

Comments and Responses Regarding the Draft Version of the Albemarle-Pamlico National Estuary Program's Comprehensive Conservation and Management Plan

Comment 1: Surprisingly, the draft CCMP does not mention interbasin water transfers. Has anyone studied the impact of Virginia Beach's withdrawals on the waters and species of Albemarle Sound? Who's next?

APNEP Response: Large surface water transfers between river basins, known as interbasin transfers, are regulated under North Carolina law. Currently, the Virginia legislature is also considering the establishment of policies related to interbasin transfers.

The CCMP addresses the topic of interbasin transfers through the actions associated with ecological flow requirements, which address water quantity needs in the region. The concept of ecological flow has been established by the North Carolina General Assembly as a flow regime that protects the ability of a stream to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat. CCMP actions include developing and refining these requirements for each river basin (A3.3) and to develop and implement basinwide water management plans to address minimum instream flows (D3.2). Implementation of these actions will help inform decisions regarding interbasin transfers.

Comment 2: Very well written, but much too long. Try to cut it down to 50 pages or less (25-30 pages would be even better). There is a lot of redundancy and unnecessary language, especially in the introduction. Almost every paragraph has at least one sentence that could be omitted. When people read this, I expect it will be to get information about the program or to help guide your staff work. As a technical document, it should be more succinct and easy to use.

APNEP Response: APNEP carefully considered the content, language and structure of this plan to ensure it is both accessible and easily referenced by a broad audience. APNEP's prior plan was 287 pages in length and largely written in technical language. In contrast, the final 2012 CCMP is expected to be 100 pages or less and is written in more common language while still incorporating ecosystem-based management principles and the latest scientific information available to the program. APNEP's Citizens' Advisory Committee and other partners offered substantial review and feedback on the language and style of the plan, with comments on the later drafts being largely positive. Overall the format has been well received. APNEP will consider this comment further in the final editing process to improve the clarity of the document. APNEP will also publish a version on its website containing hyperlinks that cross-references acronyms, actions, and goals in the plan.

Comment 3: I like Table 1- it provides a lot of useful information in a succinct format. Under 2a "another example indicator could be something like, "representative, viable examples of all expected natural community types are identified and protected", and/or "significant natural

heritage areas are identified and protected?, and/or ?rare species native to the region are identified and protected?. Also in this table, repeat the header on the second page.

APNEP Response: Table 1 in the draft CCMP provides an example of indicators that could help the program and its partners measure progress toward agreed upon environmental goals. A program priority for 2012 is establishing both environmental and management indicators or metrics that APNEP and its partners will monitor. APNEP has identified nearly 200 candidate environmental metrics, each of which is supported by varying levels of data. APNEP will soon release its 2012 Ecosystem Assessment, which contains approximately two-dozen of these indicators, some derived from an APNEP 1991 Status and Trends assessment. This effort will be supported by APNEP's monitoring strategy, which is scheduled to be released by year's end. APNEP will consider the suggested indicators for inclusion into that strategy.

Comment 4: On p. 23, in the sentence, ?decades after the 1991 report, we have seen human population increases on the order of 50% (North Carolina grew from 6.2 million in 1990 to 9.5 million in 2010.?) Add a ?) at the end of that sentence.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 5: For Action A.2.1, consider adding NC EPPC ((North Carolina Exotic Pest Plant Council) as a partner.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 6: For Action B.1.5, consider adding NRCS (Natural Resource Conservation Service) as a partner.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 7: Under Objective B.2, consider adding some language about protecting terrestrial (upland/wetland) habitats within the watershed, in recognition of their broader ecological functions and eventual impact on protecting water quality.

APNEP Response: APNEP agrees with the factual premise behind this comment. Language explaining the intent of Objective B.2 will be updated to reflect this recommendation.

Comment 8: Under E2? I think NCNHP could be a partner. Although our data is statewide, it could be one key component in a more regional-based mapping system, especially as we complete our watershed inventory projects in the coming years and develop more updated maps and occurrence data.

APNEP Response: The North Carolina Natural Heritage Program generates and publishes data that is of substantial interest to APNEP and its partners, including its Natural Heritage Inventories and data layers that support the North Carolina Conservation Planning Tool. For this action, APNEP chose to name higher level agency representation as lead partners, as many state departmental agencies are undergoing data consolidation efforts. The Natural Heritage Program,

with an organizational home in the North Carolina Department of Environment and Natural Resources, is expected to be an important contributor toward this action.

Comment 9: The draft of Comprehensive Conservation and Management Plan looks very good to me but as a person who enjoys recreational floats on the Nottaway River and Meherrin River it has come to my attention that log jams have been very bad on the Meherrin River and from what I have seen a lot was caused by being too close to the water way with the cutting of the trees I wondered if making the yards wider if this could make a difference in the log jams. I have also seen that the log jams cause pollution to be created in the jam itself by trash, oil looking sheens of some kind and even decaying animals caught up in the jams on the Meherrin in Greenville County and Southampton County there is very little excess to the Meherrin who knows what is jammed up there. I would like to thank you for being able to commit on this subject.

APNEP Response: APNEP is aware of the impacts that can occur when downed trees block or impede navigable waterways in the region, including water quality considerations and difficulties for paddlers and businesses that require regular access to the river. For the purposes of this plan, APNEP considers this to be primarily an access issue that would be addressed by action D1.5. Due to the limited resources of the program and hence the need for prioritization, in ordinary cases APNEP feels this issue is best addressed by cooperation between local governments and the U.S. Army Corps of Engineers. However, APNEP maintains relationships with many user groups and agencies in the region and is available to help facilitate efforts like these.

To clarify the factual premise behind this comment, there is a link between the width of vegetative riparian buffers and the ability of those buffers to reduce the amount of sediment, nutrients, and other pollution entering our waters. These buffers also offer important wildlife habitat and other ecosystem benefits. Despite the risk that downed trees may occasionally block access to local waterways, forested buffers are an essential tool for maintaining or restoring good water quality.

Downed trees are not generally considered a significant pollution source for riverine and estuarine ecosystems. However, we understand that downed trees can trap substantial amounts of upstream pollution, which may result in poor local water quality conditions.

In your opening you offered kind words about our program. We appreciate your support.

Comment 10: I am mighty glad we have an organization like APNEP that is working to better our waterways and environment. I hope I can continue to help in that venture. I believe the APNEP plan is basically a good plan. I think there needs to be a lot more done in getting some teeth though. Whether through litigation or the ability to direct or involve more agencies that can enforce BMP's or in some cases go after blatant examples of water pollution. So many times during my tenure as Riverkeeper I have assisted agencies in things like TMDL's. I spend sometimes days giving up my precious time to give information on where there are water quality issues. The TMDL's are written to satisfy EPA's requirement the state do them, then the TMDL is shelved. Not in one instance have I ever seen a TMDL implemented and a stream be removed from a 303 list due to the TMDL. Only when a classification of a water use changed or a value changed like e-coli count raised has a stream been removed. Everybody starts backslapping in

celebration but the fact is the waterway is still impaired. These efforts seem to want to go after the invisible or hard to find reasons why the stream is impaired. Yet, there are blatant in your face reasons there waterway is impaired, like cows crapping in the river. There they are, but nobody can do anything about it. So as good as any of these "plans" are, the fact is until we have the power to get laws changed or have the teeth to go after and stop the obvious pollution problems, non of us are going to be very effective at the ultimate goals of getting our waterways clean.

APNEP Response: APNEP's mission to identify, restore, and protect the significant resources of the Albemarle-Pamlico estuarine system can only be achieved by utilizing a wide variety of approaches and by leveraging the support of our partners. APNEP regularly partners with and advises many organizations with legal authority to address issues impacting ecosystem health including federal agencies, local governments, and state agencies. However, APNEP has not been delegated authority to implement regulations or enforce them.

APNEP depends on the democratic citizen-driven process to guide its environmental protection and policy considerations, and the program will continue to support that process by providing reliable information in its areas of expertise. Effective protection of the region's natural resources undoubtedly requires the implementation, refinement, and enforcement of environmental laws and regulations. APNEP is appreciative of its regulatory partners' work and considers them indispensable allies in achieving its mission. However, regulation is only one of many tools that can be used to achieve ecosystem goals. Perhaps this is best demonstrated by the excellent voluntary initiatives and citizen partnerships implemented by the same agencies that have regulatory authority in the region.

This plan was drafted with keen consideration of APNEP's strengths and abilities. These strengths include a history of applied environmental science and assessment initiatives, engagement with citizens and organizations with an environmental mission, intergovernmental collaboration, capacity to fund and promote environmental restoration and protection efforts, and the persuasive authority offered on occasions when staff experts and 80 advisory board members from all walks of life speak with a unified voice.

In your opening you offered kind words about our program. We appreciate your support.

Comment 11: Well done to bring all of this information together in a relatively concise report/plan.

APNEP Response: We appreciate your support.

Comment 12: I'm still concerned about why NC has such duplication with regards to coastal management issues....there is APNEP, CHPP, Division of Coastal Management, Division of Marine Fisheries, and DWQ's coastal river basinwide water quality plans. Perhaps APNEP can morph into the 1 single repository and manager of data and information about NC's coastal region and bring some clarity and efficiency to this hodge-podge of efforts.

APNEP Response: This comment addresses both multiple agency efforts and multiple plans that involve the North Carolina coastal area. Addressing agency structures and functions, the N.C. Division of Coastal Management (DCM), the N.C. Division of Marine Fisheries (DMF), and the N.C. Division of Water Quality (DWQ) are all state agencies within the N.C. Department of Environment and Natural Resources (NCDENR). These agencies exist and act pursuant to federal statutory requirements to address coastal planning, fisheries, and water quality issues, respectively. Jurisdiction for DWQ and DMF is statewide, though naturally marine fisheries issues are primarily of concern near the coast. The jurisdiction for DCM includes 20 coastal counties in North Carolina. The N.C. Wildlife Resources Commission (WRC), which was not mentioned in the comment, addresses inland fishery issues. APNEP is not a regulatory program, and its management region includes the Albemarle-Pamlico watershed, an area that extends from some of North Carolina's northern coastal counties into the Piedmont and southeastern Virginia. For a map of APNEP's management region, please visit <http://portal.ncdenr.org/web/apnep/apnep-basins-and-counties>.

Addressing planning efforts, the Coastal Habitat Protection Plan (CHPP) coordinates efforts between DWQ, DCM, DMF and WRC on coastal habitat issues. The CHPP also synthesizes a wealth of scientific information upon which APNEP relies for planning purposes. APNEP's CCMP performs a similar function with regard to coastal habitat issues, but has important distinctions from the CHPP. The CCMP is the overarching planning document for APNEP, required by the federal Clean Water Act. The CCMP is also different in its geographical focus and its broader subject focus on estuarine ecosystem health. Coordination between these plans and other existing efforts is highly desirable. APNEP referenced the CHPP and other partner plans extensively in the development of its plan. Also, the NCDENR coordinator of CHPP efforts serves a dual role as APNEP's Coastal Habitat Coordinator.

For the reasons mentioned above, it is unlikely that these divisions, planning processes, or data gathering efforts can be consolidated further. To support sound environmental decision-making, APNEP will work toward consolidating and publishing environmental information that is easily accessible, specifically in objectives A1, A3, and E2. Efforts are currently underway to develop an atlas for the Albemarle-Pamlico region as well as other overlapping geographical areas. APNEP is well positioned to promote data sharing and the development of common data standards to ensure efforts are not duplicated.

Comment 13: I do not agree with Ecosystem Outcome #2a: "The biodiversity, function, and populations of species in aquatic, wetland, and upland communities are protected, restored, or enhanced." This Outcome seems far too broad and far-reaching for APNEP. How can you reasonably expect to monitor and measure this outcome for every single plant and animal species in the APNEP region? There will continue to be land-use practices which contradict this Outcome. I'm not convinced that the extent of Longleaf Pine or Box Turtles (examples given) is really what the policy makers are going to want to see when it comes to addressing matters related to the estuaries. Why not Atlantic White Cedar?...or Gum/Cypress Swamps?...why is Longleaf considered anymore special than any other native tree species....as long as the land is forested and BMPs are being implemented. This category seems to be a "catch all" which would

allow APNEP to get engaged in pretty much any aspect of natural resources that it deems important. I think you are setting yourself up for problems with such a broad "Outcome" statement.

APNEP Response: The watershed of the Albemarle-Pamlico region has an area over 28,000 square miles, and the APNEP management region has an area of nearly 20,000 square miles. APNEP has adopted an ecosystem-based management approach in recognition of the key links between the environmental trends in the watershed and the ultimate water and habitat quality in the sounds. In light of this fact, APNEP hopes to support its partners with more focused missions to promote the health of the broader ecosystem, whether through engagement, funding of projects, or coordination between agencies.

This ecosystem outcome is necessarily broad, yet was primarily a starting point in the planning process. From this outcome, APNEP considered its ecosystem model and developed the more narrowly constrained actions found in its plan. The linkages between the outcomes and management actions are highlighted in Table 1 and in each action.

As APNEP strives to adaptively manage, the program will continually consider how it might promote healthier ecosystems in the region. As necessary, APNEP will work through its planning process and with its partners to adjust its management approach over time.

This comment noted some of the sample indicators that might be used to measure progress toward this environmental outcome. The process of developing specific indicators will continue in 2012 with the ultimate publication of APNEP's monitoring strategy and incorporation of these indicators into APNEP's CCMP. The example species were selected not because they have elevated importance, but because they provide key insights into the health of the broader system. APNEP will consult with its more specialized partners to finalize these indicators, including the N.C. Forest Service in the case of forestry health.

Comment 14: Noticeably missing on the list of agencies/organizations/partners are any from the private sector. The government cannot do it all, especially without at least "buy-in" from those who own the land, work the land, or rely upon the land's outputs for commerce. It would be time well spent to use this CCMP as a way to open and invigorate dialogue with private sector interests in the region, and present the CCMP as a non-regulatory approach to sustaining and protecting the estuaries.....as opposed to the regulatory approach that had to be taken with the Chesapeake Bay. That got ugly for everybody, and nobody wants to see that kind of political/regulatory/economic/social/environmental mess in NC with the A-P estuary. I would go so far as to encourage APNEP to hire a "liaison" type of person from the private sector, or partner close with Dept. of Commerce.....and start the "ENGAGE" work with private interests, not with school kids or enviro groups. APNEP can approach stakeholders with a soft-sell approach, and point to Chesapeake and say "let's not find ourselves there in 10 years....how can we work now together to protect things cooperatively?..."

APNEP Response: This comment raises two distinct but related issues. The first issue relates to engagement of the private sector, while the second relates to identifying those interests as lead or key partners in our plan.

APNEP agrees that maintaining a healthy estuarine system will require the active support of private groups, individuals, and businesses. APNEP's Policy Board and Citizens' Advisory Committee are both advised by regional representatives from the private sector, including the fishing, steel, paper, forestry, and farming industries. APNEP will rely on these representatives for insights on how to best engage their respective communities, and will continue to consider this target audience in its communications, outreach, and program development efforts. With regard to hiring a business liaison, APNEP's community specialist, two field representatives, and other staff members maintain relationships with private business interests throughout the region.

While APNEP strives to engage the private sector in furtherance of its mission, we note that the primary goal of any business is to earn a profit. For this reason, APNEP feels it would be inappropriate to name specific businesses in the identification of lead and key partners. Instead, APNEP selected governmental agencies and some nonprofit organizations with stated missions or express legal authority that relate to specific CCMP actions. This approach is intended to promote accountability for our efforts and was not intended to be an exclusive exercise. APNEP welcomes the opportunity to work with business interests in the region to develop and improve their environmental stewardship initiatives.

This comment noted the value of nonregulatory initiatives. For a more full treatment of this aspect, please note our response to Comment 10 above.

Finally, APNEP notes the importance of engaging groups outside of the business community as well, including both environmental nonprofit groups and educators. Most environmental groups in the region work on smaller scales and do an excellent job engaging and educating their communities, mobilizing volunteers, and identifying valuable restoration opportunities for the program. Furthermore, APNEP will continue to work with educators regarding the estuarine ecosystem. APNEP's educational initiatives annually reach hundreds of teachers and students.

Comment 15: Page 16, abbreviations: "MNS" is missing its prefix "NC", to make it alphabetical...and it still would be out of place on the list. Also, please add "NCFS - North Carolina Forest Service" to the list.

APNEP Response: APNEP updated the text of the final document to reflect this recommendation.

Comment 16: Action A2.1, invasive species: Is the CCMP only concerned with invasive aquatic species? Or also terrestrial plant species? If the program wishes to include terrestrial plants, then I suggest adding U.S. Department of Agriculture (USDA) as a partner. The USDA has a long

history of collecting/disseminating invasive species info and maintaining the "plants.gov" web database.

APNEP Response: Because of their potential impacts to the broader estuarine ecosystem, both terrestrial and aquatic invasive species are of interest to the program. APNEP will update the text of the final document to clarify its position.

Comment 17: Action A2.2 and A2.3, climate change: I suggest adding the U.S. Forest Service as a partner. The agency's Southern Research Station (mostly via its Eastern Forest Environmental Threat Assessment Center) has many scientists researching impacts of climate change, including a research office housed on campus of NCSU here in Raleigh that we work with. They recently rolled out their "Template for Assessing Climate Change Impacts and Management Options (TACCIMO) online database -- something APNEP should look at. TACCIMO is intended to summarize the state of knowledge of climate change impacts, and offer possible management options for resource managers to consider. They developed it mainly for use by National Forests. We are meeting with them in mid-January to see how it may apply to private landowners. <http://www.fs.fed.us/ccrc/tools/taccimo.shtml>

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 18: Action A3.2, riparian buffers: APNEP will need to get buy-in from land use management stakeholders, especially from the agricultural and forestry sector. I suggest adding NCDACS as a key partner.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 19: Action B1.5, Key Partner Organizations: Replace "DFR" with "NCFS".

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 20: I support APNEP's transition to an ecosystem-based management approach. With such a large program area, this approach will position APNEP well to leverage its limited resources to achieve a healthy ecosystem.

I think that having the Chapters formatted as questions makes this document much more straightforward to non-technical readers.

I recognize that while conducting an updated ecosystem assessment prior to this CCMP revision would have been ideal, it was not possible. I support the goals & ecosystem outcomes listed in this CCMP draft as written and appreciate the included table that references supporting actions & indicators for each outcome. I am hopeful that ongoing assessments will be possible to inform future iterations of the APNEP CCMP.

In the final electronic version of this document, I think that it would be helpful to include a mouse-over feature for acronyms used throughout. It would also be helpful to include links on

the "Acronyms & Abbreviations" page that either define terms (link to Terms & Definitions section) or point to partner organizations' websites. Because the Acronyms & Abbreviations section is at the front of the document, this is where readers will most likely reference abbreviations & terms that they don't understand.

I appreciate the opportunity to comment on the 2012 draft CCMP and look forward to reading the final document when it is published.

APNEP Response: APNEP is appreciative of these supportive comments. APNEP intends to provide hyperlinks and other functionality recommended by this comment into the final electronic version of the CCMP, which will be available on the APNEP website.

Comment 21: P.12. The adaptive management approach sounds great-how will lessons learned/new management strategies be communicated? Will updates be communicated via distribution list, full document updates, or other? EEP is interested in learning more about the comprehensive monitoring and assessment approach.

APNEP Response: Lessons learned through the adaptive management process will be communicated through the publication of ongoing ecosystem assessments, planning documents, case studies, and other program reports. Furthermore, results will also be shared informally through working relationships with our partners. APNEP is also hopeful that its partners will consider formally adopting adaptive management practices, including the development of indicators and time-bound benchmarks for their own use. Objective A3 and the actions contained within offer additional context regarding APNEP's assessment of adaptive management practices.

Comment 22: P. 15 EEP acronym is incorrect. It should be "North Carolina Ecosystem Enhancement Program"

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 23: P. 23, Parag. 3: Does reference to sores and diseases refer to human, fish or both?

APNEP Response: This reference refers to fish. APNEP updated the text to clarify this point.

Comments 24 and 25: P. 28 The environmental baseline document seems like a critical piece of information upon which all action strategies should be based and/or refined. P. 29 Objective A2: This list seems like an important start, but without having the baseline assessment data, how do you know that you are targeting the most significant stressor?

APNEP Response: APNEP's first CCMP was informed by a thorough environmental characterization, and under ideal circumstances APNEP's updated (2012) ecosystem assessment would have been a precursor to this plan. However, limitations on financial and staff resources precluded this approach. Instead, the CCMP was developed in parallel with the updated ecosystem assessment. Additionally, insights from various monitoring networks and assessments over the past decade informed CCMP development. The CCMP is also informed by

our partners' expertise and institutional knowledge of the Albemarle-Pamlico system. The advisement from a representative ecosystem-based management transition team and input from consultants in ecosystem-based management practice further enhanced our efforts. Both formal and informal input from APNEP partners helps ensure that the knowledge upon which the plan is based is as sound as possible considering resource constraints.

In line with its commitment to adaptive management principles, APNEP intends to consistently revisit its CCMP to incorporate the most recently available scientific information. In coming years, APNEP will integrate information from its latest assessment into updated versions of the plan and adjust its ecosystem models and plan actions as necessary.

Comment 26: P. 33, last sentence: N.C. Environmental Enhancement Program should be replaced with N.C. Ecosystem Enhancement Program.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 27: P.35: Key Partner Organizations: Who is WQIF?--this is not on list of acronyms.

APNEP Response: WQIF is an acronym for Virginia's Water Quality Improvement Fund. APNEP updated the text to reflect this recommendation.

Comment 28: P. 37, Action B2.1, Key Partner Organizations: TNC is working on a freshwater prioritization strategy and it seems like they would be an important partner organization.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 29: P.44, Action C2:1: EEP could be an important partner here and is not currently represented.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 30: P. 47, Action C4.2: EEP could be an important partner here and is not currently represented.

APNEP Response: APNEP updated the text to reflect this recommendation.

Comment 31: P. 51, Action D1.2: EEP could be an important partner here and is not currently represented.

APNEP Response: For this action, EEP is considered a partner within the Department of Environment and Natural Resources.

Comment 32: P. 55, Action D3.3: This sounds great and EEP would like to learn more APNEP's climate change work so that it could be considered in watershed planning initiatives.

APNEP Response: APNEP staff will contact EEP to further develop this partnership.

Comment 33: P.59, Action E1.3: Shouldn't NC DWQ be listed among key partner organizations?

APNEP Response: In response to this comment, APNEP updated the partners list for this action to include the N.C. Department of Natural Resources, Virginia Department of Environmental Quality, and the Virginia Department of Conservation and Recreation. APNEP hopes to work with these governmental partners to better integrate citizen monitoring information into appropriate management actions. The Division of Water Quality is considered a partner within the Department of Environment and Natural Resources.

Comment 34: P.60, Action E2.1: This work appears to parallel and should be coordinated with NC DWQ work (WRAPS database).

APNEP Response: APNEP will seek to coordinate with the N.C. Division of Water Quality as well as its other North Carolina, Virginia, and federal agency partners on action E2.1. An integrated source of regional environmental information will help support ecosystem-based management approaches in the Albemarle-Pamlico region.

Comment 35: NC Coastal Federation targeted comments regarding bacteria contamination of surface waters and state level promotion of Low Impact Development. The NC Coastal Federation offers the following suggestions for inclusion in the draft CCMP.

CCMP Action B1.2: Minimize the introduction of pathogens from targeted sources. By reducing pathogens, we also improve ecosystem integrity. Aging infrastructure and rising sea levels are two challenges which must be addressed to prevent bacteria, viruses, and other microorganisms from entering public waters through identified sources. APNEP will provide support for upgrades to wastewater treatment facilities and associated infrastructure that account for future risks.

NCCF Comment -

Over the past three years the Federation has worked with four local governments to develop DWQ and EPA approved TMDLs and watershed restoration plans for degraded waters. From these plans and a plan recently drafted for the City of Wilmington it has become very clear that restoration of water quality in tidal waters depends upon reducing the volume of stormwater shed from existing land uses, as well as controlling the volume of runoff generated by new land uses. It is impossible to minimize the source of bacteria enough to make water quality improvements as stated in Action B1.2.

The reasons for this are the following:

- (1) Sources of fecal bacteria are widespread and will continue to persist. Bacteria come from wildlife, pets, and other warm-blooded animals. While this is a human health problem and such sources should be removed, it is difficult to reduce all of these sources to a level necessary to significantly improve water quality for shellfishing.
- (2) Cleaning up shellfish and swimming waters by treating runoff to levels that comply with water quality standards for bacteria is not practical. The tidal waters need almost pristine water quality to allow for the harvest of shellfish and for swimming. While technology is available to

properly clean runoff, retrofitting an already developed urban area with such systems can be prohibitively expensive to achieve sufficiently high removal rates necessary to meet shellfishing and swimming standards.

(3) Recontamination of treated runoff is extremely problematic. Even if it were cost effective to comply with water quality standards for shellfishing and swimming by treating runoff to remove bacteria, any "clean" runoff discharged back onto the landscape would then become a vehicle to transport downstream bacteria lessening the overall benefits of treatment. Instead of attempting to eliminate sources of bacteria, the CCMP should work with government agencies and landowners to reduce the transport of bacteria by adopting policies to utilize LID and other techniques to reduce the volume of surface runoff.

APNEP Response: APNEP appreciates this comment and its detailed insights regarding stormwater management, and agrees that the reduction in the volume of stormwater is an important strategy for improving water quality. APNEP intends to engage with partners to reduce both point and non-point sources of pollution. The action referenced was specifically developed to reduce point sources of pollution associated with wastewater infrastructure. However, many other actions called for in the plan address stormwater concerns, including B1.3, B1.4, B1.5, C1.1, C1.3, C1.4, and C1.5.

Comment 36: CCMP Action B1.4: Facilitate the development of local government policies that support the use of low impact development (LID) practices to reduce runoff. Use of LID practices will be encouraged through the development of model codes and incentives for implementation.

NCCF Comment-

The Federation supports Action B1.4 but suggests that before using time and resources to develop new model codes and incentives the CCMP first draw from existing LID manuals and resources that have recently been developed by coastal communities. The NC Coastal Federation offers support in relaying this LID information to APNEP communities in the form of a workshop or session.

In addition, the Federation requests that the draft CCMP be modified to include an additional action under B1. encouraging state commitment to use LID in all state funded construction projects (including buildings, roads and parking lots). The state should be asked to serve as a leader in implementing LID to demonstrate that it is often the best available technology standard for preventing and reducing stormwater pollution. LID is a widely supported and non-controversial stormwater management technique. Having the state lead by example by implementing LID sends an important message to communities and follows Section 438 of the federal Energy Independence and Security Act of 2007. Section 438 states that "the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

Thank you for the opportunity to comment on the draft CCMP. We hope you will include these suggested revisions.

APNEP Response: APNEP staff members and its partners have design, planning, and legal expertise that can be offered to advise local governments on the development of ordinances that contribute to protection of their local waterways and the estuary. When undertaking any such initiative, APNEP would identify existing model ordinances and work with localities to adapt them according to their needs. APNEP further appreciates the N.C. Coastal Federation's willingness to facilitate efforts like these.

The recommendation that state-funded construction projects require the implementation of low-impact development practices is well-received, and APNEP has adjusted the language of this action slightly to include development of state policies. However, APNEP respectfully declines the invitation to include a separate action in its plan. This action is more narrowly drafted than others in the plan, and examination of this policy would be conducted in a much shorter time period than this plan's ten year horizon. This initiative would be more suitable as a step toward implementing CCMP actions, which would be addressed in APNEP's annual work plan. In short, by expanding the current language of the action, APNEP retains the flexibility to fully consider the issue.