ and APNEP will continue to increase awareness of coastal stormwater and riparian buffer rules through professional workshops, displays, and elementary school programs.

Major Overall Accomplishments of the CHPP Implementation Plan

After the CHPP was formally adopted in December of 2004, the commissions, their administrative divisions, and DENR also developed and adopted implementation plans during the summer of 2005 and again in 2007. These implementation plans detail more than 100 specific steps the agencies involved would take during the identified fiscal years to implement the CHPP recommendations. The accomplishments of the CHPP have been reported annually since 2006 through a CHPP Annual Report.

In 2009, the CHPP Team began reviewing and revising the original CHPP document as required by the Fisheries Reform Act of 1997. The Act mandates the review of each management plan at least once every five years. With staff from the Division of Marine Fisheries as the lead writers, a complete revision of the CHPP has been carried out over the past year and a half. Recommendations which were accomplished under the 2005 CHPP, or were no longer significant, were removed. New scientific findings and studies, which occurred over the past five years, have been included in the revised document. A number of new recommendations have been included in the re-written Plan. Also included in the 2010 CHPP are new, emerging issues affecting North Carolina's coastal habitats. These emerging issues include: pharmaceuticals and endocrine disruptors, climate change and sea level rise, energy infrastructure (oil), invasive species, and alternative energy issues. The 2010 CHPP will undergo reviews from the Department and the Joint Legislative Commission for Seafood and Aquaculture this fall.

Overall, the 2005 CHPP has been largely successful in implementing plan recommendations. To date, the majority of accomplishments have been non-regulatory. Prior to making large management changes, positions and funding were needed to assess compliance of existing environmental rules, complete mapping of fish habitats, and educate the public on environmental issues. Multiple large grants have been awarded to state agencies and universities to conduct research or projects in support of the CHPP. Examples include DCM receiving funding for the BIMP, shoreline mapping, and the CICEET project looking at shoreline stabilization; APNEP coordinating the pooling of resources to map SAV coastwide; and universities receiving Fishery Resource Grants (FRGs) and Coastal Recreational Fishing License (CRFL) grants to collect needed habitat information. Much has been done in those areas, but work still remains.

The passing of the coastal stormwater rules marks the largest regulatory change that the 2005 CHPP influenced. It occurred through the hard work of numerous DENR staff, commissioners and CHPP supporters such as environmental NGOs. CRC also implemented sediment criteria rules for beach nourishment and other rule changes to minimize habitat impacts from water dependent activity. Regulatory changes for habitat protection tend to take longer to implement because scientific information is needed to support the change, discussions are needed among agencies, or educational outreach to stakeholders is required. Some of the new scientific information needed to support needed changes is part of the 2010 CHPP.

Several large issues that involve regulations such as beach nourishment, ocean shoreline armoring, estuarine shoreline stabilization, and protections for anadromous fish habitat are continuing. The CHPP, over the past five years, has created a structured means for various agencies and commissions to discuss issues which have resulted in improved coordination and cooperation and better protection of coastal fish habitat. The 2010 CHPP, as revised, will continue to provide an avenue for dialogue among the many agencies and organizations which have an interest in the restoration, enhancement and protection of our valued coastal habitats.

ATTACHMENT 1.

CHPP STEERING COMMITTEE MEMBERS, 2009 – 2010

Marine Fisheries Commission

Ms. Anna Beckwith	Morehead City	252-671-3474
Dr. B. J. Copeland	Pittsboro	919-837-5024

Environmental Management Commission

Dr. Charles H. Peterson	Morehead City	252-726-6841
Mr. Tom Ellis	Raleigh	919-872-0897

Coastal Resources Commission

Ms. Joan Weld	Currie	910-283-4521
Mr. Bob Emory	New Bern	252-633-7417

Wildlife Resources Commission

Mr. Bobby Purcell	Cary	919-387-0465
Mr. Ray White	Manteo	252-441-4464

ATTACHMENT 2.

NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN STEERING COMMITTEE

North Carolina has a number of programs in place to manage coastal fisheries and the natural resources that support them. The Coastal Habitat Protection Plan (CHPP) has identified gaps in the protection provided for important fish habitats under these programs, and also notes that these habitats would benefit from stronger enforcement of existing rules and better coordination among agencies. The focus of the CHPP, per the Fisheries Reform Act of 1997, is on activities regulated by the Marine Fisheries, Coastal Resources, Environmental Management and Wildlife Resources Commissions. During the summer of 2007 each Commission and the Department of Environment and Natural Resources (DENR) adopted a second two-year set of plans to implement the recommendations found in the 2005 CHPP, once again with a focus on actions that could be taken based on existing resources and within the 2007-2009 budget cycle. Most will be completed before the final reviews and adoption of the 2010 CHPP update, scheduled to be completed by the end of 2010. There continues to be a basic understanding among agencies that all recommendations and their associated actions will be supported regardless of lead agency. Listed in this attachment are the agencies and their respective commissions with voting status on the CHPP Steering Committee.

Department of Environment and Natural Resources

DENR is the lead stewardship agency for the preservation and protection of North Carolina's outstanding natural resources. The Department, which has offices from the mountains to the coast, administers regulatory programs designed to protect air quality, water quality, and the public's health. Through its natural resource divisions, DENR manages fish, wildlife, forestland and wilderness areas. The DENR implementation plan focuses on coordination among the Commissions and the Department, as well as ensuring that all DENR Divisions are taking actions consistent with the goals and recommendations of the CHPP.

Marine Fisheries Commission and Division of Marine Fisheries

The Marine Fisheries Commission (MFC) and Division of Marine Fisheries (DMF) manage the commercial and recreational fisheries in North Carolina's estuarine and ocean waters. These waters, including their specific physical habitats (water column, wetlands, sea grasses, soft and hard bottoms, and shell bottoms), produce the finfish, shrimp, crabs, oysters, and other economically important species sought by fishermen, as well as the forage base that supports them. The Division implements the Commission's rules and Department initiatives. The Division's mission is to ensure sustainable marine and estuarine fisheries for the benefit of the people of North Carolina. Division staff drafted the CHPP, and they will staff many of the groups working on implementation actions. Staff in DMF district offices will also utilize CHPP information to review potential impacts of coastal development projects.

Environmental Management Commission and Division of Water Quality

The Environmental Management Commission (EMC) is responsible for adopting rules for the protection, preservation and enhancement of the State's air and water resources. The Commission oversees and adopts rules for several divisions of DENR, including the Divisions of Air Quality, Water Resources, and Water Quality. The goal of the Division of Water Quality (DWQ) is to maintain or restore and improve the aquatic environment and to ensure compliance with state and federal water quality

standards. In coordination with the CRC and MFC, and their respective staffs, the EMC and DWQ have developed specific actions to implement the CHPP recommendations.

Coastal Resources Commission and Division of Coastal Management

The Coastal Resources Commission (CRC) establishes policies for North Carolina's Coastal Management Program and adopts implementing rules for both the N.C. Coastal Area Management Act (CAMA) and the N.C. Dredge and Fill Law. The commission designates areas of environmental concern, adopts rules and policies for coastal development within those areas, and certifies local land-use plans. The Division of Coastal Management (DCM) serves as staff to the CRC and works to protect, conserve, and manage North Carolina's coastal resources through an integrated program of planning, permitting, education and research. With jurisdictional authority at the interface of many of the habitats identified in the CHPP, the CRC and DCM take actions to complement those of the MFC/DMF and EMC/DWQ.

Wildlife Resources Commission

The Wildlife Resources Commission (WRC) and its agency became full members of the CHPP Steering Committee and the CHPP process in the fall of 2008. The WRC has as its mission "To manage, restore, develop, cultivate, conserve, protect, and regulate wildlife resources and their habitats for the citizens of the state of North Carolina." The Wildlife Resources Commission and its staff, as it directly relates to the CHPP, manage the state's freshwater fisheries through fisheries research, fisheries management, hatchery operation and habitat conservation, administers and coordinates educational programs designed to facilitate conservation of the state's wildlife and other interrelated natural resources and the environment people share with them.

2009-2011 CHPP Implementation Plan (9/20/2010 update)

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
1.1	Coordinate with DENR's SEPA/CSI guidance project and share ACE permit tracking system to address cumulative impacts	DCM, ACE	Ongoing	NA		300
1.1	Evaluate use of forestry BMPs at logging sites.	DFR	Ongoing	PC	As of Spring-Summer 2010, data analysis and report writing is underway for the second round of these periodic BMP surveys. This second round was undertaken between 2006 and 2008, and evaluated more than 2000 logging sites. The DFR expects to complete and produce a final report by Fall 2010 and will post it to the "Water Quality" link on the website: http://dfr.nc.gov/water_quality/water_quality.htm. Additional periodic BMP surveys are being planned for the foreseeable future, with the third round of surveys expected to begin in late 2010; this next generation BMP surveys will be paperless, being completed on tablet PCs in the forest.	347
1.1	Continue meeting with the Shoreline Survey Task Force finalizing proposed inspection program and put the plan in report form for presentation to CHPP Steering Committee	DENR, DEH-SS	2010	C	Proposed inspection program presented report to CSC at spring 2010 meeting (6/23/2010). Another action is needed to implement recommendations of the report.	361
1.1	Cross train Marine Patrol officers to take note of and report violations of EMC rules and permits in Coastal Waters to appropriate agencies.	DMF-Marine Patrol	Plan in FY 2008-09; train in 2009-10; implement following training.	PC	DMF has contract to fly DCM compliance staff – funding to fly ~ every 2 mo. Training in 2008 still effective – find violations. Will retrain as necessary.	363
1.1	Enhance DMF habitat alteration permit review capability.	DMF-Habitat Protection	Establish program and staff in FY 2009-2010	C	Two positions hired for Wilmington and Washington Regional offices (6/23/2010).	364
1.1	The Department will seek funding for additional compliance positions in appropriate programs.	DENR		DK		391
1.1	The Division of Coastal Management will develop a Compliance Education	DCM	Ongoing	NA	On hold due to budget	299

2009-2011 CHPP Implementation Plan (9/20/2010 update)

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
	Coordinator position. Compliance promotion by DCM will encourage voluntary compliance with CRC and CAMA/Dredge and Fill rules, laws, and requirements, helping overcome some of the barriers to a successful and effective enforcement program.					
1.2	The Department, through the APNEP, will develop a comprehensive monitoring plan for the estuarine system.	APNEP	2011	PC	Data referenced in the monitoring data inventory for the Virginia portion of the Pasquotank and Chowan Rivers. Data will include monitoring data on water quality and living resources as well as land use, population trends and other potential ecosystem stressors. Analyses will be conducted for indications of change over the period of record. The goal is to develop a preliminary State of the River Basin report for the Pasquotank and Chowan Rivers. The approach will be holistic in that changes in monitored variables will be tracked throughout river basins and river systems. These stations are monitored by the Virginia Department of Environmental Quality. These data can be further analyzed to look for trends in seasons as well as trends in other monitored parameters. An attempt will be made to trace changes in water quality and living resources back to changes in the basin.	367
1.2	Enhance dependable water quality monitoring by investing in Neuse Estuary MODMON and FerryMon.	DENR	Ongoing	PC	FerryMon funding continues.	392
1.2	Work with other DENR agencies to develop data sharing processes. Specifically address data types and standards, data sharing standards, definitions, web services, scaling, integration mechanisms, administration, QA/QC, and other issues.	DMF-Fisheries Management and IT sections	2011	NA		366
1.2	The Department, through the Division of Environmental Health, will develop a data system for monitoring data and mapping of the	DEH-SS	Ongoing	NA	Monitoring data IBEAM development has been at a stand-still. No DENR programmer available to complete IBEAM system for water sampling data and shellfish closure data	362

2009-2011 CHPP Implementation Plan (9/20/2010 update)

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
	closure of shellfishing waters to enhance the sharing of information among Departmental Divisions.					
1.3	Develop and distribute brochures about fish, fish habitat, and fishing to be available for general distribution by DENR staff.	DENR, NERR	2009-11	PC	The NC Coastal Reserve Program has developed an education plan for the Division that includes elements of the CHPP. Budgetary constraints are limiting implementation of the plan.	304
1.3	Conduct outreach to educate citizens about DWQ's Neuse and Tar-Pamlico riparian buffer rules and 401 Water Quality Certification program.	DWQ, APNEP	Ongoing	PC	DWQ developed an educational brochure about riparian buffer rules in the Neuse and Tar-Pamlico River Basins and a factsheet about the 401 Water Quality Certification program. Funds to print documents are provided through APNEP	332
1.3	Provide information to focus students in K-12 understanding the biodiversity of lakes, streams, and estuaries.	DWQ, DPR, APNEP	Ongoing	PC	DPR and DWQ have conducted three workshops for education for NC State Parks, local governments, and non-profits. DWQ also participated in multiple community events with an interactive booth about biodiversity of our lakes, streams, and estuaries	333
1.3	Educate traditional economic interests on the impact of stormwater rules	DWQ	Ongoing	PC	Workshops under development and will be submitted to NC Realtor Board for continuing education credits.	346
1.3	Incorporate CHPP materials into current DMF outreach activities.	DMF-Habitat and Public Information sections	Ongoing	PC	Habitat bites included in DMF internal weekly newsletter. Potential to do project this year with federal grant, but need to consult Public Information section to incorporate CHPP recommendations.	368
1.3	Create interactive display(s) showing habitat functions and threats for use at festivals, etc.	DMF-Public Information	2010	NA		370
1.3	The Department, through the Public Information Office will coordinate with the Zoo, Aquariums, Museum of Natural Sciences, State Parks, Educational State Forests and Environmental Education Centers to integrate the relevant components of the CHPP into exhibits and programs.	DENR-Public Information Office	Ongoing	DK		393
1.3	DCM and N.C. Sea Grant will	DCM, Sea Grant	Ongoing	NA	Research needs from the 2010 CHPP update have not been	303

2009-2011 CHPP Implementation Plan (9/20/2010 update)

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
	incorporate CHPP into their research and education efforts.				delivered to DCM-NERR or NC Sea Grant.	
1.4	The DFR will revise its Memorandum of Agreement (MOA) documents with the NC Division of Land Resources and the NC Division of Water Quality to ensure compliance monitoring and enforcement policies are consistently practiced in a timely and seamless manner. These MOAs primarily address interdivisional communication on the nine forestry performance standards known as the Forest Practice Guidelines Related to Water Quality (FPGs) and the Riparian Buffer Rules applicable to NC's river basins.	DFR	Early 2011	PC	The MOA revision with NC Division of Land Resources is almost complete. Barring unforeseen complications, DFR is on track to have the revised MOA implemented by September 2010. The revised MOA with DWQ is still in the early stages. Present target is to have this MOA finished by early 2011.	348
1.4	The Department will hold quarterly meetings on proposed projects and enforcement cases that are or may be subject to the permitting or enforcement jurisdiction of the programs of more than one division and invite other state and federal agencies to participate as appropriate.	DENR, DMF	Ongoing	DK		394
1.4	Continue to review "Inner banks" development issues and address environmental issues	DMF, DCM, DWQ, WRC	March 2012	PC	CRC has begun a review of its land use planning guidelines. In addition to the certification process components, the management topics will be reviewed and it is expected that sea level rise will be incorporated in some form. NC Coastal Resources Law, Planning, and Policy Center leading an effort to determine emerging/priority issues facing the inner coast over the next 10-15 years. The resulting report may be submitted to various state agencies, local governments and rule-making entity, as appropriate. The report is a complement to the recent Ocean Policy Steering Committee report. Basin Planners have never had any discussions with DCM regarding	326

2009-2011 CHPP Implementation Plan (9/20/2010 update)

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
					"Inner Banks" development issues nor were they even aware that was an action to be addressed (Dianne Reid/DWQ).	
1.4	DWQ Basinwide Planners review CAMA Land Use Plans	DCM, DWQ	Ongoing	DK	DLUPs reviewed by DWQ basin-wide planners in 2010: Caswell Beach, Dare County, Kill Devil Hills, Hertford, Holden Beach, Oak Island, Ocean Isle Beach, and Sunset Beach (John Thayer/DCM). DWQ has not received any to review during this time period (Dianne Reid/DWQ).	306
2.1a	Complete photo-interpretation of 2007-08 coast-wide SAV imagery.	DMF, DENR-ITS, APNEP	2011	PC	Don Field (NOAA) has digitized portions of Bogue and Core Sounds and eastern Pamlico Sound, but the remaining needs to be digitized. No DMF progress because position vacated and frozen due to budget.	372
2.1a	Seek dedicated funding for the state SAV mapping program.	DENR-ITS, DMF-Habitat Protection & Resource Enhancment, APNEP	2010	PC	Federal funding is available to hire one GIS analyst. The GIS analyst position with DMF has not been filled (6/23/10). Position in process of hiring.	373
2.1a	Map deep (> 15 ft) estuarine bottoms, starting with lower Neuse River.	DMF-Resource Enhancement section		NA	Mapping planned but no areas completed. The USACE has some location information for deep shell bottom in the lower Neuse River. The DMF Fisheries Management Section has location information on deep shell bottom in the lower Pamlico River/Pamlico Sound.	371
2.1b	DMF and NERR will initiate SAV monitoring of sentinel sites	DMF, NERR	Ongoing	PC	Survey work by NERR conducted in 2007-2008 (see 07-09 action). The NC Coastal Reserve conducted a survey of members of the NC Interagency SAV Work Group to determine SAV outreach needs. The survey was used to develop a matrix of priorities for outreach products and audiences, as well as a plan to address those needs. The plan was incorporated as an outreach task of an SAV monitoring proposal submitted by members of the SAV Work Group for 2009 NC CRFL Marine Resources funding. Although the outreach task was not funded for 2009, it provides a basis for future proposals. DMF not conducting any sentinel site monitoring of SAV at this time.	307
2.1b	Conduct cooperative DMF/NOAA research evaluating methods for evaluating status and trends in SAV	DMF-Habitat Protection section, APNEP	Finish by 2011	PC	Work continuing with extension of project into 2010 growing season.	374

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Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
	distribution and condition.					
2.1b	Continue mapping of all shallow estuarine bottom and bottom types.	DMF-Resource Enhancement section	Ongoing	PC	41,570 and 37,172 acres mapped in 2009 and 2010, respectively. Counties where mapping occurred Hyde, Carteret, Brunswick, and Onslow. As of 9/14/2010 the following areas remain unmapped: Brunswick County: Lockwood Folly to Snows Cut/Bald Head Island/New Inlet, Mainland Hyde County: West Bluff Bay to Berrys Bay (minus the following areas mapped: Lake Mattamuskeet Outfall Canal, Middletown Creek, and Cedar Creek).	375
2.2	Conduct SHA evaluation and designation process for Pamlico Sound and tributaries (Region 2).	DMF-Habitat Protection section, WRC	Dec. 2010	PC	Committee formed, began meeting in April 2010 and analysis is underway with assistance from Sea Grant Fellow. Expected completion date Dec 2010.	377
2.2	Integrate resulting criteria and information from SHA committee into DENR Divisions' guidelines, policies, and rulemaking.	DMF-Habitat Protection section and Directors Office, WRC	Start July 2009; continue through SHA designation	PC	SHA nominations are currently included as information in planning for conservation (6/23/2010). Strategic Habitat Areas were proposed as EFH-HAPC by SAFMC. Strategic Habitat Areas were proposed as EFH-HAPC by SAFMC. SHAs need to ground-truth before consideration in rule-making, though some consideration could be given in the permit review process.	379
2.2	Conduct SHA evaluation and designation process for White Oak basin (Region 3).	DMF-Habitat Protection section, WRC	2011	NA	No change from 07-09 status.	376
2.2	Work with DENR to include SHA priorities within EEP local watershed plans and DENR conservation planning tool.	DMF-Habitat Protection Section, EEP	Ongoing	PC	Currently working with ECU and EEP to relate SHA and local watershed plans that will benefit ecosystem restoration efforts (6/23/2010). EEP incorporating underlying data from the SHA prioritization into the River Basin Restoration Priority updates for the Pasquotank, Chowan, and Roanoke plans in the most recent cycle.	354
2.2	Study the feasibility and benefits of developing an SAV Restoration Program.	DWQ, EEP, DMF, WRC	2011	PC	The Interagency Partners SAV Mapping and Monitoring Group has been developing a plan. The USACE in leading an SAV restoration effort in Currituck Sound.	335
3.1a	Enhance Oyster Shell Recycling Program. Discourage use of shell material for landscaping or other uses besides shellfish cultch.	DMF-Resource Enhancement section	Ongoing	PC	19,724 bu. collected FY 09/10.	381
3.1a	Work with university researchers to	DMF-Resource	Ongoing	PC	All 9 sanctuaries sampled by DMF for recruitment, survival	382

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	monitor fish/invertebrate use of oyster sanctuaries and effect of oysters on local water quality.	Enhancement section			and growth. Work is in progress regarding university research activities references in 07-09 IP (action #s 261 and 256).	
3.1a	Cooperate with university researchers on oyster larvae distribution and movement investigations	DMF-Resource Enhancement section	2009-2011	PC	NCSU (Eggleston's group) continue work on this. Refer to draft 2010 CHPP.	383
3.1a	Support funding for establishment and operation of shellfish hatcheries.	DMF-Resource Enhancement section; Maintenance Services Office	Ongoing	PC	Construction of a research hatchery completed but needs operations budget.	384
3.1a	Continue expanding the oyster sanctuary program, seeding sanctuaries with live oysters, and constructing a shellfish hatchery	DMF-Resource Enhancement section	Ongoing	PC	Oyster sanctuary #10 has been established in Pamlico Sound off Gibbs Point (6/23/2010). 48-150 ton mounds constructed (7,200 tons class B riprap). No seeding due to budget. Hatchery construction completed but need operations budget.	380
3.1b	DENR review of state agency requests to the Natural Heritage Trust Fund will place a priority on those proposals that would further the protection and restoration of critical fisheries habitats.	DENR, DMF-Habitat Section	Ongoing	DK	Do funding requests to Natural Heritage Trust Fund consult DENR's Conservation Planning Tool for guidance/priority?	395
3.1b	The CRC may amend its administrative rule governing coastal wetlands (15A NCAC 7H 0.0205 Coastal Wetlands) to prevent alteration resulting in conversion of wetlands to uplands over time.	DCM	Ongoing	PC	In 2009, the CRC implemented rule changes to restrict how and when marsh can be mowed to maintain viability of the vegetation. The proposed changes include a list of standards under which limited alterations, or alterations by resource agencies or academic institutions, shall be exempt from permit requirements. A second public hearing was heard at the June 29 meeting with an anticipated effective date of November 1, 2009.	309
3.1b	Establish and maintain an inventory of restoration projects describing the location, amount, and type of habitat established in the coastal river basins.	APNEP, EEP, CWMT, DWQ	Ongoing	C	DWQ has a database of wetland mitigation sites. See Tammy Hill for access to the data (John Dorney/DWQ). EEP maintains a database of restoration projects and will provide DMF with updates of projects located in coastal river basin SHAs. EEP tracks the number of streams, wetland (riparian, non-riparian, coastal marsh) and buffer projects. As of April 2010, EEP has over 170 restoration, enhancement, and preservation projects with the drainages containing SHAs. These projects encompass	334

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
					more than 120 miles of stream, 25,000 acres of riparian and non-riparian wetlands, 520 acres of coastal marsh, and 860 acres of buffer.	
3.1b	The DFR will work with other DENR agencies to start pre-construction water quality and water quantity monitoring of 'The Canal'.	DFR	State late 2008-early 2009	PC	Supporting WQ/biota monitoring funding in the amount of $23,000 was procured from NCDOT and APNEP in 2009-10, and the contract supporting the monitoring vendor, NCSU Bio-Ag Engineering Department, was finalized in August 2010. The DFR and monitoring vendor are presently finalizing the scope of work. Monitoring of the stream will commence in September 2010. The stream restoration itself is planned to occur in the 2015 timeframe; therefore, ample preconstruction monitoring data should be realized. Additional monitoring funding is needed in 2011.	349
3.1b	Work with the Corps of Engineers and the Department of Transportation on innovative mitigation projects and an appropriate crediting system for them under the EEP. Such projects may include the protection and restoration of SAV and oyster beds, and the removal of certain dams and other aquatic organism barriers.	EEP	Ongoing	PC	During the past year, EEP presented two non-traditional mitigation strategies to the interagency Review Team that oversees the approval of mitigation credits for the program, including (1) barrier removals, and (2) water storage and treatment under agriculture fields in the coastal plains. Discussions about their viability as mitigation projects are ongoing.	355
3.1b	DSWC encourage local SWCDs to include Strategic Habitat Areas and other CHPP priorities in local priority ranking system for the Agriculture Cost Share Program and the Community Conservation Assistance Program.	DSWC	2009-11	PC	The DSWC is working with DMF to obtain SHA data in a format that is suitable to share with SWCDs; once complete, this information will be shared with affected areas, and SWCDs will be encouraged to use these SHAs in their priority ranking system for cost share programs.	359
3.1b	Make protection and restoration of critical fisheries habitats a priority part of the One North Carolina Naturally initiative, such as developing conservation plans for the twenty coastal counties that identify potential conservation focus areas.	DENR, DMF-Habitat Section	Ongoing	PC	DMF-Habitat Section is submitting both habitat data and Strategic Habitat Area nominations to DENR's Conservation Plan Tool.	396
3.1b	The Department will assist coastal	DENR, DWR	Ongoing	DK		397

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
	local governments in identifying navigation and stream restoration projects of particular importance to both fish and fisheries with grants from the State-Local projects program of the Division of Water Resources.					
3.1b	Include Strategic Habitat Areas as a priority area for CREP.	DSWC	Ongoing	PC	The DSWC is working with DMF to obtain the SHA data layers for Region 1 so this may be incorporated in the CREP Priority Areas for 2010.	358
3.2	Develop minimum criteria for monitoring beach nourishment projects.	DCM	Ongoing	NA	Part of the Beach and Inlet Management Plan (BIMP); no action at this time.	310
3.2	Complete beach and inlet management plan	DCM	August 2009	I	DENR is currently reviewing a final draft of the document and it was expected to be released in August 2009. On hold.	311
3.2	DCM will serve as a clearinghouse for beach nourishment monitoring data	DCM	Ongoing	NA	Part of the Beach and Inlet Management Plan (BIMP).	312
3.2	Consider development of conservation lease for the purpose of oyster and other habitat restoration	DMF-Habitat Protection Section	2011	PC	Was considered in the latest oyster FMP and presented to the CHPP Steering Committee in 2009 (6/23/2010).	385
3.2	Work with the Division of Water Resources to minimize conflicts between Aquatic Weed Control practices and protection of SAV habitat	DMF-Habitat Protection Section	Ongoing	PC	Established agreement for DWR to contact DMF prior to spraying any SAV in coastal or joint waters.	386
3.4	Support/promote efforts to develop shoreline stabilization demonstration projects along non-ocean shorelines.	DCM	Ongoing	PC	The NC Coastal Reserve Program has initiated a project focusing on three regions along North Carolina's coast (northern, central, southern), where researchers from NOAA, NC NERR, the UNC-W, and UNC-Chapel Hill will assess the ecosystem impacts of shoreline stabilization. The project also includes the design and construction of a demonstration project based on alternative shoreline stabilization techniques at the Rachel Carson component of the NC NERR. During the project, an approach to evaluate ecological and socioeconomic costs and benefits of shoreline erosion and protection	316

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
					alternatives will be developed. The researchers will work closely with an advisory panel composed of local, state, and federal resources managers, contractors, property owners and other stakeholders. The NC NERR will develop outreach and educational products to disseminate the knowledge and tools developed by the research team.	
3.4	Use NOAA grant to delineate estuarine shorelines; apply methods to CAMA counties.	DCM	June 2011	PC	The estuarine shoreline and associated commercial, recreational, and erosion control structures have been delineated for seven coastal counties. Eleven additional counties are expected to be delivered to DCM by June 30, 2011. Once shorelines are delineated, they will go through an extensive QA/QC process by DCM. Currently, the shoreline of Tyrell County has been delivered to DCM, having gone through the QA/QC process and is ready for distribution.	317
3.4	Work with NOAA's Technical Advisory Committee members in their sponsored research program "Ecological Effects of Sea Level Rise" to develop information/tools to better forecast and manage landscape responses of critical natural resources relative to sea level rise.	DCM, DMF-Habitat Protection section	Ongoing	PC	The DCM worked with DENR to co-host a sea level rise forum in January 2010 intended to display the best available science on current and project sea level rise for NC to help form the scientific basis for policy and management decisions. All scientists and researchers investigating sea level rise in the state were invited to present their work. The target audience included legislators, state and local policy makers and resource managers, elected officials, emergency managers, planners, infrastructure interests, conservations, private sector and other interested parties. The forum focused on how much relative sea level rise should NC prepare for by 2100.	315
3.4	Encourage alternatives to vertical shoreline stabilization methods through permit requirments and fees.	DCM	Ongoing	PC	Marsh sills added as a cost-share practice for the Community Conservation Assistance Program in DSWC. In 2009, the DCM developed a decision making tool (web based and paper brochure) to assist property owners in making appropriate shoreline stabilization decisions based upon their shoreline and adjacent water characteristics.	314
3.4	Refine rule 15A NCAC 07H .2700 GP for Marsh Sills.	DCM	Ongoing	PC	Marsh-sill site evaluations are complete and results are currently being discussed with agencies.	313
3.4	Consider erosion rates as an additional factor in the siting of structures along estuarine and public trust shorelines.	DCM	After 2011-2013	NA	DCM not ready to work towards this action yet, and is not planned on in the next 2 year IP cycle.	318

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3.5a	Continue to study the feasibility and benefits of dam and barrier removal in general and for mitigation.	DMF-Habitat Protection, WRC, DWQ, EEP, ACE	Ongoing	PC	Milburnie Dams on the Neuse River and Atkinson Mill Dam on the Little River being targeted for removal. American Rivers pursuing partners in removal of other obstructions (6/23/2010).	389
3.5b	Survey previously identified Albemarle Sound river herring spawning areas to estimate current condition and spawning function, and identify stream obstructions on river herring spawning streams.	DMF-Fisheries Management section, WRC	Ongoing	PC	River herring spawning surveys have been completed for the Chowan, Perquimans, and Little Rivers. Other areas remain to be surveyed.	388
3.5b	The Department, through the Division of Water Resources and the Ecosystem Enhancement Program will pursue dam removal projects where appropriate.	DWR, EEP, ACE	Ongoing	PC	EEP, with several planning partners, applied for funding to develop a dam removal assessment tool as part of the Wake-Johnston Collaborative Local Watershed Plan. EEP joined the new NC Dam Removal Task Force coordinated by American Rivers.	356
4.1a	Work with the Department of Agriculture and Consumer Services to develop and implement a drug disposal program for pharmaceuticals.	DMF/MFC, DWQ/EMC	2011	PC	MFC wrote letter requesting assistance from the Attn Gen. DMF wrote letter to DEA supporting need for drug disposal program. No change yet from DEA.	336
4.1a	Seek funding to initiate research on impacts of endocrine-disrupting chemicals to blue crabs and oysters.	DMF-Habitat Protection Section	2011	PC	Issue paper presented to Joint Legislative Commission for Seafood and Aquaculture in 3/2010 to increase awareness & explain need for funding associated research.	390
4.1b	Evaluate 15A NCAC 2H .0400 and 2B .0500 regulations for opportunities to provide incentives for upgrading all types of wastewater treatment systems and make recommendation to EMC.	DENR, DWQ	Ongoing	NA	Good example of local actions: The Town of Nags Head implemented a Septic System Inspection and Tank Pumping Program - offers incentives including a free system inspection, a $30 credit for having their septic tank pumped as a result of the septic inspection, and a low interest loan program for replacement of malfunctioning systems needing repair. Inspection reports are entered into a data-base to track failures, site use, age of system, size of tank, etc. HB 1746 Water Infrastructure Information Needs directs DENR, to establish a task force to: • Develop a statewide survey to supplement the information gathered through EPA's water and wastewater infrastructure	327

Goal.Rec	Action	Lead	Target Year	Status	Details	ActionID
					needs assessment; • Develop a plan for incorporating all information into the state water supply plan, • Make recommendations on a plan for consolidating and integrating information on statewide water and wastewater infrastructure needs, resources and funding. It also directs DENR and the Local Government Commission to jointly evaluate the costs and benefits of measures to increase the financial oversight of public water systems and wastewater systems to ensure that the systems are financially sound.	
4.2	Evaluate 15A NCAC 2H .0400 rules as they apply to ocean wastewater treatment systems and make recommendation to the EMC regarding modifications.	DWQ	Ongoing	NA	Really no movement on the rules due to staffing cutbacks, etc.	328
4.3	Work with DENR to prioritize stormwater outfall mapping efforts on areas near critical fisheries habitats and implement DOT's Stormwater Pilot Project on new and innovative technologies to clean up discharges from DOT outfalls and associated outlets.	DENR, DOT, DWQ, DEH-SS&RWQ	Ongoing	PC	Work has been conducted by DWQ (municipalities) and DEH-Shellfish Sanitation and Recreation Water Quality section (shellfish harvest water shoreline surveys).	400
4.3	Evaluate impact of deep-water ocean outfall for stormwater management.	DWQ	2009-11	NA	Funding cut. However, one stormwater BMP installed in Nags Head ocean outfalls and 8 more planned; monitoring report due in Fall 2011.	337
4.3	Enhance DWQ coastal/state stormwater database by mid-2011	DWQ	2009-2011	NA	Issue remains, priority on providing accurate new permit data. When resources are available, existing database will be updated.	340
4.4	Pursue funding for the Community Conservation Assistance Program with emphasis on CHPP stormwater priorities in coastal counties	DSWC/DENR	2011	PC	For FY2011, ~$136K recurring funds included in the state budget. In coming months, grant funds will be pursued to supplement the state allocation.	360
4.4	Provide funds to local governments for educating citizens in their	DWQ	Ongoing	DK		331

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	jurisdictions about DWQ's Neuse and Tar-Pamlico riparian buffer rules.					
4.4	Provide Phase II stormwater educational & technical assistance to local governments through the DENR Runoff Pollution Campaign and through partnerships with the Division of Community Assistance and UNC Institute of Government.	DENR, DWQ	2011	DK		341
4.5a	Enhance DCM education efforts such as the N.C. NERR Septic Systems Workshops.	DCM, NERR	Ongoing	PC	Workshops currently planned for next year include topics such as water reuse (I.e., rain water harvesting, gray water use), stormwater workshops for realtors, a microbial pollution workshop, and a grant writing workshop depending upon budget constraints.	319
4.5a	The DFR will seek funding to purchase 'rehab' fire plows for five of its coastal-based district offices.	DFR		NA	In 2009, DFR's request for grant funding via the Coastal Recreational Fishing License Grant (CRFL) was rejected. A second application as not submitted for the 2010 CRFL Grant RFP, because this latest RFP specified narrow grant objectives and DENR agency partnerships limited to DMF and WRC.	350
4.5b	The DFR will begin long-term water quality and water quantity monitoring of Beddingfield Creek during 2007 in anticipation of implementing a 3,000+ acre watershed restoration effort in the Neuse River Basin.	DFR	2007-09	I	No progress to date due to other project priorities.	351
4.5c	Coordinate with Wetland Functional Assessment Team to determine wetland status and trends.	DCM, DMF, DWQ, WRC	Ongoing	NA	DWQ needs EPA funding to do this and they can write a grant for next year although EPA is unlikely to fund it (John Dorney/DWQ). Suggest discontinuing this action or changing wording to address monitoring wetland status and trends.	320
4.5g	Implement workshops for engineers and consultants on stormwater, buffer, and 401 Water Quality Certifications.	DWQ, WRRI	Ongoing	PC	DWQ partners with WRRI to conduct to conduct 2 educational workshops a year for engineers, consultants, local government staff and others. Past workshops have focused on stormwater but also had talks on buffers, wetlands, and 401 certifications. Also there is the Consolidated Buffer Rules proposal under consideration	330

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4.5g	Enhance forestry BMP compliance with education videos, outreach projects, and guide books.	DFR	Ongoing	PC	BMP video #4 was produced in June 2010 on the topic of sediment control and site stabilization. The video is being incorporated into the statewide 2010-2011 NC ProLogger Program's annual training module that is expected to reach approximately 1,400 loggers. A limited number of video copies will be duplicated and distributed.	353
4.5g	Obtain funding to restore designated streams and associated wetlands designated as anadromous fish spawning areas in the Albemarle Sound area as implementation steps for the River Herring Fishery Management Plan.	DMF-Fisheries Management section, APNEP, EEP, WRC		PC	EEP incorporates PNAs into the screening process for its River Basin Restoration Plans in this region in 2009. The Targeted Local Watersheds (TLW) designation is required for EEP (and others) to spend funds on mitigation projects in those TLWs (Rob Breeding/EEP). Whether AFSAs are also incorporated is unknown.	357
4.6a	EMC solicit public comment on a proposal to extend the vegetative setback for new development within the 20 CAMA Counties from 30 feet to 50 feet.	DWQ		C	With passage of new Coastal Stormwater Rules, this item is complete	342
4.6c	Expand CAMA Areas of Environmental Concern (AECs) upstream and landward within CAMA counties.	DCM		NA	The Division in reconsidering this action pending completion of the estuarine shoreline mapping project.	321
4.6e	Develop a mitigation policy for intermittent streams.	DWQ, EEP		C	DWQ now requires compensatory mitigation for all impacts to intermittent streams over 150 linear feet (John Dorney/DWQ).	345
4.7	Seek dedicated funding to staff DCM's Clean Marina Program and effectively implement Best Management Practices as a non-regulatory way to improve water quality in and around marinas and docks	DCM	Ongoing	PC	DCM has hired a part-time Clean Marina/Clean Vessel Act coordinator	302
4.7	Inventory docks and piers in the 20 coastal counties.	DCM		PC	Part of Ancestor action #80 (shoreline and structures inventory)	322
4.7	Incorporate EMC's prohibition of marinas in ORWs into CRC rules.	DCM		NA	No action. May need to reassess necessity.	323
4.7	Evaluate marina development	DCM	Ongoing	PC	The rule referenced in Action #248 went into effect July 1,	324

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	standards (rule NCAC 7H .0208(b)(5)). CRC consider rule changes to implement in dock and pier management.				2009	
4.7	Improve wastewater/stormwater management at coastal marinas	DWQ, DCM	Ongoing	PC	The DWQ decided to use education and outreach to provide guidance to the marinas industry regarding how to reduce its impact to water quality from boat-cleaning operations. These materials are located at http://h2o.enr.state.nc.us/ws/marinas.htm. Marinas and boatyards that provide services for boat maintenance, repairing, or building are required to obtain an NPDES Stormwater General Permit called the NCG190000. This permit was renewed on October 1, 2009 and contains a few additions and changes that were partially affected by a DWQ study in 2008. 205J funding has been allocated for up to 4 workshops in the Fall of 2010. A new website has been developed and a factsheet has been mailed to all marinas.	325
4.7	North Carolina's Clean Marina Program and Clean Vessel Act activities will emphasize the threats to fish habitat and benefits of BMPs	DCM	Ongoing	PC	2010 reprint of the Boaters Guide to Protection of Coastal Resources has been expanded to address additional recreational impacts on coastal habitats (marine debris, vessel sewage, n-discharge zones)	301
4.8a	Support early implementation of environmentally superior alternatives to waste lagoon and spray field systems. Encourage commissions to express their support for early implementation.	DENR, DWQ	Ongoing	PC	Rules for new or expanding swine farms became effective on 1/1/2009. These rules apply to LCP projects as well. Four farms have voluntarily converted to innovative systems through LCP and CWMTF grants. DSWC and DWQ are reviewing three additional projects for conversion through the LCP process.	329
4.8a	The Department, through the Division of Pollution Prevention and Environmental Assistance, will provide contract and independent swine farms with the technical assistance and training needed to implement effective Environmental Management Systems.	DENR, DPPEA		DK		399