

**RECOMMENDATIONS OF THE NORTH CAROLINA ESTUARINE SHORELINE PROTECTION STAKEHOLDERS TEAM
IMPLEMENTATION MATRIX**

Citation Reference	Recommendation	Program Type	Support/ Partnership	Existing / New Recommendation	Target Date	Funding Needed	Level of Action	Implementation Status	Constraints to Implementation	Comments/Notes	Follow-up Actions
A. Institutional Coordination											
<i>1. Agency Communications</i>											
<i>(a) Intra-agency</i>											
A-1 (a)(1) [p. 18]	Accelerate coastal habitat protection plan design and implementation	NR	DENR Secretary	Existing	N/S	YES	Admin	Partial (In Progress)	Schedule delays are possible due to a lack of funding and staff	Original tentative schedule for CHPP preparation and approval: Round 1 – 2001;Rounds 2/3 – 2002;Round 4 – 2003	Pilot Project Completed
A-1 (a)(2) [p.18]	Establish formal liaison mechanism with EMC, CRC, MFC, WRC and SCC	NR	DENR Secretary/ EMC/CRC/ MFC/WRC/ SCC	New	N/S	NO	Admin	Partial	Scheduling conflicts	Currently under consideration by the Assistant Secretary of DENR	
A-1 (a)(3) [p. 18]	Coordinate progress on water quality issues with DOT	NR	DWQ/DOT	Existing	Annual Report	NO	Admin	Implemented	Difficult to apply environmental regulations to existing projects where ROW has been purchased	DOT has funded a DOT coordinator position in DENR , DWQ and DCM positions; Pre-TIP consultation process being established	Establish a mechanism to increase involvement of DOT staff in DWQ’s rule making efforts; Refine pre-TIP to identify environmental issues early in the process
A. Institutional Coordination											
<i>1. Agency Communications</i>											
<i>(b) Inter-agency</i>											
A-1 (b)(1) [p. 18]	Establish monthly technical review meetings of federal and state agencies to coordinate permit reviews and discuss projects	NR	DENR Secretary	New	N/S	NO	Admin	Partial	Better methods are being developed, but require time to implement	Two pilot projects implemented on DENR one-stop permitting process; info provided on DENR Customer Service website	Refine and expand the one-stop permitting program

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A-1 (b)(2) [p. 18]	Improve interstate coordination in coastal river basins	NR	DENR Secretary	New	N/S	NO	Legislative	Partial (MOA with Virginia pending)	None	Interstate coordination with Virginia has occurred through the Albemarle -Pamlico National Estuary Program – formal MOA pending. No action has been initiated with South Carolina.	Formal signing of a Memorandum of Agreement is expected in the Fall of 2000
A-1 (b)(3) [p. 18]	Develop program to enhance local government participation in development of water quality rules and policies; provide direction; enhance communication; and evaluate programs	NR	DENR Secretary/ Local Government	New	N/S	NO	Admin	Partial	DENR Secretary meets quarterly with NC League of Municipalities and the Assoc. of County Commissioners to discuss water quality issues; Administrative Procedure Act diverts staff time and attention and delays the rule-making process	Need to educate local planners about water quality and require consistency with Basinwide Plans Currently there are a number of initiatives to encourage local action, but not enough expertise and review to make proper evaluations	The Coastal Communities Service Program will hold Coastal Decision Makers Workshops in 2000-2001 to educate local governments about water quality and other coastal issues.
A. Institutional Coordination											
2. Funding Existing Programs											
A-2 (a) [p. 18]	Fully fund and implement Erosion and Sediment Control program	REG	ERC/DLR/ GA	Existing	N/S	YES	Legislative	Partial	Lack of funding and staff – based on a 1997 evaluation	Funding requested for 110 positions; of those, funding provided for 10.	Submit request for funding.

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A-2 (b) [p. 18]	Fully fund and implement DWQ State Stormwater Management Program	REG	ERC/DWQ/ GA	Existing	N/S	YES	Legislative	In Progress	Lack of funding	DWQ undertaking stakeholder process for stormwater issues Stormwater stakeholders to continue meeting through September 2000	Review Stormwater Stakeholder recommendations and compare to NCESP stakeholder recommendations
A-2 (c) [p. 18]	Fully fund and implement NPDES Stormwater Program	REG	ERC/DWQ/ GA	Existing	N/S	YES	Legislative	Partial (Implementation Pending)	Program not yet initiated	NPDES Phase II scheduled to be implemented in 2003	DWQ should determine the amount of funding needed to implement the program.
A-2 (d) [p. 19]	Fully fund and implement Coastal Habitat Protection Planning ALSO SEE A-1(a)(1)	NR	ERC/DMF/ GA	Existing	N/S	YES	Legislative	In Progress	Insufficient funding and staff	All CHPPs are scheduled to be completed by 2003; CHPPs will be consistent and fully integrated with Basinwide Plans.	DMF should determine if additional funding is needed to fully implement the program
A. Institutional Coordination											
3. Recommendations for the Environmental Review Commission (ERC)											
A-3 (a) [p. 19]	Form a study group to coordinate with the DENR Secretary, DENR Science Advisory Committee and others to review the efficiency and effectiveness of water quality programs	NR	CRC/ERC/ DENR Secretary/ DENR Science Advisory Committee	New	N/S	NO	Legislative	In Progress	Science Advisory Committee advises only on assigned specific issues – not broad policy issues	State Auditor will study the efficiency and effectiveness of all of the States water quality programs over the next two years	Report on the efficiency and effectiveness from State Auditor due in 2003.

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A-3 (b) [p. 19]	Consider legislation based on NCESP recommendations	NR	CRC/ERC	New	N/S	NO	Legislative	Implementation Dependent upon direction from ERC	Lack of direction	ERC to evaluate NCESP stakeholder recommendations this Fall (SB 787)	ERC action
A. Institutional Coordination											
4. Annual Progress Review by the NCEPS Stakeholder Team											
A-4 (a) [p. 19]	Reconvene NCESP stakeholder team annually	NR	NCESP/ DCM/CRC/ CRAC	New	August 2000	NO	Legislative	Implementation Pending	None	Implementation Matrix	DCM scheduled to present NCESP implementation progress at Sept. 2000 CRAC meeting;
A-4 (b) [p. 19]	Analyze elements of recommendations to determine if milestones have been met and progress has been made	NR	NCESP/ DCM/CRC/ CRAC	New	August 2000	NO	Admin	Implemented	None	Implementation Matrix	DCM to produce and distribute updates of the NCESP Recommendation Implementation Matrix
A-4 (c) [p. 19]	Submit follow-up recommendations to CRC, EMC and General Assembly for implementation action	NR	NCESP/ CRC/EMC	New	2000	NO	Admin	Implemented	None	NCESP Recommendation Implementation Matrix submitted to General Assembly	Submit recommendations on an as-needed basis.
B. Basinwide Management											
1. Institutional Structure											
B-1 (a)(1) [p. 20]	CRC should immediately assign DCM to prepare a rule-making petition to the EMC	NR/ REG	CRC/DCM/ EMC/ local government	New	Im- mediate	NO	Admin/ Rule	Implemented	Administrative Procedure Act hinders rule implementation, diverts staff time	Petition to review was submitted to the EMC	CRC to provide direction to DCM; request response from EMC

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B-1 (a)(2) [p. 20]	Adopt water quality management goals for primary pollutants of concern (PPC) for the Chowan River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revision Pending)	Not expected	Basinwide Plans identify water quality management goals PPC –sediments/ toxics	Public Workshops scheduled for June 2001
B-1 (a)(3) [p. 20]	Adopt water quality management goals for PPC for the Lumber River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revision Pending)	Not expected	Basinwide Plans identify water quality management goals PPC – Fecal Coliform	Round 3 begins 6/2000; Public Workshops scheduled for 6/2001; Begin sampling during the Summer of 2001; Update by 2003.
B-1 (a)(4) [p. 20]	Adopt water quality management goals for PPC for the Neuse River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revision Pending)	Not expected	Basinwide Plans identify water quality management goals PPC - turbidity	Round 3 begins 6/2000 Public Workshops scheduled for 6/2001
B-1 (a)(5) [p. 20]	Adopt water quality management goals PPC for the Pasquotank River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revision Pending)	Not expected	Basinwide Plans identify water quality management goals PPC – sediments/toxics	Public Workshops scheduled for 6/2001
B-1 (a)(6) [p. 20]	Adopt water quality management goals for PPC for the Roanoke River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revisions Pending)	Not expected	Basinwide Plans identify water quality management goals PPC – sediments/toxics	Complete update by December 2000.

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B-1 (a)(7) [p. 20]	Adopt water quality management goals for primary pollutants of concern (PPC) for the Tar-Pamlico River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented	Not expected	Rule in place; Basinwide Plans identify water quality management goals PPC – turbidity	Basin assessment expected in 2002
B-1 (a)(8) [p. 20]	Adopt water quality management goals for PPC for the White Oak River Basin	NR/ REG	CRC/DCM/ EMC/ local government	New	N/S	NO	Rule	Implemented (Revision Pending)	Not expected	Basinwide Plans identify water quality management goals PPC – Fecal Coliform	Draft document 6/2001 Public hearing 10/2001
B-1 (b) [p. 20]	Develop program to assist local governments in establishing local water quality planning and implementation committees	NR	CRC/DCM/ EMC/ local government	New	N/S	YES	Legislative	Not Implemented	Lack of incentives and watershed education at local level	DCA and COGs should be enlisted to integrate water quality and land use planning. The Coastal Communities Service Program will hold workshops to educate local govt's about water quality and other coastal issues.	Provide information and training for local governments about incorporating water quality into land use plans
B-1 (c) [p. 20]	Determine what incentives and enforcement measures are needed to ensure that water quality management goals are met	NR	CRC/DCM/ EMC/ local government	New	N/S	YES	Rule	Partial	Lack of funding for enforcement actions; Rule Making Hindered by Administrative Procedures Act, hinders implementation	Training / education needed; Enforcement measures evaluated in DENR Enforcement Assessment 2000; WQ programs: 319 grants, Clean Water Trust Fund	Determine incentives and develop and implement rules as necessary.

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B. Basinwide Management											
2. Land Use Planning											
B-2 (a) [p. 20]	Extend local government land use planning process to all coastal drainage basins; design uniform land use plan process	REG/ NR	CRC/DCM/ EMC/ERC/ Local governments	New	N/S	YES	Legislative/ Rule	Partial Consistency with CZMA and EO. 15 required; CAMA land use planning review team developing new process	Local governments may oppose extending mandatory land use planning beyond current limits of CAMA counties.	Could be viewed as an un-funded mandate by local governments. The Coastal Communities Service Program will hold Workshops in 2000-2001 to educate local governments. about water quality and other coastal issues.	ERC should draft enabling legislation. Educational outreach programs on the benefits of planning should be established
B-2 (b) [p. 20]	General Assembly should identify and fund agencies to provide mechanism to extend the land use planning process	NR	GA or ERC	New	N/S	YES	Legislative	Not Implemented (Pending)	Determine amount of funding and staff needed to fully implement the program.	Agencies already in place – COGs and DCA – but legislation would be needed to strengthen roles of these agencies and funding for staffing; ERC to review recommendations per SB 787	General Assembly staff need to determine the amount of funding needed to implement this program and draft enabling legislation.
B-2 (b)(1) [p. 20]	Require LUPs to address strategies and requirements necessary to protect water quality	REG	GA/CRC/ DCM/EMC/ ERC	New	N/S	NO	Rule	Partial Addressed by CAMA Rules 7B.0212(a)(1) & 7B.0212(a)(2) LUPRT reviewing issues	Other initiatives are in place, but there is not enough expertise and review to make proper evaluations	Rule 7B is currently being overhauled – New recommendations include maps depicting water quality issues and mgmt objectives for water quality (shell fishing)	CRC will review LUPRT recommendations in September 2000.

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B-2 (b)(2) [p. 20]	Provide financial and technical assistance to local governments preparing and updating LUPs	REG	CRC/DCM/ EMC/GA	New	N/S	YES	Legislative/ Admin	Partial	Additional funds needed for full implementation	For FY 2000-2001, \$220,000 (state) and \$80,000 (federal) is available as planning grants to local governments from DCM	DCM submitted expansion budget request for \$200,000 to DENR for FY 2002-2003; DCM provides technical assistance
B-2 (b)(3) [p. 20]	Link state funding for infrastructure improvements to the preparation and implementation of LUPs	NR	GA/CRC/ DCM/EMC	New	N/S	YES	Legislative/ Rule	Not implemented	Local government opposition may be encountered; lack of ERC review	Legislation would be required. Previous attempt to establish state consistency with LUPs has failed.	ERC should draft enabling legislation.
B. Basinwide Management											
3. Protection of High Water Quality											
B-3 (a) [p. 20]	Encourage protection of “waters with quality higher than the standards” by developing incentives and management strategies	NR	GA/DENR/ Local government	New	N/S	NO	Legislative Local Government Ordinances	Partial	Initiatives are in place, but not enough expertise to review and make proper evaluations.	Local Government may pass ordinances to protect water quality w/o state actions; DCM provides funding for ordinance development	DWQ should determine the amount of funding needed for additional staff and incentives.
B-3 (b) [p. 20]	CRC’s LUPRT should amend CAMA planning guidelines. CRC should promote policies that improve water quality	NR/ REG	CRC/DCM (LUPRT)	New	N/S	NO	Rule	Partial Addressed by CAMA Rules 7B.0212(a)(1) & 7B.0212(a)(2) LUPRT reviewing issues	Other initiatives are in place, but there is not enough expertise and review to make proper evaluations	Rule 7B is currently being overhauled –. New recommendations include maps depicting water quality issues and management objectives for water quality (shell fishing)	CRC will review LUPRT recommendations in September 2000 Consider involving Shellfish Sanitation with reviewing land use plan water quality policies

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B. Basinwide Management											
4. Restoration of Impaired Waters											
B-4 [p. 21]	DWQ and DCM should accelerate water quality restoration for impaired waters and conditionally approved shellfish waters similar to Neuse River Management Plan	NR/REG	DWQ/DCM	Existing	N/S	YES	Admin	Not Implemented	Lack of funding, staff and direction. DWQ has higher priorities; DCM mitigating some projects through permitting process	Vague recommendation DCM does not have restoration authority for impaired waters	Consider undertaking effort if funding and resources become available
B. Basinwide Management											
5. Specific Implementation Actions											
B-5 (a) [p. 21]	State agencies are to encourage use of BMPs for principal land uses to improve water quality	NR	GA/ All State Agencies	Existing	Ongoing	NO	Legislative/ Admin	Implemented	None	Existing programs in place. Additional funding and staff would be required if expansion is proposed	
B-5 (a)(1) [p. 21]	DENR should provide BMP criteria to achieve water quality goals	NR	GA/DENR	New	N/S	NO	Legislative/ Admin	Partial	Recommendation lacks direction from DENR	BMPs are site specific	None
B-5 (a)(2) [p. 21]	Appropriate state agencies should create incentives for BMP compliance	NR	GA/DENR	New	N/S	YES	Legislative/ Admin	Implemented	None	Existing programs in place. Additional funding and staff would be required if expansion is proposed	None

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B-5 (a)(3) [p. 21]	The GA should provide adequate resources to DFR to conduct annual evaluations of forestry BMP compliance	NR	GA/DENR/ DFR	Existing	N/S	YES	Legislative	Partial	Additional staff needed	Budget request made – DFR received funding for 7 of 13 positions requested	DENR should encourage an annual audit of BMPs by DFR. DFR should submit follow up funding request.
B-5 (a)(4) [p. 21]	The GA should provide adequate resources to DENR to evaluate the success of implementation of [agricultural] BMPs in the eight coastal drainage basins.	NR	DENR/GA	New	N/S	YES	Legislative	Implemented	None	DSWC evaluates approximately 10% of agricultural BMPs on an annual basis	DSWC should continue ongoing monitoring and expand an funding allows.
B-5 (b) [p. 21]	In 2000, the GA should provide resources to develop and implement Nutrient Reduction Goals (NRGs) for the eight coastal drainage basins.	REG/NR	GA/Local government	New	2000	YES	Legislative	Partial	NRGs established for Tar-Pamlico and Neuse River Basins	Nutrients have not been identified as primary pollutants of concern in all river basins. As an option – consider expanding CREP to four coastal basins: Paquotank, Cape Fear, White-Oak and Lumber	DWQ should determine which resources are necessary for implementation.

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B-5 (b)(1) [p. 21]	General Assembly should support efforts of local committees to educate farmers about buffers, fertilizer, pesticides and animal waste	NR	GA/Local government	New	N/S	YES	Legislative	Partial	None	NRCS and Cooperative Extension Service provide assistance at the local level	Programs should expand as funding allows
B-5 (b)(2) [p. 21]	General Assembly should provide staff and resources to monitor BMP compliance.	NR	GA/Local government	New	N/S	YES	Legislative	Implemented	None	This recommendation applies to agricultural BMPs. DSWC evaluates approximately 10% of agricultural BMPs annually	DSWC should continue ongoing monitoring and expand as funding allows
B-5 (b)(3) [p. 21]	General Assembly should provide incentives for compliance including cost-share programs that emphasize watershed planning	NR	GA/Local government	New	N/S	YES Cost-share	Legislative	Not Implemented	None	NRCS has this type of service – DSWC programs could be modeled after NRCS	DSWC should design proposed incentives and cost-share programs.
B-5 (c) [p. 21]	DOT should incorporate BMP design criteria in their NPDES toolbox to enhance management of fecal coliform bacteria	NR	DOT	Existing	N/S	NO	Admin	Not Implemented	Roadway stormwater runoff is generally not associated with high levels of fecal coliforms	DOT is developing a BMP toolbox in accordance with its NPDES permit. Target pollutants: heavy metals, nutrients, sediment	

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B-5 (d) [p. 22]	Local governments should amend land development ordinances to encourage development that protects sensitive waters and meets water quality goals	REG	Local governments	New	N/S	NO	Rule	Partial	Local governments may oppose new regulations Local governments may be reluctant to develop/ adopt such ordinances	CRC Rule 7B is currently being overhauled - New requirements include maps depicting water quality issues and management objectives for water quality (shell fishing) Local governments can adopt such ordinances	Provide technical assistance to local governments
B-5 (d)(1) [p. 22]	Local governments should identify areas that warrant special protection	NR	Local governments	New	N/S	NO	Rule	Partial	Local governments may view this recommendation as a threat to their local tax base and are reluctant to develop/adopt such ordinances	CRC Rule 7B is currently being overhauled - New recommendations include maps depicting water quality issues and management objectives for water quality (shell fishing) Local governments can adopt such ordinances	Assist local governments by identifying areas and providing technical assistance
B-5 (d)(2) [p. 22]	Local governments should use incentives and land development regulations to meet water quality goals	REG/ NR	Local governments	New	N/S	NO	Rule	Partial	May encounter opposition from local government interests for state actions; Local governments may be reluctant to develop/adopt such ordinances	Local governments can adopt such ordinances without state direction DCM provide funding for development of ordinances	

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B-5 (e) [p. 22]	Local governments and the EMC should establish stormwater management strategies and buffers to address pollutants of concern in the eight coastal watersheds	REG/ NR	EMC/ Local governments CRC/DCM	New	N/S	NO	Legislative/ Rule	Partial	May encounter opposition from local government NPDES Phase II scheduled to be implemented in 2003	ERC may evaluate whether local land use planning under the CAMA should be extended to coastal river basins (SB 787 – 2000 Studies Bill) DWQ/NPDES stakeholder group review issues	The CRC, NCESP stakeholder’s team, DENR and/or DCM to provide assistance as requested by the ERC
B-5 (e)(1) [p. 22]	CRC should direct DCM to prepare a rule-making petition to EMC requesting that storm water management strategies and riparian buffers be equitably applied to all eight coastal river basins	REG	CRC/EMC/ MFC/DCM/ WRC/Local governments	New	N/S	NO	Legislative/ Rule	Not Implemented	May encounter opposition from local government interests located outside the current CAMA boundary	ERC may evaluate whether local land use planning under the CAMA should be extended to coastal river basins (SB 787 – 2000 Studies Bill)	CRC must provide direction to DCM. Action on this recommendation should be postponed until the Stormwater Stakeholder’s Report is finalized
B-5 (e)(2) [p. 22]	MFC and WRC should participate in the (above referenced) rule-making process	NR	MFC/WRC	New	N/S	NO	N/A	Not Implemented	Action dependent upon completing B-5 (e)		

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B-5 (f)(1) [p. 22]	CRC should assign DCM to prepare a rule-making petition to EMC to extend storm water pollution control strategies for controlling pollutants of concern to all eight coastal river basins	REG	CRC/EMC/ MFC/DCM/ WRC/Local governments	New	N/S	NO	Legislative/ Rule	Not Implemented (Delayed)	May encounter local government opposition from governments located outside current CAMA boundaries; DWQ in stormwater stakeholder process	DWQ presently engaged in stormwater stakeholder process NPDES Phase II	CRC must provide direction to DCM. Action on this recommendation should be postponed until the Stormwater Stakeholder's Report is finalized
B-5 (f)(2) [p. 22]	MFC and WRC should participate in the (above referenced) rule-making process	NR	MFC/WRC	New	N/S	NO	N/A	Not Implemented	Action dependent upon completing B-5 (f)(1)		
B. Basinwide Management											
6. Small Watershed Implementation Plans											
B-6 [p. 22]	The state should provide incentives and financial resources to local governments to develop restoration/ protection plans for important small watersheds	NR	GA/Local governments	New	N/S	YES	Legislative	Partial	None	Financial resources are available to local governments through the Clean Water Fund restoration and DCM for planning and access	Increase awareness of Clean Water Fund grants; target funding from Governor's Million Acre initiative to acquire properties to protect important small watersheds

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C. Pollutant Sources of Concern											
1. Point Source Pollution											
C-1 (a) [p. 23]	DENR should monitor recently implemented enforcement actions related to wastewater collection and treatment	NR	DENR	Existing	Ongoing	NO	Admin	Implemented	None	DENR produced Enforcement Assessment 2000 and Principles of Enforcement	DENER Staff to Review report
C-1 (b) [p. 23]	DENR should develop incentives and mechanisms to improve compliance with point sources regulations	NR	DENR	New	N/S	YES	Admin/ Rule	Implemented	None	DENR produced Enforcement Assessment 2000 and Principles of Enforcement	DENER staff to Review report
C. Pollutant Sources of Concern											
2. Non-point Source Pollution											
C-2 (a) [p. 23]	General Assembly should strengthen the Erosion and Sedimentation Pollution Control Act (ESPCA) according to the Plan of Action developed by the SCC in November 1997	REG	GA/SCC	New	N/S	NO	Legislative	Implemented	Program needs additional staff and funding to improve effectiveness	Rules have been strengthened since 1997: groundcover establishment, increased penalties for non-compliance and pre-construction conferences now required. 14 new positions have been added	Need to delegate more control to local governments and needs to complete certification process

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C-2 (b) [p. 23]	GA should allow an agricultural exemption from ESPCA and CAMA permitting requirements only if the site has an approved conservation plan	REG	GA/SCC	New	N/S	NO	Legislative	Not Implemented	Agricultural industry may resist further regulation		ERC needs to address and develop proposed legislation.
C-2 (c) [p. 23]	DOT mitigation efforts should be directed to restore degraded waters in the same watershed	REG/NR	DOT	Existing	N/S	NO	Admin	Partial	On-site mitigation or mitigation within the same hydrologic unit is not always feasible or practical	DOT attempts to mitigate as close to the site of impact where feasible.	
C. Pollutant Sources of Concern											
3. Aerial Deposition											
C-3 (a) [p. 23]	The GA should extend the moratorium on new/expanded hog operations	REG	GA	Existing	N/S	NO	Legislative/ Rule	Implemented	Cost-effective technologies have not yet been developed	Moratorium extended; Governor presented 10-year lagoon phase-out plan to General Assembly	General Assembly to consider lagoon phase out plan

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C-3 (b) [p. 24]	Establish a public/private partnership to develop a cost-effective technology to capture and treat waste gases from hog operations in lieu of using hog lagoons and spray fields	NR	GA	New	N/S	YES	Legislative	In Progress	Possible resistance due to cost; economic and technological constraints – technology is still in experimental stage and undergoing development.	Research on alternative treatment technologies being spearheaded by NC State’s Animal and Poultry Waste Management Center	Attorney General reached a 5-year \$2 million agreement on lagoon research with Smithfield Foods.
D. Research											
D-1 [p. 24]	Provide funding and conduct research about toxic substances	NR	GA	New	N/S	YES	Legislative	Partial (In Progress)	No comprehensive database of past and current research projects exists	DWQ is in the process of constructing an on-line database of research projects	Finish constructing database and determine what specific research needs to be conducted to avoid duplication of efforts
D-2 [p. 24]	Provide funding and conduct research about contaminated sediments	NR	GA	New	N/S	YES	Legislative	Partial (In Progress)	No comprehensive database of past and current research projects exists	DWQ is in the process of constructing an on-line database of research projects	Finish constructing database and determine what specific research needs to be conducted to avoid duplication of efforts
D-3 [p. 24]	Provide funding and conduct research about effects of dredging operations	NR	GA	New	N/S	YES	Legislative	Partial (In Progress)	No comprehensive database of past and current research projects exists	DWQ is in the process of constructing an on-line database of research projects	Finish constructing database and determine what specific research needs to be conducted to avoid duplication of efforts

**RECOMMENDATIONS OF THE NORTH CAROLINA ESTUARINE SHORELINE PROTECTION STAKEHOLDERS TEAM
IMPLEMENTATION MATRIX**

Citation Reference	Recommendation	Program Type	Support/ Partnership	Existing / New Recommendation	Target Date	Funding Needed	Level of Action	Implementation	Constraints to Implementation	Comments/Notes	Follow-up Actions
D-4 [p. 24]	Provide funding and conduct research about nonagricultural buffers	NR	GA	New	N/S	YES	Legislative	Partial (In Progress)	No comprehensive database of past and current research projects exists	DWQ is in the process of constructing an on-line database of research projects, DCM has reviewed literature	Finish constructing database and determine what specific research needs to be conducted to avoid duplication of efforts
D-5 [p. 24]	Provide funding and conduct research about sources of nutrients entering watersheds via aerial deposition	NR	GA	New	N/S	YES	Legislative	Partial (In Progress)	No comprehensive database of past and current research projects exists	DWQ is in the process of constructing an on-line database of research projects	Finish constructing database and determine what specific research needs to be conducted to avoid duplication of efforts
E. Pollution Prevention Through Education											
<i>1. Funding and Incentives</i>											
E-1 [p. 24]	The GA should enhance funding and provide incentives for water quality education	NR	GA	Existing	N/S	YES	Legislative	Not Implemented	Not anticipated		NCE Stakeholders lobby GA to provide increased funding for staff
E. Pollution Prevention Through Education											
<i>2. Local Government Education Programs</i>											
E-2 [p. 24]	UNC Institute of Government and DENR should develop water quality education programs for local government	NR	DENR/ UNC Inst. Of Govt.	New	N/S	YES	Admin	Implemented	None	DENR and UNC Institute of Govt. have jointly targeted education programs to local gov. officials	The Coastal Communities Service Program will hold Coastal Decision Makers Workshops in 2000-2001 to educate local governments about water quality and other coastal issues.

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E. Pollution Prevention Through Education											
3. Public Education Programs											
E-3 (a) [p. 25]	DENR should coordinate water quality education programs and use the NPDES stormwater program as a vehicle	NR	DENR	Existing	N/S	NO	Admin	Partial	Lack of Staff and Funding	Office of Environmental Education serves as DENR's clearinghouse for education.	Current public awareness initiatives include: website, utility bill inserts, certification program, adult education, resources for teachers, and highway river basin signs
E-3 (b) [p. 25]	The DEH should provide increased education about the maintenance of on-site wastewater treatment systems	NR	DEH/Local health depts.	Existing	N/S	YES	Admin	Implemented (Expansion in Progress)	Barriers to expansion include lack of staff at local health departments	Literature available through NC Cooperative Extension and DEH website. DEH working on producing new comprehensive homeowner's guide	
E. Pollution Prevention Through Education											
4. Education on Best Management Practices (BMPs)											
E-4 [p. 25]	SWCDs and NC Cooperative Extension Service should educate landowners about BMPs	NR	SWCDs/NC Cooperative Extension	Existing	Ongoing	NO	Admin	Implemented	None	Information available via NC Cooperative Extension website. Printed materials distributed via SWCDs and NRCS	

RECOMMENDATIONS OF THE NORTH CAROLINA ESTUARINE SHORELINE PROTECTION STAKEHOLDERS TEAM IMPLEMENTATION MATRIX

List of Acronyms and Codes

BMP	Best Management Practices	NEP	National Estuary Program
CAMA	Coastal Area Management Act	NPDES	National Pollutant Discharge Elimination System
CRAC	Coastal Resources Advisory Committee	NPS	Non-point Source Pollution
CRC	Coastal Resources Commission	NR	Non-regulatory
DENR	Department of Environment and Natural Resources	NRG	Nutrient Reduction Goals
DCM	Division of Coastal Management	NRCS	U.S. Department of Agriculture – Natural Resources Conservation Service
DEH	Division of Environmental Health		
DLR	Division of Land Resources	N/S	Not Specified
DWQ	Division of Water Quality	PPC	Primary Pollutants of Concern
DOT	Department of Transportation	REG	Regulatory
EMC	Environmental Management Commission	ROW	Right-of-Way
ERC	Environmental Review Commission	SB	Senate Bill
ESPCA	Erosion and Sedimentation Pollution Control Act	SCC	Sedimentation Control Commission
GA	General Assembly	SPCA	Sedimentation and Pollution Control Act
HB	House Bill	SWCD	Soil and Water Conservation Districts
LUP	Land Use Plan	TIP	Transportation Improvement Plan
LUPRT	Land Use Plan Review Team	UNC	University of North Carolina
MFC	Marine Fisheries Commission	WRC	Wildlife Resources Commission
NCESP	North Carolina Estuarine Shoreline Protection		