

# APPENDIX L

## Response to Public Comments



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## I. Introduction

The public comment period for the draft Comprehensive Conservation and Management Plan (CCMP) began September 16, 1999 and ended November 16, 1999. Afternoon and night public hearings in each of the six East End towns took place in October. Over 160 people attended these meetings. In addition, The Bay Show, a live television call-in show on channel 27, dedicated a show to the draft CCMP; a few people called in with questions. The Citizens Advisory Committee met near the beginning and end of the comment period to offer suggestions. Other comments from citizens have come in the mail to the PEP Program Office.

Three new sections of the CCMP (the Base Programs Analysis, Environmental Monitoring Plan, and Federal Consistency Report) were presented for public comment from August 10, 2000 to September 9, 2000. An afternoon and an evening public comment meeting were held at the County Center in Riverhead.

Summaries of the public comments and the resulting PEP responses are located in Section II. Section III lists all the correspondence that was sent during the public comment periods. All letters received during the comment periods are on file at the Program Office.

## II. Public Comment Summaries and Resulting PEP Responses

Several comments and questions were raised at the public hearings and by letters sent in during the public comment period. These issues are summarized and satisfied below.

### Brown Tide

#### Radionuclides/ Brookhaven National Laboratory

**Comment:** At several sessions, commentators from Fish Unlimited, Standing for Truth About Radiation, and the South Fork Groundwater Task Force raised questions about the possible relationship between radionuclides, toxics, and brown tide. These issues are of concern to these groups, particularly with respect to contamination associated with Brookhaven National Laboratory (BNL). For example:

- \* A 1994 release of tritium was cited as a potential causal factor for the brown tide.
- \* A conflict of interest is suspected, in that BNL is conducting brown tide research.

*Response:* The detail in which radionuclide and toxic contamination, and BNL are discussed in the Toxics chapter of the CCMP has been expanded. The CCMP Toxics module now includes more discussion about the extensive programs dealing with the characterization and management efforts related to BNL and the Peconic River (see discussion below, in “Toxics”). A report released by the Peconic Estuary Program since the public hearings entitled *A Characterization of the Resources in the Peconic Estuary with Respect to Toxics* further addresses these issues.



To the knowledge of the PEP, the scientific community, to date, has not produced a credible theory that links radionuclide contamination and brown tide. This is based on several factors, including the appearance of the brown tide in several locations (not just the Peconic Estuary) dating back to 1985. Also, there has been a recent global increase in harmful algal blooms. Moreover, there does not appear to be a hypothesis that offers a mechanism by which relatively low-level radioactive contamination can result in onset or persistence of brown tide.

The Peconic Estuary has aggressively pursued this question, however. Brown Tide Research Initiative researchers were asked at the March 2000 brown tide work session hosted by the New York Sea Grant whether the onset and/or persistence of the brown tide may be related to, or caused by, radioactive and/or toxic chemical contamination associated with BNL, such as the 1984 release of tritium. The researchers, who are closest to the latest findings about brown tide, did not seem to think this hypothesis was viable based on personal knowledge of relevant studies, personal expert opinion based on well-established scientific principles, and discussions with third parties.

Researchers are already actively analyzing water column and sediment samples for metals and other trace contaminants. The research will determine level of presence, and possibly offer clues to potential impacts.

A PEP priority for the year 2001, the Brown Tide Workplan will be revisited, and will be amended to reflect the results of latest research, and to indicate priority research and monitoring needs. The revised Workplan will consider radionuclides, toxics, and other issues.

Regarding the suspected conflict of interest (i.e., that Brookhaven National Lab is hypothesized to be a cause of the Brown Tide, but it is conducting brown tide research, as well), BNL is performing an extremely small portion of ongoing Brown Tide research and monitoring. In recent years, they have received approximately \$250,000, as compared with a Brown Tide pool of research funding which totals well over \$3 million dollars. Also, the BNL researchers are widely acknowledged and respected as world-class biologists and oceanographers. Finally, BNL is not in a position to direct research efforts. The BTRI (the source of most Brown Tide research funds) is administered by NOAA and N.Y. Sea Grant, and includes a steering committee with representatives from government, academia, and citizenry (not BNL). Modest funding is also provided by Suffolk County, with no control by BNL.



## Nutrients

### Wastewater Treatment Plants

**Comment:** Continue controlling loads from sewage treatment plants (STPs) and discourage new plants.

*Response:* As a long-range management goal, the PEP will continue to evaluate additional upgrades to the STPs in the Peconic watershed. Action N-4 in the CCMP states that new or incremental point source increases to the surface waters of the tidal Peconic River and western Flanders Bay should be prohibited and should be limited elsewhere in the Peconic watershed. The surface water point source nitrogen freeze applies to all facilities, including the sewage treatment plants at Brookhaven National Laboratory and the former Grumman plant. Point sources that cause substantial groundwater degradation that adversely affects surface waters should also be limited.

**Comment:** Modify the SPDES permits for STPs to meet nitrogen-loading goals.

*Response:* The PEP has an action in the CCMP to consider modifying the State Pollutant Discharge Elimination System (SPDES) permits for STPs and other point sources in the Peconic watershed in order to meet the PEP's proposed surface water quality nitrogen guideline of 0.45 mg/l.

**Comment:** Evaluate and consider a beneficial reuse program for reclaimed STP water and sludge for possible use on golf courses, playing fields, and farms.

*Response:* The Program added a step to Action N-4 to evaluate and consider a possible beneficial reuse program in the Peconic watershed. Water reuse is beginning to gain acceptance in New York State. The NYSDEC has permitted four upstate STPs to use treated wastewater to irrigate nearby golf courses and a study group formed to assess the feasibility of water reuse on the Pt. Washington peninsula in Nassau County.

**Comment:** The trend to ultraviolet light disinfection is important.

*Response:* The use of ultraviolet light, an alternative to the traditional method of chlorination, to disinfect effluent from Sewage Treatment Plants, safeguards the public from pathogens and eliminates the negative environmental impacts to our surface waters. Ultraviolet light is an effective germicide because it mutates the DNA of the pathogenic organisms, resulting in death. The PEP funded a successful on-site pilot study at the Shelter Island Heights Sewage Treatment Plant to determine the effectiveness disinfecting the effluent using UV sterilization. The Brookhaven National Lab and the Plum Island Sewage Treatment Plants use an ultraviolet disinfection process. Switching from chlorination to ultraviolet light disinfection is planned for the Riverhead and Sag Harbor STP upgrades.

### Septic Systems

**Comment:** Emphasize financial incentives for on-site disposal system improvements.

*Response:* A step included in Action N-5 calls for investigating feasible implementation



mechanisms and developing a plan to prevent increases and encourage decreases in nitrogen in groundwater underflow due to on-site disposal systems (sanitary systems). One of the many mechanisms for sanitary system management already recommended in the CCMP is tax credits and other incentive programs.

**Comment:** Promote innovative and alternative sanitary systems.

*Response:* The PEP agrees that promoting innovative and alternative sanitary systems, like Clivus Multrums, is another good way to prevent increases and even encourage decreases in groundwater underflow due to sanitary systems. This mechanism is already mentioned in the CCMP.

**Comment:** Evaluate use and effectiveness of septage management districts.

*Response:* The use of wastewater management districts or utilities was added as another possible mechanism for sanitary system management in Action N-5.

### **Fertilizers**

**Comment:** Create financial incentives to reduce fertilizer use.

*Response:* The PEP already included tax credits and other incentives programs as a mechanism for fertilizer management.

**Comment:** Evaluate restrictions on the sale and/or use of some products (e.g., liquid fertilizers).

*Response:* The PEP agrees that market-based measures coupled with a regulatory approach would accomplish a significant reduction in fertilizer use. Restricting the sale and/or use of some fertilizer products has been added to the possible mechanisms for fertilizer management listed in the CCMP.

**Comment:** Promote organic and/or slow-release fertilizers (tax on inorganic fertilizers; public relations such as endorsements of good products; education of retailers and consumers, etc.).

*Response:* The PEP agrees that advocating organic and/or slow-release fertilizers may help control the degradation of our watershed's groundwater quality. This recommendation has been added to CCMP's list of possible mechanisms for fertilizer management. Promoting certain fertilizers could be done with a tax on inorganic fertilizers, public relation endorsements of "good" products, and educational campaigns for retailers and consumers.

### **Agriculture**

**Comment:** Promote organic farming.



*Response:* The Program agrees that promoting organic farming should be included in the implementation plan for regional nitrogen load reductions. The final CCMP will incorporate this addition.

**Comment:** Agriculture preservation goals need clarification (e.g., balance of agriculture vs. residential growth).

*Response:* There is an overwhelming public desire to preserve the East End's farmland and agricultural traditions, as evidenced by the recent voter-approved farmland preservation programs. Also, the PEP Economic Value Assessment study found that the public was willing to pay more for farmland preservation than several other environmental programs. Thus, the PEP operates under the presumption that farmland preservation goals will be met, and deals with nitrogen loading issues associated with farmland through the Agricultural Nitrogen Management Work Group.

### **Golf Courses**

**Comment:** Discuss golf courses specifically, including impacts and investigations.

*Response:* A recent SCDHS study investigating groundwater impacts entitled *Water Quality Monitoring Program to Detect Pesticide Contamination in Groundwaters of Nassau and Suffolk Counties, NY* (1999) has found that the golf courses examined were not having major, adverse environmental impacts with respect to nutrient loading, particularly as compared with traditional row crop farms. The 1999 report documented the testing of 31 wells at 18 Long Island golf courses and found that the average nitrate concentration was 4.3 mg/L (the median nitrate concentration was 2.6 mg/L), which is the equivalent of a housing density of less than one residence per acre. At agricultural sites, the 1999 study found an average nitrate concentration of 11.7 mg/L and the SCDHS 1996 study entitled *Nitrate and Pesticide Impacts of Agriculture on Groundwater Quality Suffolk County, NY* found a 20 year nitrate average of 11.3 mg/L. Turf management practices at golf courses do effectively limit nitrogen inputs, however, monitoring should continue, as should aggressive golf course BMP implementation.

The SCDHS conducted a follow-up study in 2000 with an expanded list of analytes and with new monitoring wells at five more courses in the county, including Shinnecock, National, and Maidstone. Preliminary data suggests that nitrogen is well controlled. The NYSDEC has been funding the monitoring program for three years at about \$100,000 per year. The NYSDEC recently agreed to a three-year one million-dollar commitment with the SCDHS to expand the monitoring program.

### **Nitrogen Model and Nutrient Criteria**

**Comment:** Emphasize specific nutrient standards for which the plan will propose to manage, and include strategies proposed for implementing such objectives, including permitting requirements.

*Response:* The appropriate Nitrogen Management Work Groups and the Management



Committee will consider specific nutrient standards for groundwater inputs, along with strategies for attaining these standards.

**Comment:** Evaluate reversal of Shinnecock Locks to allow better flushing of Flanders Bay.

*Response:* The three-dimensional hydrodynamic and water quality model of the Peconic Estuary includes a connection between Great Peconic Bay and Shinnecock Bay through the Shinnecock Canal. Preliminary runs of the model indicated that improved flushing of the Peconic Estuary would occur if changes were made to the operating characteristics of the tide gate at Shinnecock Canal. Preliminary analysis by the Suffolk County Department of Public Works indicates that changes to the Shinnecock Canal tide gate system are feasible (e.g., flow can be reversed to improve Peconic Estuary flushing), but the costs would be on the order of several million dollars. More detailed engineering and environmental impact studies would be required prior to supporting such a major expenditure. The PEP has recently contracted Tetra-Tech, Inc., to address the primary threshold questions of environmental impacts: the degree of improvement in Peconic Estuary water quality that could be attained by management alternatives, coupled with associated impacts that would result in Shinnecock Bay.

**Comment:** Focus on tailoring nitrogen-loading targets to subwatersheds in the estuary.

*Response:* The PEP recently contracted Tetra-Tech, Inc., to upgrade the existing three-dimensional hydrodynamic and water quality model of the Peconic Estuary to include new information on nonpoint source and groundwater flows and nutrient loads with a focus on smaller watersheds. The contractor will use the model to address concerns regarding nutrient impacts on Flanders Bay, and several peripheral creeks and embayments, including Meetinghouse Creek, West Neck Bay, and Sag Harbor.

**Comment:** The PEP should spend more money on developing and implementing management initiatives, rather than on modeling/assessment.

*Response:* The PEP believes that the modeling and assessment are necessary prerequisites to establishing effective regional planning and management strategies, and that these efforts have already reaped rewards in terms of policy changes (e.g., point source nitrogen freeze) and early implementation. The PEP recognizes the need for early implementation, as evidenced by the 55 early demonstration and implementation projects using \$11 million in federal and state funds. Moreover, tens of millions more have been committed by the County and Towns, as discussed in the CCMP. These implementation funding sources are orders of magnitude higher than the moneys used for characterization and modeling. As the program matures, yet additional resources will be placed on developing and implementing tangible management initiatives at the subwatershed level, through programs such as the Subwatershed Management Plans.

**Comment:** Solicit and use peer review in refining and using monitoring data and nitrogen management tools.





*Response:* The PEP will continue to incorporate the PEP Technical Advisory Committee and external peer review in the modeling development and application process, which includes dependent analyses of water quality and pollution input studies. As the model process is completed, the PEP will continue to solicit and use the TAC and external peer review in developing programs and interpreting and applying data.

### **Living Resources**

**Comment:** Better discuss the impacts of nutrients on eelgrass.

*Response:* Text was added to the introduction of the Nutrients Module to explain that increased nutrient enrichment causes increased microscopic algae production that decreases water clarity and diminishes the amount of light received by rooted aquatic plants. Submerged aquatic vegetation that are at a species' depth limit for clear water conditions would be expected to decline due to the lack of sufficient light energy in turbid waters. Eutrophication will also increase the growth of epiphytes on eelgrass blades, again shading the plant itself and hindering production. Furthermore, species such as red or green macroalgae, which adsorb nutrients more quickly than eelgrass, may competitively exclude eelgrass plants.

**Comment:** Focus on nutrient levels with respect to bay productivity. Is there too little nitrogen in the system?

*Response:* To the knowledge of the Peconic Estuary Program, the scientific community and environmental managers, to date, do not believe that there is too little nitrogen reaching the waters of the Peconic Estuary. Nitrogen is critical for sustaining the marine ecosystem, but can be harmful to the estuary at excessive levels. The process by which a water body becomes over enriched with nutrients and associated organic carbon, called eutrophication, may result in dissolved oxygen stresses that are harmful to marine life. Ecological stresses are already prevalent in the estuary due to nitrogen, including extensive macroalgae blooms (e.g., *Ulva*), areas of high sediment oxygen demand rates, and areas of dissolved oxygen depression.

Given the concerns of some citizens, the Peconic Estuary Program has posed this question to Brown Tide Research Initiative (BTRI) researchers for consideration with respect to brown tide. At this point, there does not appear to be a hypothesis that offers a mechanism by which low levels of nutrients could result in the onset or persistence of brown tide.

**Comment:** The plan may focus too much on nitrogen and dissolved oxygen.

*Response:* Long-term shifts in an ecosystem are likely due to subtle changes in the environment over an extended period of time. Nitrogen and dissolved oxygen measurements are immediate tools with which resource managers can identify differences in water quality. Nitrogen and dissolved oxygen measurements are also "integrators" of pollutant inputs, reflecting organic carbon overenrichment and other contaminants. The Peconic Estuary



Program is involved in other ways to monitor water quality, including monitoring eelgrass beds and coordinating brown tide research efforts with respect to nutrients. Ultimately, the Living Resources Research and Monitoring Plan will develop long-term monitoring and assessment techniques for evaluating nitrogen impacts on food web dynamics.

**Comment:** Participate actively in the Pine Barrens process.

*Response:* The Peconic Estuary Program closely coordinates its activities with the Central Pine Barrens Planning Commission. In addition, the same agencies and levels of government serve on the Central Pine Barrens Planning Commission and Peconic Estuary Program committees, including the NYSDEC, the Suffolk County Executive's Office, and town representatives.

## Habitat and Living Resources

The Natural Resources Subcommittee (NRSC) of the PEP reviewed all public comments pertaining to habitat and living resources. While the comments were numerous, the NRSC identified several key topics that were repeatedly raised both at the public meetings and in letters. Since there was considerable overlap among these comments, they were reduced into sub-categories within the following main sections of the Habitat Chapter: 1) critical natural resource areas; 2) shoreline hardening; 3) dredging; 4) aquaculture; 5) finfish/shellfish; 6) habitat restoration; and 7) research and monitoring.

### Critical Natural Resource Areas

**Question:** What was the scientific basis and criteria used to select the CNRA boundaries?

*Response:* The CCMP has been revised to better reflect the CNRA process and sources of information used to form the CNRA boundaries (see: HLR-1). However, the NRSC recognizes that improvements to the existing data for underwater lands are needed, and has recommended that additional bottom mapping using state-of-the-art techniques be employed. Once the data is analyzed, modifications to the underwater boundaries should then be made. Some examples of data that were used for the CNRAs are: the NYS Heritage maps, Federal endangered species lists, NYS Coastal Significant Fish and Wildlife maps and local input from the towns. Reference will also be made to the Living Resources Characterization report, which contains a detailed description of the natural resources of the estuary.

**Question:** How will the CNRAs be implemented and coordinated?

*Response:* The NRSC recommended that the PEP host a Critical Natural Resource Area Workshop. The aim of the workshop is to bring the various levels of government together to clarify the intent of the CNRA designation, develop an implementation strategy and update/revise the current language in the CCMP. At a minimum we will include the following workshop objectives within the CCMP chapter as a **new** step.

Workshop objectives:



- a) Provide the background & ecological information for the CNRA boundaries (including new surveys such as underwater mapping).
- b) Review existing regulations for natural resource protection at all governmental levels.
- c) Determine how protection of CNRAs are related to the existing regulatory framework.
- d) Determine what level of designation is necessary/appropriate for CNRAs.
- e) Discuss commonalities that the towns share with respect to their needs and interests.
- f) Determine uses of this designation and whether it should be on the State, County, Town level or some combination of them.
- g) Determine implementation strategies
- h) Plan the next steps

### **Shoreline Hardening**

**Comment:** The CCMP did not provide adequate evidence that shoreline hardening structures (e.g., bulkheads, docks) have a negative impact on habitat and living resources. Shoreline hardening should, in some instances, be encouraged because they don't always have a negative impact to the resources.

*Response:* The PEP maintains that shoreline hardening structures can negatively impact marine habitats and biota. A recent example of negative impacts from such structures in the Peconics was demonstrated in a study on eelgrass beds by the National Marine Fisheries Service (a critical habitat for shellfish and finfish in the estuary) in Lake Montauk, where a dock structure was built over them. This study showed evidence that the eelgrass beds that were shaded by the dock died back. Although there are few studies specific to the Peconic Estuary, there is ample evidence from investigations in other areas that demonstrate the negative impacts of structures such as: bulkheads, seawalls and docks to the natural resources (e.g., loss of beach and shallow-water habitats, disrupting connectivity of land and sea, habitat fragmentation). Reference to such studies will be listed in an unbiased review of the literature that is currently underway (i.e. studies that show no effects of such structures to natural resources will also be included).

**Comment:** Regulations should be reviewed and revised to make shoreline-hardening structures more difficult to obtain.

*Response:* The CCMP has been modified and now calls for a comprehensive review of State, County and Town regulations as well as an update/review of the NYS Coastal Policies has been included in the Habitat chapter. It is hoped that strategies will be developed to strengthen current policies (particularly within CNRAs). A recent example of a shoreline hardening management plan that the PEP supports is the Town of East Hampton's proposed Coastal Legislation. A description of this proposal has been included in the Habitat Chapter.

**Comment:** The policy of "no-net increase" of shoreline hardening structures is unrealistic. Basic inventories of existing structures and their location in the estuary are needed to properly develop management strategies.

*Response:* The PEP maintains its support of the Citizens Advisory Committee's



recommendation for a policy of “no-net increase” of shoreline hardening structures. Known impacts from shoreline hardening structures to the natural resources warrant such a strategy. However, the PEP also realizes that the current environmental regulations actually allow for an increase in much of the watershed. The PEP also acknowledges that data for existing structures is necessary to properly develop and implement such a plan, and incentives to remove existing bulkheads are also necessary for such a policy to actually succeed. A shoreline hardening inventory was performed for the entire estuary in the spring/summer 2000; all existing structures will be digitally mapped. This data will be used to further refine the recommendation of “no-net” increase of bulkheads in the estuary. The Habitat Chapter has also been modified accordingly to reflect this (section: HLR-2).

HLR-2.4 has been modified as follows:

Develop a variety of financial incentives and programs to encourage property owners to remove or modify hardened shoreline structures and replace them with natural vegetation and other vegetated (bioengineered) alternatives to restore the natural shoreline of the Estuary.

**A new step** for shoreline hardening structures was also included in the CCMP under (HLR-2):

HLR-2.2 Review existing regulations for shoreline hardening structures at all levels of government, encourage consistent policies and strengthen regulations where appropriate.

### **Dredging**

**Comment:** There is concern that the Peconic Estuary is being proposed as a dredge material disposal site. The EPA and the Army Corp of Engineers have a commitment to the public to tell them if the contaminated dredge material is going to be dumped in Montauk or the Peconics. Management policies should be set in the Peconics so that contaminated dredge materials cannot be dumped there.

*Response:* There is a Draft Environmental Impact Statement being developed by the United States Army Corps of Engineers for designation of dredge material disposal areas for the Long Island Sound. This will include the Peconic Estuary and Block Island Sound. Site selection criteria are currently being developed (e.g., water depth, habitat, etc.) and will be presented to the public to comment on as well as to comment on the scope of the potential dredge areas and upland disposal areas. It is expected that most shallow waters will be eliminated from this list, including those of the Peconics. The PEP will provide information (e.g., habitat data, endangered species, etc.) to the Corps during the site selection review process to ensure that the importance and significance of the Peconic Estuary is clearly demonstrated and that the maximum levels of protection are sought.

**Comment:** Will the dredge summit include all appropriate parties involved with dredging?

*Response:* While the exact format of the summit remains to be determined, the PEP is a



consensus building program and will, therefore, include all interested parties (regulatory and non-regulatory) to the workshop. It is hoped that the forum will lead to the development of a comprehensive dredging plan for the estuary that minimizes impacts to important resources, while considering the needs of businesses that depend on dredging, and the concerns of others.

### **Aquaculture**

**Comment:** Finfish and shellfish culture are associated with different types of impacts and the CCMP should reflect this. Additionally, the aquaculture activities that are currently undertaken in the estuary are primarily small-scale (shellfish). The Habitat chapter gives the impression that it is primarily large-scale (finfish) culture that occurs in the Peconics, which is not the case.

*Response:* The Habitat chapter has been revised to better reflect these concerns in the text. Further discussions through workgroups that deal with the regional planning of aquaculture in the Peconic Estuary should be encouraged to discuss the different impacts of all types of aquaculture activities and how best to manage them in the estuary (See Action HLR-10). In addition the following actions have been added to the chapter:

HRL-10 The text has been revised to reflect the two main types of aquaculture; shellfish and finfish aquaculture that take place within the estuary and the different impacts associated with each. The text has been revised to emphasize the smaller-scale shellfish culture that occurs within the estuary, rather than on the single large-scale finfish culture facility located in Gardiner's Bay.

HLR-10.2 Calls for identifying areas where intensive aquaculture should be avoided. This has been reworded to identify areas where shellfish and/or finfish aquaculture are appropriate/suitable.

**Comment:** Under action HLR 10.2 a \$500,000 survey is proposed. What type of survey would this be?

*Response:* This is a rough estimate for the costs of an acoustic benthic mapping survey of the entire estuary, including tidal creeks. As stated below in the Habitat Restoration Workgroups comments, the benthic habitats/communities/resources in the Peconic Estuary are poorly documented, and such mapping would not only help PEP best determine where aquaculture activities are most compatible with the water quality and habitat objectives in the CCMP, but also be useful for critical natural resource mapping and watershed management.

### **Habitat Restoration**

**Question:** Why were an overwhelming majority of habitat restoration sites from the South Fork?

*Response:* The Habitat Restoration Workgroup did not select habitat restoration sites internally. The Workgroup conducted a public nomination process and disseminated information on the process through a variety of outreach mechanisms, including: a mass



mailing, interviews on The Bay Show, a presentation to the PEP Citizens' Advisory Committee and a press release published in a variety of regional and local newspapers. The majority of nominations received by the Workgroup during Round One of this process were sites located on the South Fork. The Workgroup attempted to rectify the under-representation of North Fork sites during Round Two by conducting additional outreach in North Fork municipalities and groups, and by providing assistance to potential site nominators. As a result, during Round Two, 24 North Fork sites were nominated, out of a total of 26 new nominations. These nominations can be found in the report entitled *Habitat Restoration Plan for the Peconic Estuary*.

**Comment:** There are osprey nesting platforms in East Hampton that need to be straightened or replaced. Specifically, there is one at the end of Breeze Hill Road in East Hampton that needs to be looked at.

*Response:* In East Hampton, most osprey platform construction and maintenance is conducted by Larry Penny, Director of the East Hampton Natural Resources Department. The Habitat Restoration Workgroup recommends that inquiries regarding osprey platforms in East Hampton be directed to the Natural Resources Department. Inquiries regarding osprey platforms located on county or state properties should be directed to the appropriate Suffolk County or New York State agency.

**Comment:** There should be a wetlands restoration summit/technical workshop to talk about techniques, applications and monitoring. Restoration can be done cheaper than people think.

*Response:* The Habitat Restoration Workgroup agrees that information sharing is valuable and will consider setting up a workshop for municipalities. The Workgroup will also provide technical assistance through components of the PEP Habitat Restoration Plan, including a compilation of completed restoration projects throughout the estuary, descriptive narratives for particularly instructive projects, and profiles of restoration techniques used in different habitat types. The Workgroup will also participate in the Environmental Protection Agency's Restoration Project Database (see <http://www.epa.gov/owow/wetlands/restore/>) to increase the accessibility of information about Peconic Estuary Program projects. For more focused training, the Workgroup suggests that municipal staff research the wide variety of existing technical workshops and courses offered regularly through organizations such as Environmental Concern, Inc. We also will encourage workshops on native plantings that are beneficial to the Peconic watershed.

**Comment:** For reef restoration, people seem more concerned with the turtles and marine mammals than with fish. The focus needs to be more on the fish.

*Response:* The Habitat Restoration Workgroup does not consider artificial reef construction in the Peconic Estuary to be "restoration". This type of habitat does not naturally occur in this area and therefore, would be considered habitat creation. The impacts of artificial reef construction in areas where they do not naturally occur need to be carefully considered for all aquatic species because they will potentially result in significant alterations to the existing





system. Sea turtles and marine mammals are given particular attention because most of these species are listed as federally endangered or threatened. This does not preclude the PEP's concerns regarding other marine species.

**Comment:** The CCMP should cover deepwater habitat restoration for fish. The CCMP needs to go beyond shallow reefs.

*Response:* Knowledge of the characteristics of deepwater benthic habitats in the Peconic Estuary, as well as knowledge of historical conditions in these environments, is extremely limited. The Habitat Restoration Workgroup feels that these limitations currently preclude efforts to conduct habitat restoration in deepwater areas. However, it is hoped that benthic mapping of the entire estuary will someday lead to a better understanding of these deeper areas and possibly result in such restorations. Benthic mapping efforts are currently in the planning stages and are expected to be implemented in 2001.

**Comment:** A new trend in wetlands protection is the concept of offsetting the loss of wetlands at particular building sites through wetland banking. The wetland banks are mechanisms by which damaged or degraded wetlands can be restored or enhanced and then credits can be sold to property owners whose building projects will impact wetlands. Wetland banking should be encouraged as a source of funding for wetland restoration work.

*Response:* The Habitat Restoration Workgroup does not feel comfortable recommending the use of wetland banking in the Peconic Estuary. Some people believe wetland banking encourages destruction of wetlands and leads to a decline in overall quality of wetland ecosystems. Wetland banking works best for extremely large projects, the impacts of which are unavoidable for logistical reasons, *e.g.*, construction of transportation corridors. This technique has not been employed in the Peconic Estuary region to date and is probably not appropriate given the types of development most common in our area.

**Comment:** Setting a wetland restoration goal (acres of wetlands and SAV to be restored) for the Peconics would be an important tool for the program.

*Response:* The information (primarily historical) needed to accurately set an acreage-based goal for restoration of either wetlands or submerged aquatic vegetation is currently not available for the Peconics. However, PEP has set some preliminary restoration objectives in the measurable goals section of the Habitat Chapter. These are: 1) Maintain current eelgrass acreage (approximately 2,100 acres) and increase acreage by 10% over ten years, and 2) Maintain a policy of no new mosquito ditches and not re-opening ditches that have filled in by natural process, and restore 10-15% of mosquito ditched marshes through Open Marsh Water Management. The Habitat Restoration Workgroup will attempt to refine quantifiable goals for these habitat types as additional information is acquired.

**Comment:** Something else is killing eelgrass, other than brown tide.

*Response:* While there are many factors that are suspected to have contributed to the decline of eelgrass beds, one of the most prominent is decreased water clarity from algal blooms



such as brown tide or other light decreasing factors (e.g, increased turbidity from suspended solids). When light levels are inadequate, eelgrass (a rooted vascular plant) is no longer able to photosynthesize and eventually dies off (see: Nutrients Chapter). While PEP does not have definitive proof of what has caused these die-backs of eelgrass in the Peconic Estuary, evidence from studies done in other estuaries indicate that increased nutrients and runoff from land-based activities has negatively impacted their eelgrass beds. The PEP & NRSC are constantly searching for other pathways as identified in the literature, and continues to seek funding to study and monitor the eelgrass beds in the estuary. One suggested mechanism is the linking of groundwater influxes to eelgrass viability, since groundwater is a major contributor of freshwater inputs into the Peconic ecosystem. We have also included the following new action to reduce impacts to eelgrass beds:

Added **New Step:** HLR-6.3 Evaluate anchor dragging and propeller scaring and other known impacts to extant eelgrass beds in the Peconic Estuary and develop recommendations to reduce them.

**Comment:** Some facts about *Phragmites* are misstated in the CCMP.

*Response:* Recent evidence from research on wetland plants suggests that *Phragmites* sp. has positive habitat values. While typically considered a nuisance species (see Habitat Chapter for discussion) management plans should also consider the value of *Phragmites* such as sequestering of nutrients, bird and fish habitat, waterfowl screening, etc.. Such values have been added to the text in the Habitat Chapter, but in cases where *Phragmites* is outcompeting other valued wetland species, we will consider removal of it as restoration of wetlands (e.g., restricted tidal flow areas, dyked channels, etc.).

### **Marine Fish**

**Question:** How does the CCMP address the Magnuson-Stevens Fishery Conservation and Management Act's essential fish habitat designations?

*Response:* The National Marine Fisheries Service (NMFS) has designated the Peconic Estuary as Essential Fish Habitat. The NMFS handles these designations and coordinates with other Federal agencies regarding project/activities that are proposed within these areas to avoid or minimize impacts associated with them to fish habitat. The PEP is fully aware of this designation and we support its use on regulating activities that can cause impacts to the marine fish populations in the estuary. However, as mentioned above, review of proposed projects are primarily coordinated at the Federal level. The CCMP's overall consistency with this designation will be included in our base programs analysis. We have included the following **new** action in support of these designations in the CCMP:

HLR-12.6- Support NMFS Essential Fish Habitat Designations within the Peconic Estuary.

**Comment:** The effect of blocking tributaries is detrimental to anadromous fish reproduction and various food chain species. Tributaries should be cleared of blockages.





*Response:* The Natural Resources Subcommittee and the Habitat Restoration Workgroup have identified blockage of tributaries as primary targets for restoration efforts. These have been noted in the CCMP and also in the Habitat Restoration Plan for the estuary. A recent example of such restorations in the estuary was the creation of a fish-ladder for the headwaters of the Peconic River in Riverhead. This effort has restored spawning grounds for alewife, which they had lost access to due to the installation of dams in the past.

**Comment:** The CCMP needs to discuss striped bass, lobsters, squid and dogfish for their management.

*Response:* While the PEP and Natural Resources Subcommittee are concerned with the quality/abundance of marine finfish species within the Peconic Estuary, it is not the role of the PEP to manage fisheries. There are other programs that focus on fisheries management that the PEP supports. New York State is one of 23 partners of the Atlantic Coastal Cooperative Statistics Program, that cooperatively collect, manage and disseminate fishery statistical data that is compiled by the National Marine Fisheries Service. Furthermore, many of the species that are mentioned above are transient species in the estuary and therefore, are subjected to fishing pressures and impacts in other coastal and offshore waters. The PEP's CCMP recommendation is to foster sustainable recreational and commercial finfish and shellfish uses of the Peconic Estuary that are compatible with biodiversity protection (HLR-12).

### **Shellfish**

**Comments:** In the 1960's there was a steady and incremental decline of fish and shellfish in the Peconics. Oysters should be in the CCMP. In the 70's and 80's there was a marked decline in scallops on the western side of Shelter Island before brown tide hit. Oysters are the most sensitive barometers of the bays.

*Response:* Oysters are discussed in the CCMP in the Habitat and Pathogens Chapters. While oysters were primarily introduced to the Peconic Ecosystem for culturing purposes the PEP and Natural Resources Subcommittee recognize the significance of shellfish in general within the Peconic Estuary. While many of the Actions throughout the CCMP are aimed at improving water quality and habitats for shellfisheries, the NRSC has also decided to include the following **new** action within the CCMP:

**NEW ACTION:** HLR-17 Establish a working group to examine the role of grazers and filter feeding organisms in influencing water quality and productivity, and to better understand the food web dynamics and to develop management applications.

Shellfish (i.e., hard clams, soft clams, bay scallops, and slipper shells) are vital to the Peconic estuary both ecologically and commercially. Shellfish can filter large volumes of bay water over relatively short time periods. They have the potential to affect water quality and exert significant influence on the size, type and abundance of phytoplankton. Conversely, changes in phytoplankton species composition have the potential to affect shellfish diversity and abundance. With the advent of brown tide, reduction of duck farms, changes in habitat (e.g.,



invasive species) and harvesting; shifts can occur in shellfish diversity, temporal and spatial distribution and abundance. Preliminary brown tide research findings by Caron and Lonsdale have resulted in a working hypothesis that the rapid decline in the shellfish population prior to the first brown tide in the Peconics may have led to significant reduction in grazing pressure on phytoplankton, thereby allowing the onset of brown tide. A shellfish working group is necessary to examine these issues more closely and develop recommendations to improve shellfish resources in the estuary and promote sustainable harvesting of these species.

Issues for examination by the Shellfish Working Group could include: 1) understanding the relationship of grazer and filter-feeder diversity and abundance with phytoplankton diversity and abundance, 2) how to enhance shellfish and finfish stocks to accommodate harvesting while also maintaining sufficient populations that are adequate to fulfill ecological functions, and 3) need for collaboration between related Peconic Estuary efforts such as BTRI, water quality modeling, aquaculture regional plan work group, and finfish monitoring.

*New Steps include:*

- HLR-17.1 Review appropriate scientific literature, identify information gaps, and develop research recommendations regarding how shellfish, finfish and other “top-down” predators influence water quality and the planktonic community.
- HLR-17.2 Develop research, monitoring and assessment needs for quantifying food-web dynamics.
- HLR-17.3 Develop food-web sub-models to be included in the nutrient model to evaluate the sensitivity of productivity to anthropogenic changes in nutrient supply.
- HLR-17.4 Consult with the Brown Tide Research Initiative (BTRI) and Aquaculture work group to develop management recommendations for “top-down” regulation of water quality and brown tide in the Peconic Estuary.
- HLR-17.4 Facilitate communication among BTRI, water quality managers and aquaculture work group.

**Research and Monitoring**

**Comments:** The development and implementation of a robust research and monitoring program, particularly for the living resources is critical. A resource-based research and monitoring program should be developed and implemented. The food-web of the estuary needs to be characterized. Also, how the food-web has been impaired by man-made chemicals entering our waters needs to be researched. Research should look at how harmful chemicals impact life in the water column (e.g., fish larvae).

*Response:* The Marine Resources Conservation Planner for the PEP has developed (jointly with the Natural Resources Subcommittee) a Living Resources Research and Monitoring Plan for the Peconic Estuary. Topics already identified by the PEP Natural Resources Subcommittee for inclusion in the plan address questions about finfish spawning, larval development, and recruitment to the fishery; population dynamics of the benthic communities of the system; distribution, abundance, and growth, including habitat use and preference, by juvenile and forage fish; and the links among these different components of



the food web.

One of the monitoring needs identified by the PEP includes monitoring eelgrass by aerial photographic interpretation, appropriate groundtruthing, periodic mapping, and other surveillance techniques to adequately assess trends in eelgrass distribution, abundance and overall health. Given the recent decline in eelgrass beds over the last decade, a long-term commitment to eelgrass monitoring is essential to provide adequate management, preservation, and restoration measures. Additional assessment, research and monitoring needs identified by the PEP include the following: 1) impacts of macroalgae and toxic contaminants on eelgrass distribution and abundance 2) distribution, abundance, habitat preferences, and life stage requirements of forage fish species, horseshoe crabs, slipper shells, bay scallops and hard clams, 3) critical spawning habitats for local populations of winter flounder, 4) benthic habitat mapping, 5) assessing and monitoring the impacts of shoreline hardening on habitat and living resources and 6) effects of sea level rise on saltmarshes.

The research and monitoring plan is currently being released for external peer review. Once this process is completed and the document revised, it will be formally adopted by the Management Committee and released.

### **Other Comments**

**Comment:** Step HLR-1.9 should be rewritten. Better wording may be “help marinas with more creative storage areas so they do not have to expand into tidal areas”.

*Response:* This is a useful recommendation and wording has been included to consider such recommendations as part of the more comprehensive strategy dealing with shoreline hardening, marinas, docks and public access.

**Question:** What are the mosquito control recommendations in the CCMP for Open Marsh Water Management? Should ditches in marshes be filled in or kept open? How should we balance ditching marshes, pesticides, and mosquitoes?

*Response:* The PEP recognizes that mosquito control is important to public health and safety. Ditching was employed in the past to drain the marshes of standing water, to reduce mosquito-breeding habitat, and is primarily handled by Suffolk County Vector Control (as well as insecticide spraying). However, in many areas these ditches caused excessive drainage of tidal wetlands at low tide, disturbing the natural functioning of the marsh. Although diminution of standing water was thought to reduce the populations of mosquitoes, it is now thought that the pools actually provide habitat for small finfish (killifish) which eat mosquito larvae. Over the past few years, Suffolk County Vector Control (SCVC) has discontinued its practice of creating new ditches and switched to implementing Open Marsh Water Management (OMWM) to restore marshes to their former state and control mosquito populations. The PEP supports this policy (HLR-5 and HLR-8). Furthermore, the PEP encourages better coordination between SCVC and all other agencies and Towns for maintenance of existing ditches and planning of mosquito control practices in wetlands. The



PEP would like to see a region-wide plan developed for mosquito control practices in the Peconics that are effective at reducing mosquito populations and environmentally compatible. We have modified HLR-5.3 and added HLR-5.4 as follows:

HLR-5.3 Maintain and enforce the policy of creating no new mosquito ditches in tidal wetlands and establish a policy for not re-opening ditches that have filled-in by natural processes.

HLR-5.4 Ensure that SCVC works cooperatively with all government agencies, East End towns and local conservation organizations in the planning of wetland mosquito ditch maintenance and pesticide spraying.

**Final Note:** Minor editorial changes were made throughout the text to improve the overall flow and content of the document, as well as to reflect recent projects that have occurred in the estuary since the initial draft. Additionally, some figures have been modified as suggested by the comments received.

## Pathogens

**Question:** Is there a Difference between Human and Avian Coliforms?

*Response:* Yes, there is a difference between the coliform bacteria generated by birds and humans. A study conducted by the Suffolk County Soil and Water Conservation District pursuant to Section 208 of the Federal Water Pollution Control Act Amendments of 1972 contained a comparison of coliforms produced by humans, ducks and chickens. The following information was excerpted from the *Animal Waste Characteristics* section of this report:

### ESTIMATED PER CAPITA CONTRIBUTION OF INDICATOR MICROORGANISM

<u>Animal</u>	<u>Fecal Coliform [FC] (millions)</u>	<u>Fecal Streptococcus [FS] (millions)</u>
Humans	2,000	450
Ducks	11,000	18,000
Chickens	240	620

(Note: The ducks used in this study were semi-wild White Pekin. The report noted that the amount and characteristics of waste produced by semi-wild ducks is similar to that produced by White Pekin ducks.)

The Peconic Estuary Program supports efforts that are geared toward distinguishing wildlife from human coliform sources (See DNA library Action P-12) since they will assist in defining loading pathways into the estuary, and therefore, improve management strategies to reduce these loadings. However, it is not necessary to separate human and animal coliforms



for shellfish sanitation management. Shellfish sanitation is concerned with monitoring the total concentrations of coliforms (i.e., both wildlife and human coliforms) in the environment.

**Question:** Do Pathogens affect Wildlife other than Shellfish?

*Response:* Yes, pathogens can affect wildlife. Pathogens are described in the CCMP as “viruses bacteria, algae and protozoans that cause disease in humans, plants and other animals”. Some examples of pathogens other than coliforms that affect wildlife in the marine environment are “gray crab disease” (*Paramoeba pernicioso*) associated with crab mortalities and the dinoflagellates *Alexandrium tamarensis* and *Gymnodinium breve* which are known to be responsible for fish kills. *Alexandrium tamarensis*, commonly referred to as “red tide” produces a toxin (*saxitoxin*) which has been linked to mass mortalities in a variety of marine organisms from finfish to marine mammals such as whales.

The Peconic Estuary Program recognizes that pathogens can affect wildlife other than shellfish, but since shellfish have the greatest potential to transmit these pathogens to humans our management actions are focused on these organisms. Furthermore, the PEP management strategies aimed at reducing pathogen loadings throughout the estuary may be beneficial to all forms of wildlife and not just limited to shellfish.

**Comment:** The report should recommend the monitoring of not only *Alexandrium tamarensis* (a toxic dinoflagellate known to cause shellfish poisoning), but also *Pfiesteria piscicida*.

*Response:* *Alexandrium tamarensis* and other harmful algae such as *Pfiesteria piscicida* have been found in the Peconic Estuary. While these organisms have not caused any problems to date, the PEP recognizes their (potential) risks to human health and safety and encourages increased monitoring throughout the estuary (See Action P-15). The Pathogens Chapter has also been updated to include the following information about existing and planned monitoring programs:

The NYSDEC Shellfish Sanitation Unit has a *Marine Biotxin Contingency Plan* in place for monitoring *Alexandrium tamarensis*, but does not routinely test for this organism or any other organism responsible for a Harmful Algal Bloom (HAB). The state of Connecticut actively tests for HAB’s from April through November. The Suffolk County Department of Health Services currently monitors for the presence of *Pfiesteria* at fifteen sites, three of which are located in the Peconic Estuary. This monitoring is a cooperative effort with the NYSDEC and is being conducted with funds from a Federal program. The PEP supports that monitoring for the presence of *Pfiesteria* in the Peconic Estuary be continued and expanded (See Action P-15).

#### **Additional changes to the Pathogens Chapter**

Note: Editing changes that were minor in scope are not included here.



- 1) The box on Page 5-4 (“Shellfish Bed Closures”) has been revised substantially under the heading “Administrative Closure” to more accurately reflect current DEC management classifications.
- 2) Page 5-11: “Point Sources of Pathogen Contamination”. We have included the following statement: “The Corwin Duck Farm’s NYSDEC SPDES permit allows the facility to discharge to surface waters only in the event of an extraordinary rainfall (e.g., a ten year storm)”.
- 3) Table 5.2 has been updated to include the Calverton (former Grumman facility) sewage treatment plant.
- 4) Plum Island sewage treatment plant also employs UV sterilization.
- 5) A section describing the potential harm to human and wildlife from *Alexandrium* (red tide) and *Pfiesteria* has been included in the text prior to the section on “Management Actions”.
- 6) Action P-1 has been substantially revised to better reflect the new stormwater regulations for New York State.
- 7) Action P-7 has been updated to reflect the most recent agreements that have been reached for the Vessel Waste No Discharge Zone.
- 8) Action P-15 has been revised to include increased monitoring for the red-tide organism *Alexandrium* and other harmful algal blooms.
- 9) All tables have been updated to reflect recent commitments, time-frames, costs and status.

## **Toxics**

### **Treated Lumber**

There were many comments regarding treated lumber. These included comments to:

- include a discussion of treated lumber in the CCMP;
- study the effects of the wood in the marine environment;
- monitor waters for chemicals used in treated lumber;
- identify if there are areas where sediments have been contaminated by treated lumber;
- review existing studies on treated lumber and potential impacts and share this information with stakeholders;
- Investigate alternatives to treated lumber;
- promote natural materials as alternatives (i.e., locust or cypress lumber);
- address potential problems with using vinyl or plastic as alternatives;
- provide financial incentives (i.e., via taxes) for using alternatives;
- develop regulations to require the complete removal and proper disposal when treated lumber structures are demolished; and





- ban or restrict the use of treated lumber

Based on these comments, the final CCMP includes a discussion of treated lumber and contaminants associated with its use. Chemicals associated with treated lumber will continue to be included in monitoring efforts and the effects of treated lumber and associated chemicals (as well as other toxics) is included as an element in the PEP research and monitoring plan. The CCMP includes a step to develop model guidelines regarding the placement of treated lumber in the marine environment and supporting non-toxic structures, based on existing studies and potential impacts, and consistent with the PEP's overall policy of no net increase in shoreline hardening structures. These guidelines will address natural materials as alternatives, potential problems with using vinyl or plastic as alternatives, and the disposal of treated lumber following demolition. This information will be shared with stakeholders. Based upon the available information, at the present time, the PEP is not recommending an outright ban on the use of treated lumber, but does support restoration to natural shoreline features, natural alternatives and products, and providing incentives for removing treated lumber (and other shoreline hardening structures). Financial incentives for the removal of or alternatives to shoreline hardening structures are discussed on the Finance Chapter of the Plan.

### **Stormwater**

There were numerous comments regarding storm water with respect to toxics. These included comments to:

- Stop road runoff from all contributing points and address needs for storm drain management and catchment maintenance, including some specific named sites and to prevent the expansion of a particular business enterprise where contaminated runoff was suspected of being an issue;
- Fast-track stormwater management projects and the likely high costs of doing so;
- Encourage the use of permeable surfaces for driveways instead of blacktop;
- The need to review past stormwater abatement projects; and
- The need to reevaluate standards and guidelines for construction projects to ensure that future projects work properly.

One commentor suggested postponing all stormwater remediation work until the PEP Regional Stormwater Management Plan was prepared.

In general, the Peconic Estuary Program management conference members and the CCMP recognize that stormwater needs to be managed and that remediation will be an expensive proposition. A Regional Stormwater Management Plan is being prepared and will address issues such as the identification of contributing sites, the need for storm drain and catchment maintenance, coordination of efforts at all levels of government, as well as review past abatement projects, and standards and guidelines for construction projects. The CCMP also recognizes the need to address land uses and activities that contribute contaminants to runoff, including paving materials as well as the need to identify, develop and implement programs to reduce pollutant loadings. In general, the PEP believes that stormwater remediation projects currently underway do not need to be put on "hold" until the Regional Stormwater



Management Plan is prepared as they are likely to involve appropriate remedial technologies; any significant concerns would likely be addressed through the permitting process.

### **Radionuclides/Brookhaven National Laboratory**

Several commentaries addressed the issue of radionuclides and operations at Brookhaven National Laboratory (BNL). Comments included the need for: an expanded discussion of Peconic Estuary related issues regarding BNL; monitoring of the river and estuary for radionuclides, including sampling sediment, fish, and fish bones; investigating the bioaccumulation of radionuclides and other contaminants from BNL in humans; describing the results of sampling that has already taken place, particularly for plutonium; and considering the synergistic human health effects of multiple radioactive contaminants, particularly for impacts on pregnant women and children.

The CCMP now has a greatly expanded discussion of the historic contamination at BNL and downstream impacts, and discusses activities that have taken place to characterize the contamination and risks. Once the results of EPA's 1999 fish sampling has been evaluated, additional sampling may be conducted, potentially including fish bones and sediments. Finfish and shellfish sampled by EPA in 1999 are being analyzed for radionuclides. This analysis will be completed on the edible portion (according the NYSDOH guidelines), which does not include the whole fish or fish bones. Contaminants in whole fish or fish bones are a concern for certain sub-populations, including certain ethnic groups and subsistence anglers. For this reason, the CCMP includes a step in the Education and Outreach Chapter for the continuation and expansion of dissemination of fish and wildlife consumption advisory information, which includes suggestions on how to reduce exposure to contaminants through certain preparation and cooking methods. Remedial investigations that are conducted under Superfund characterize the potential for radionuclides to bioaccumulate in humans and clean-ups are proposed where contamination results in risks above acceptable levels. Results of sampling and risk assessments that have been completed (including sampling for plutonium) are presented in the CCMP and the companion document, *A Characterization of Toxic Substances in the Peconic Estuary and its Watershed* (PEP, January 2001). The results of some sampling efforts, including sampling that EPA has completed for the PEP, are not yet available. The results are expected in 2001. The Superfund risk assessments that have been completed consider the cumulative risk for exposure to multiple contaminants, including radionuclides, under various future use scenarios. No specific procedure exists at the present time to consider any special risks imposed on pregnant women and children, beyond the conservation risk and toxicity assumptions incorporated in existing criteria formulation methodologies.

Other commentaries suggested: the PEP have a position on the operation of the high flux beam reactor at BNL, a relationship between operations at BNL and Brown Tide, and that BNL pay for citizens' financial losses due to contamination of the Peconic River. A decision has been made to permanently shut down the high flux beam reactor at BNL. At present, there is no plausible hypothesis relating Brown Tide and operations at BNL; this is discussed further in the Brown Tide section of this response document. The contamination of the Peconic River is being addressed under the Federal Superfund program, which is the





appropriate venue to address the issue of citizens financial losses, rather than the National Estuary Program.

One commentor suggested that two additional sources of radionuclides be listed in table 6.1: naturally occurring radionuclides and fall-out from atmospheric nuclear weapon tests. These sources are now noted in the CCMP. This commentor also noted that the reference to the NYSDEC remedial action threshold for tritium provides guidance only for evaluating radioactively contaminated soil clean-up plans, and not to the radioactive contamination of water or fish. This has been corrected in the final CCMP.

One commentor recommended that the CCMP include a recommendation that there be a full investigation and report concerning the radioactive contamination in the Peconic Estuary, and what the investigation should entail. The PEP will continue to monitor actions under Superfund at BNL through its member agencies (principally the USEPA, NYSDEC, and SCDHS) and will participate in oversight of the eventual remedy for the site. The PEP will also fully evaluate the results of all sampling, including fish tissue sampling that EPA completed for the PEP. Based on an evaluation of the results of all these efforts, PEP will determine if any additional efforts regarding the radioactive contamination of the Peconic Estuary is warranted.

A commentor asked for the final CCMP to indicate that the BNL sewage treatment plant utilizes ultraviolet disinfection for its sewage treatment plant effluent; this has been done. Another commentor suggested that research being completed at BNL is important and the contamination is small. The PEP is concerned with all releases of toxic substances to the environment and therefore supports continuing efforts at BNL to clean-up historical contamination and take all appropriate steps to eliminate or significantly reduce ongoing discharges to the environment.

### **Pesticides and Herbicides**

Comments regarding pesticides included suggestions to:

- Include additional information on the presence of pesticides in the estuary;
- Include information on pesticide investigations, including a map depicting pesticide contamination of groundwater, if possible;
- Ban (especially at the state level) the use of destructive chemicals, most artificial pesticides - including at a minimum the 30 detected in Suffolk County wells which are not banned already, and Malathion which is used for mosquito control;
- Include in the table of “toxics of concern in the Peconic Estuary System” pesticides impacting groundwater, and include the name of every pesticide and pesticide metabolite identified as contaminating groundwater in cited reports;
- Investigate connections between pesticides and eelgrass decline, and discuss the potential effects on pesticides in groundwater may be having on shellfish larvae;
- Investigate if DDT (now banned) is still impacting resources;
- Increase the annual estimated cost of conducting pesticide clean sweeps to \$150,000;
- Implement measures to reduce mosquito populations that do not involve spraying, especially the pesticides Malathion and Anvil, and for the PEP to take a position on



- the issue of spraying for mosquito control; also NYSDEC and NYSDOH should be added as responsible entities for the action regarding mosquito control;
- Identify golf courses as contributors to pesticide (and nitrate) contamination; forcefully address herbicide use on golf courses;
  - Reduce toxic loadings (including pesticides) from private homes; identify residences as contributors to pesticide (and nitrate) contamination;
  - Encourage organic pest control;
  - Add a new step to develop and implement IPM programs that manage pests with minimal impact on human health and the environment; the appropriate entities were also identified;
  - Reduce agricultural pesticide use;
  - Recognize and reconcile possible conflicts between applying more restrictions to agricultural operations and public support for farmland preservation, public desire to preserve rural character, and the importance of agriculture to local quality of life and economy, including tourism;
  - Support lawsuits against pesticide companies;
  - Impose a “sin tax” or “fee” on pesticides; and
  - Have manufacturers of toxic substances fund research projects in the Peconics;

The final CCMP includes an expanded discussion of pesticides, includes sources, impacts, and recent data on levels in groundwaters and surface waters. Revisions/clarifications to the table of “Toxics of Concern in the Peconic Estuary System” have been made. The PEP has not added any additional pesticides to the list of toxics of concern, but the final CCMP does list 47 pesticides detected in Suffolk County wells in two recent groundwater studies. The final CCMP provides summaries of these two studies, but does not include maps associated with those studies, as the studies themselves should be consulted by those interested in that level of information. The CCMP now includes a new step for the state to “restrict or ban pesticides whose residues are frequently detected at levels of environmental or public health concern in groundwater or the estuary.” The PEP is not calling for any additional substances to be banned at this time, though this may occur in the future. The CCMP also includes language recognizing a potential connection between pesticides and eelgrass decline, and discusses the potential effects pesticides in groundwater may be having on fish larvae. As described in a step in the Habitat and Living Resource Chapter, the PEP supports further investigations of these two areas of concern through inclusion in the Long Term Research and Monitoring Plan. The CCMP also describes some recent investigations suggesting that DDT and its breakdown products, through historical and possibly current sources, may be impacting resources and that further investigations are perhaps warranted. If continuing sources of DDT to the environment are documented, this supports the continuation of “Clean Sweep” programs for the proper collection and disposal of pesticide products. As suggested, the annual estimated cost of conducting pesticide clean sweeps has been increased to \$150,000.

The PEP is also not recommending against the use of Malathion or Anvil for mosquito control at this time. In a CCMP step, the PEP supports a reduction in the use of insecticides for mosquito control to the maximum extent practicable that still adequately protects human



health, and considers limiting adverse impact on the environment in pesticide selection. The CCMP also recommends good housekeeping methods of control, such as eliminating/reducing standing water that functions as breeding sites. The NYSDEC and NYSDOH have been added to the list of responsible entities for this step. The PEP is also pursuing “open marsh water management” (OMWM) as a potential means of mosquito control (in addition to habitat restoration and possibly stormwater control) that does not involve the use of pesticides but rather natural systems, in locations where it is appropriate. OMWM is described in the Habitat and Living Resources Chapter of the Plan.

Additional information is now provided identifying golf courses and residences as contributors to pesticide (and nitrate) contamination. The CCMP includes language calling for the implementation of integrated pest management programs and specifically highlights Suffolk County’s IPM pesticide-free golf course initiative. The Public Education and Outreach Chapter contains a step calling for endorsement, adoption and implementation of “environmental Principles for Golf Courses in the United States” by all golf courses in the study area. The CCMP also discusses how the implementation of BMPs on golf courses can reduce groundwater contamination. Similarly, the Public Education and Outreach Chapter contains a step calling for the implementation of program aimed at eliminating or reducing domestic pesticide use.

The final CCMP includes a new step to develop and implement IPM programs that manage pests with minimal impact on human health and the environment; the appropriate entities were also identified for this step. This is intended as a means of encouraging organic pest control. Other steps in the Toxic and Public Education and Outreach Chapter are intended to support “organic” pesticide operations, such as supporting organic agricultural operations, pesticide free golf courses, implementing IPM program on public lands, and eliminating or reducing pesticide use at residences.

In addition to the steps in the draft CCMP regarding reducing agricultural pesticide use, the final CCMP includes an additional step calling for the USDA to develop and implement a comprehensive agricultural pesticide management proposal. This step, in addition to others regarding reducing overall pesticide use seek to lessen the potential impacts. These steps include development of the Long Island Pesticide Management Plan, comply with the Federal Coastal Zone Act Reauthorization Amendments section 6717(g) requirements regarding agricultural pesticides in the coastal zone, carrying out regular “Clean Sweep” programs to properly collect and dispose of unwanted pesticides, developing and implementing IPM programs, and banning or restricting pesticides under certain circumstances. Also, the Critical Lands Protection Plan of the final CCMP addresses the need to establish a connection between the agricultural operations and pesticide use, including pesticide usage when development rights are being purchased. It is likely this will continue to be a topic of discussion during the development and Implementation of the Agricultural Environmental Management Strategy (see also Appendix H of the CCMP).

The Finance Chapter of the final CCMP includes a step proposing the investigation of establishing selective sales fees for pesticides (and fertilizers). Fees collected would fund



environmental management programs. The PEP is not recommending that manufacturers of toxic substances fund research projects in the Peconics, though the Program is interested in any potential connections between pesticide use and eel grass declines or impact on fin fish and shellfish and their larvae. The PEP is not recommending lawsuits against pesticide companies.

### **Boat Engines/Personal Water Craft (“Jet Skis”)**

Comments regarding boat engines and personal water craft (i.e., “jet skis”) were to:

- Address the problem of 2 stroke marine engines;
- Identify fuel from motor boats as a direct and local source of PAHs;
- study the pollution potential of exhaust from motor boats; and
- Curtail the use of “jet skis” in the estuary.

The final CCMP includes a detailed discussion of the pollution impacts of marine engines, including how impacts are lessened with cleaner burning 4 stroke (vs. 2 stroke) engines. The Finance and Public Education and Outreach chapters discuss incentives for switching to 4 stroke engines. In the CCMP table of “Pollutants of Concern” boat wet exhaust is identified as a source of PAHs. Poor fueling practices is also identified as a potential source of pollutants (PAHs) in both the Toxics and Education and Outreach Chapters. While the CCMP does not include a specific recommendation for the PEP to study exhausts from boats, discussion is included on studies and findings at the national level. Local studies, if determined to be warranted, could be included in the research plan being prepared. The Toxics Chapter does not specifically address the issue of personal water craft (“jet ski”) engines, but marine engines generally, which includes personal water craft. The Habitat and Living Resources chapter includes some anecdotal information regarding the adverse impact of personal water craft (on marshes and other otherwise generally inaccessible habitats), though the PEP is not making recommendations to curtail their use in the estuary at this time, the issue of personal water craft use is being reviewed under authorities beyond the Peconic Estuary Program.

### **Underground Storage Tanks**

Comments regarding underground storage tanks were to:

- Discuss Article 12 of the Suffolk County Sanitary Code, which addresses toxic and hazardous material storage (including underground storage tanks) in the CCMP;
- Describe the potential problem of home heating oil tanks and financial incentives to replace older tanks;
- Include an action in the final CCMP regarding oil tanks, and that steel storage tanks are
- not desirable; and
- Include information on evidence of petroleum leaking into the estuary from old storage tanks.

The final CCMP now includes a discussion of Article 12 of the Suffolk County Sanitary Code, which addresses toxic and hazardous material storage (including underground storage tanks). The CCMP also includes a discussion of the potential problems associated with



home heating oil tanks not meeting code requirements for new installations in the Toxics Chapter. This includes a discussion of the current county requirements regarding these tanks, including the requirement that tanks be constructed of non-corrodible materials. Limited information is also included on tank leaks. A step establishing a voluntary replacement program of underground oil tanks is included in the Public Education and Outreach Chapter, and financial incentives for replacement/removal are discussed in the Financing Chapter. The Toxics Chapter includes a step to determine the adequacy of the voluntary program and make a determination as to whether a regulatory program should be instituted watershed wide or in particular areas.

### **“Superfund” Sites**

Comments regarding the former Naval Weapons Industrial Reserve Plant (NWIRP) site, also known as the Grumman Calverton facility, were to:

- Identify the NWIRP site as a toxic concern, and expand the discussion of this site due to the existing contamination and potential to effect the Peconic River and Estuary;
- Clarify the status of this site with respect to Superfund’s National Priorities List;
- Participate and provide input to the clean up effort, and participate in meetings of the Navy’s Restoration Advisory Board; and
- Describe the status of the facility’s RCRA permit.

Other Superfund related comments addressed: the status of the Long Island Fisherman Building (the former power generating plant by Baron’s Cove); and the EPA decision that “no further action is necessary” at the North Sea Landfill Superfund Site in light of the continued presence of hazardous substances in Fish Cove.

The final CCMP includes an updated and expanded discussion of the former Naval Weapons Industrial Reserve Plant (NWIRP) site, due to its potential to contribute pollutant loadings to the Peconic River and Estuary. However, this site is not presently on the Federal government’s National Priorities List under Superfund; clean-up and investigations are being conducted under the corrective action program of the Federal Resource Conservation and Recovery Act (RCRA). The PEP will continue to monitor actions at the NWIRP through its member agencies (principally the USEPA, NYSDEC, and SCDHS) and participate in oversight of the eventual cleanup of the site. At the present time there are no plans for the PEP to participate directly except through its member agencies. The status of the facility’s RCRA permit is described in detail in the final CCMP. The most recent RCRA permit for this facility was issued on April 24, 2000 and will expire on April 30, 2010.

Specific information regarding the Long Island Fisherman Building (the former power generating plant by Barron’s Cove) in Sag Harbor has not been included in the final CCMP. This site is not a federal Superfund site on the National Priorities list; the PEP will, however, address any concerns regarding this site in the future. Regarding the North Sea Landfill, the final CCMP contains updated information, now stating that EPA is requiring the Town of Southampton to conduct additional benthic community and sediment toxicity testing, and that based on the results of that sampling, the current Superfund remedy may be evaluated. This is also reflected in the revised step addressing the North Sea Landfill site in the Toxic



Chapter.

### **MTBE**

Comments regarding the gasoline additive MTBE were to: ban MTBE from gasoline, immediately; seek alternatives to MTBE remediation; and notify residents in the event of an MTBE spill.

The final CCMP now discusses MTBE in detail, including actions underway to reduce or eliminate its use; this information is also reflected in a step supporting regulatory actions to reduce/eliminate the use of MTBE in gasoline. The final CCMP does not specifically address the issues of alternatives to MTBE remediation or notifications of residents in the event of an MTBE spill; the PEP believes these issues are adequately addressed through ongoing and existing programs, though the PEP may become involved in this in the future.

### **Boating**

Comments regarding boating included the need to address the issue of boat bottom paint, as any area where boats were traditionally stored and maintained is likely to have soil contamination.

The final CCMP includes a discussion of the issue of boat bottom paint, and a step to identify past and present boatyards as potential sources of heavy metal contamination to the estuary.

There was also a comment regarding the use of gasoline motors on Peconic Lake (also called Forge Pond), concerns regarding parking in the area, and enforcement of local laws regarding gasoline engine use on the lake. The Peconic Estuary Program is not aware of any state or local laws in effect prohibiting the use of gasoline engines on this waterbody. Neither the Program nor the CCMP is recommending any restrictions on gasoline engine use at this location at this time

### **Monitoring and Testing**

Comments regarding monitoring included suggestions to: Describe current and recent sampling efforts;

- Test fish in the Peconic River for bioaccumulation of organochlorine substances, as well as test fish bones in addition to fish muscle when analyzing freshwater and saltwater fish;
- Test Peconic Estuary sediments for toxics and radionuclides, especially near the Riverhead Sewage treatment Plant outfall;
- Study pollution from the aviation industry;
- Study toxics that might be coming into the estuary from the shellfish depuration program;
- Study the effects of pollutants, even trace doses, on larval stages of aquatic life; and
- Look into the high rates of breast cancer on Long Island.

The final CCMP includes an expanded discussion of current and recent sampling efforts for toxic contaminants. As discussed under the heading “Radionuclides/Brookhaven National





Laboratory” in this response document, once the results of EPA’s 1999 fish sampling analysis have been evaluated, additional sampling may be conducted, potentially including fish bones and sediments. The 1999 EPA fin and shellfish sampling for the PEP was of marine and estuarine species rather than freshwater species. As described in the CCMP, analyses are being performed for a full suite of chemical and radiological parameters. Finfish and shellfish sampled by EPA in 1999 will be analyzed for radionuclides, though analysis will be on what the NYSDOH considers the edible portion, which does not include the whole fish or fish bones. Freshwater fish were sampled and analyzed for a full suite of chemical and radiological parameters as part of the remedial investigation under Superfund for Operable Unit V at Brookhaven National Laboratory. As indicated in the final CCMP, EPA has committed to ongoing support in the form of sediment sampling, testing and analysis for chemical specific analyses as well as overall toxicity. The 2001 sampling effort will likely include analyses for radiological parameters for a subset of the samples collected as part of an initial characterization; candidate sampling locations for 2001 included the area around the Riverhead sewage treatment plant outfall in the tidal Peconic River.

Potential pollution from aviation industry sites is not currently described in the CCMP, however the PEP will keep this sector in mind under various steps contained in the CCMP, including those addressing RCRA inspections, environmental sampling and the development of pollution prevention strategies for particular areas or industry sectors. Any new or emerging concerns can also be identified through key regulatory agencies participating in the PEP management conference. The PEP does not believe that toxics that might be coming into the estuary from shellfish depuration program are a significant concern at this time and no specific steps addressing this potential source have been included in the CCMP. Studying the effects of pollutants, even trace doses, on larval stages of aquatic life has been identified as a concern and this has been addressed in the Habitat and Living Resources Chapter of the Plan; there is a specific step calling for research of lethal, sub-lethal and synergistic effects of toxic contaminants. The CCMP does not specifically address the issue of breast cancer or breast cancer rates. The PEP, through its member agencies, will continue to participate efforts to investigate breast and other cancers, and will take appropriate action based on findings. The CCMP does include numerous steps which can serve to reduce loadings of toxic substances and support clean-ups of contaminated areas.

#### **Toxics: Miscellaneous Sources**

Comments regarding other sources included:

- Toxics in paving materials are a concern; alternatives to current materials should be sought;
- Resources should be provided for regular inspections of retail stores to enforce the ban on the sale of illegal on-site disposal system products (deodorizers, drain cleaners, and cesspool additives); and
- The Plum Island sewage treatment plant should be included in the list of point source discharges to the study area.

Though not recognized as a significant source of toxics, the PEP sees the potential for impacts from paving materials and the CCMP includes steps to reduce the potential for toxic loading from road construction and operation/maintenance. The CCMP also highlights



provisions of the Town of East Hampton's Harbor Protection Overlay District requiring parking lots and driveways have unimproved surfaces or be constructed with certain specified materials and recommending these measures be adopted in other parts of the study area. The PEP would also entertain other or more specific management recommendations regarding paving materials. The CCMP now includes a step recommending that there be regular inspections of retail stores to enforce the ban on the sale of illegal on-site disposal system products (deodorizers, drain cleaners, and cesspool additives). The CCMP has also been revised to include the Plum Island sewage treatment plant in the list of point source discharges to the study area.

### **Placement of Long Island Sound Dredged Material**

Comments regarding dredged material placement focused on the potential for dredged material from the Long Island Sound to be placed in the Peconics, and the recommendation that such placement should not occur, as well as the need for adequate testing of and stringent criteria for the placement of dredged material.

The CCMP now describes how EPA and the U.S. Army Corps of Engineers have identified the likely need to continue marine placement of dredged material in the Long Island Sound Area. In 1999, the EPA in cooperation with U.S. Army Corps of Engineers issued a notice of intent to prepare an environmental impact statement to consider the potential identification of one or more placement sites for Long Island Sound dredged material. EPA and the Corps have decided to consider the use of four existing sites and their identification as dredged material placement sites under Section 102(c) of the Marine Protection, Research and Sanctuaries Act. Other alternatives will also be evaluated, including other open water placement sites and other placement and management options. Identification of a site does not itself result in placement of any particular material, it serves only to make the site a placement option available for consideration in the alternatives analysis for each individual dredging project in the area. The PEP participants consider it unlikely a placement site will be proposed within the PEP study area. The final CCMP includes a step calling for the PEP to participate in the EPA/Corps efforts to identify potential placement sites for Long Island sound dredged material. The final CCMP also continues to stress the need for critical evaluation of applications and permits for dredging and dredged material placement.

### **Toxics: General Comments**

Other comments regarding toxics included:

- Toxics were not adequately addressed in the draft CCMP;
- A request for a description of the standards that were used for the characterization of toxic substances in the Peconic System;
- The section of the draft CCMP on risk based criteria should be rewritten in a clearer manner or taken out;
- Stop the introduction of toxics into the Peconic Estuary; and
- Controls on toxics should include education/outreach, bans in sensitive areas, and taxes;





Overall, the Toxics Chapter has been greatly expanded, including the description of the standards that were used for the characterization of toxic substances in the Peconic System. A separate Characterization Report and expanded bibliography are also available. Additional steps for reducing toxics are also included in the Public Education and Outreach Chapter of the CCMP. The section of the draft CCMP on risk based criteria has been rewritten in a clearer manner. The final CCMP includes many steps to eliminate or reduce the introduction of toxics into the Peconic system, requiring efforts by government agencies, organizations, businesses, and the public. Methods for implementing these steps include education and outreach efforts, regulatory means (including bans), and providing financial incentives through tax programs and the use of selective sales fees.

### **Other Revisions**

In addition to the changes described above, additional objectives have been specified in the Toxics chapter, including: measuring the levels of toxics in the environment to discern trends in environmental quality and to determine the effectiveness of management programs; eliminating where possible, and minimizing where practicable, the introduction of toxic substances to the environment, through regulatory and non-regulatory means; and where toxic contamination has occurred, ensuring that clean-ups occur quickly, and according to the most appropriate and stringent environmental standards. Improving the quality of drinking water and sediments is also now included in the objectives. Measurable goals have also been developed and included for the Toxics Chapter.

Further:

- Copper has been added as a “Toxic of Concern” in the Peconic Estuary System due its presence in Peconic River sediments from historic discharges at BNL;
- Descriptions of previous pesticide “clean sweep” programs have been included;
- There is an expanded discussion of nonpoint sources of pollution, particularly for urban and suburban areas, and of the Town of East Hampton’s Harbor Protection Overlay District;
- There is new language regarded dredging and dredged material placement;
- The current memorandum of understanding between EPA and the Department of Energy regarding the facility-wide environmental management systems at BNL is described;
- A description of operations at the Plum Island Animal Disease Center is now included.
- Groundwater quality criteria are discussed;
- Two recent studies discussing ambient water quality in the Peconic River and Estuary are described; and
- EPA’s recent sampling efforts of sediments and fin fish and shellfish tissues are described.

## **Land Protection**

Comments regarding establishing a focus in the final CCMP for land protection included:



- that a land protection and development chapter should be created in the CCMP, and that the CCMP should be clear in outlining its objectives for the amount of land that should be protected throughout the basin;
- that a separate land use/management chapter should be created; topics could include Critical Natural Resource Areas, developmental trends, an analysis of current land use and the build out potential; and
- that a new chapter entitled “Critical Lands Protection Plan” should be created in the CCMP. The proposed chapter should include a land acquisition plan, zoning, land use planning, environmental review, and a regulatory framework.

The final CCMP includes a separate chapter addressing the protection of critical lands. The final Plan does not establish a numeric objective in acres for land to be preserved, but rather describes a process for identifying and prioritizing land to be protected, and the steps necessary to ensure that critical lands are protected. This chapter in the final CCMP also discusses integration with the Critical Natural Resource Areas discussed in the Habitat and Living Resources Chapter and other efforts/studies that have taken place under the Peconic Estuary Program, including identification of current land uses, development trends and build out potential, and the development of land management tools (other than outright acquisition), including but not limited to zoning, land use planning, environmental review, and regulatory processes.

Specific suggestions were made to:

- produce land use overlays for vacant, preserved, agriculture, wetland, residential, suburban, and urban areas;
- include in the CCMP an assessment of land use trends occurring in the region with additional attention to the way in which such trends (i.e., developmental pressure and nitrogen application) may be expected to impact water quality and public usage;
- Create a watershed management plan for the five East End towns;
- Produce a watershed management plan for the North Fork and Shelter Island, similar to the South Fork’s;
- Require, through the CCMP, all the East End Towns to complete a Local Waterfront Revitalization Plan (LWRP);
- Pay particular attention to shoreline development. Undeveloped shoreline should have priority in open space acquisition programs;
- Place restrictions on heavy land uses near delicate waterways and curtail asphalt paving near delicate waterways;
- Include a discussion of setbacks in the CCMP and have homeowners and officials in government consider setbacks in site planning (zoning) because of sea level rise and other factors; and
- Coordinate the findings and actions of the CCMP with SCPD reviews, particularly with respect to zoning, building, and wetland matters on Shelter Island.

The land use overlays suggested by the commentator have been prepared. Unfortunately, it was not possible to include them in the final CCMP. The program hopes to make this information available in the public summary; it is available in various Peconic Estuary



Program Reports and in large map form in the Program Office. The Critical Lands Chapter of the final CCMP and various supporting reports includes information on land use trends. This information together with the water quality/hydrodynamic model will be used to predict how the estuary will react in response to various development and land use scenarios. The final CCMP is a form of watershed management plan for the five East End towns, however it is possible and desirable for specific watershed plans on a smaller scale to be developed and the program would support any such effort. The development and implementation of subwatershed plans for embayments, tidal creeks and other waterbodies is included as an action in the Post-CCMP Management Chapter of the final CCMP. The south fork watershed management plan primarily addresses drinking water issues. The National Estuary Program does not focus on drinking water issues, though many actions in the CCMP would likely be compatible with drinking water source protection and management plans. The final CCMP does not require towns to develop local waterfront revitalization plans, though the Peconic Estuary Program encourages the development and implementation of such plans, and recognizes the incentives that are available to do so. The CCMP recognizes the importance of activities, particularly development, that take place on the shoreline. Many actions throughout the final CCMP address shoreline protection concerns. The Town of East Hampton's Harbor Protection Overlay District is presented as a model for managing waterfront properties, including certain land uses and asphalt paving. Proximity to the waterbodies is discussed in the final CCMP as a criterion in setting acquisition priorities. The use of setbacks as a tool for protecting lands is discussed in both the Critical Lands Protection and Habitat and Living Resources Chapters of the final CCMP to address sea level rise and other factors. The Peconic Estuary Program, through the CCMP envisions the coordination of findings and actions with existing review processes, such as those of the Suffolk County Planning Department, with respect to zoning, building, and wetland matters on Shelter Island and throughout the watershed and study area.

More generally, there were comments that: land acquisition is important; open space needs to be preserved; and also that the Peconic Estuary Program is treating the Peconic Watershed as sacred land.

The Peconic Estuary Program agrees that land acquisition is an important tool in protecting the estuary, and that open space needs to be preserved in order to support the environmental, cultural, and economic features that make the estuary and its watershed significant. The basis for this is provided in the final CCMP. The Program and the final CCMP recognizes that humans are part of the estuary system. The Program and CCMP also recognizes that sustainable development in the watershed is both possible and necessary.

## **Public Education and Outreach**

**Comment:** Public education and outreach is important. The Internet web site should be used to disseminate information, scientific findings should be publicized more often and there should be a newsletter to communicate information about the Estuary Program.



*Response:* These ideas were included in actions such as Establish and Promote an Information Resource Center (including a web site) and Convene an Annual State-of-the-Bays Conference. The Program Administration description in the Implementation Chapter now also specifically includes the preparation and distribution of a periodic newsletter/status report that will include information on scientific findings. It was also suggested that the public be educated through media advertising. The CCMP recommends using a variety of approaches and media for education and outreach campaigns, including print, radio and television. (PE-1, PE-6, PE-18, PE-10, PE-15)

**Comment:** Some of the actions in this chapter are written too broadly. Realistic, specific education goals should be set that can be attained in designated time frames. Should the purpose of public outreach be to cause or create support for the CCMP and its recommendations?

*Response:* In the final CCMP, we have identified priority actions and have provided additional specificity to actions that were too broad. The Management Conference also believes that actions, once in the final plan and agreed to by the Management Conference have been sufficiently subjected to review to be appropriate for public support. (PE-11, PE-12, PE-13)

**Comment:** Well-established and successful public environmental education programs exist and should be expanded to include more estuarine-related subjects.

*Response:* The CCMP now recognizes the existence of such programs and includes an action stating that such existing effective programs should continue. (PE-5)

### **Student Involvement**

**Comment:** Students should be involved (monitoring, replanting, educating the public, etc.) in carrying out the Plan.

*Response:* Several actions in the draft and final Plan are aimed at the involvement of students. These include d-POE-1.1, Continue/expand the Annual Peconic Children's Conference, and d-POE-6.4, Continue/expand the PEP Youth Advisory Committee. In the final CCMP, students and school groups are now also encouraged to participate in habitat restoration projects. The final CCMP also has a new action in the Public Education and Outreach Chapter regarding volunteer monitoring. The Accabonac Protection Committee offered to provide a project leader to start water quality testing with local high school students in the East Hampton area. The Final CCMP identifies the Accabonac Protection Committee as a responsible entity in this new action. (PE-9, PE-16)

### **Fertilizers**

**Comment:** Create an aggressive consumer-based education campaign for reducing fertilizer use.

*Response:* While Action N-5.3 in the nutrient chapter of the draft CCMP addressed the need



to improve the quality of groundwater with respect to nitrogen to prevent increases and encourage decreases due to domestic fertilizer use, a specific public education and outreach action addressing residential fertilizer use reduction was not in the draft CCMP. The Public Education and Outreach Chapter in the final CCMP now includes such an action. (PE-2, PE-17b)

### **Waterfowl**

**Comment:** The education program identified in the draft CCMP discouraging feeding of waterfowl should also identify the problem of feeding gulls, and that scraps of bread left for gulls also attract crows. Gulls and crows are predators of endangered colonial nesting birds.

*Response:* Two actions in the Public Education and Outreach Chapter now specifically address this issue, the action regarding the feeding of waterfowl and the education program for terns and plovers now more generally address the more general problem of feeding wildlife. (PE-7)

### **Toxics Management**

**Comment:** Make launching an aggressive consumer based pesticide use reduction campaign a priority.

*Response:* While several actions in the draft plan were intended to include education and outreach activities to eliminate or reduce pesticide use, a specific public education and outreach action addressing residential pesticide use reduction was not in the draft CCMP. The Public Education and Outreach Chapter in the final CCMP now includes such an action.

**Comment:** The program should identify environmentally safe products (soap, food, and pesticides) on the market today.

*Response:* The CCMP now reflects the need to identify such products in various education and outreach efforts, such as the Ultimate Users Guide and other pollution prevention materials. (PE-17a, PE-4)

**Comment:** Information regarding finfish, shellfish and wildlife consumption advisories should be in both Spanish and Greek.

*Response:* The CCMP now identifies these two target non-English speaking groups as well as the need to identify other potential audiences. (PE-8)

**Comment:** Better inform the public of the serious and irreparable damage that occurs when people are exposed to even low level radiation from the ingestion of food and water contaminated with radionuclides.

*Response:* The final CCMP also includes a commitment to discuss the issue of radioactivity in any materials specifically developed for the Peconic Estuary Program regarding fish and water consumption. (PE-14)



### **Pollution Prevention**

**Comment:** The North Fork Environmental Council stated it would be launching an education campaign called "Go Organic 2000".

*Response:* This type of effort was envisioned by the action in the CCMP regarding pollution prevention education and outreach activities. (PE-3)

The CCMP now includes a description of the public participation process that was followed for soliciting input on the draft CCMP, as well as the Public Participation Strategy to be employed during the implementation of the CCMP. New actions have been added as follows: recommending the continuation of existing effective environmental education efforts (other than those carried out by the PEP); developing and implementing comprehensive education programs to reduce residential fertilizer and pesticide use in the watershed; encouraging conversions to cleaner burning marine engines; encouraging alternatives to treated lumber and shoreline hardening structures; encouraging voluntary replacement of underground oil storage tanks exempt from current replacement requirements; promoting the establishment of local watershed associations; and recommending the establishment of citizens monitoring programs.

## **Financing**

Comments regarding financing addressed the need to provide funding for public education projects, especially pesticide reduction efforts; the need for Federal agencies to provide funding, including NOAA; and the need to fund: projects researching the impacts of treated lumber, the monitoring and research of habitats, and a dredging summit. The final CCMP describes the need to fund a variety of actions, including public education and outreach, obtaining funding from all sources, including the Federal government, and to address the specific issues mentioned.

One commentator suggested that Brown Tide research funding be re-directed to address toxic management issues. Because the Brown Tide funding has been appropriated at the Federal level for the purpose of addressing the Brown Tide issue, this is not possible. The CCMP does recognize the need to address toxic issues and identifies many actions of numerous toxic management actions. Another commentator suggested using available funding for small scale wetland restoration projects rather than more studies. The CCMP includes many actions, including those involving research, monitoring and implementation, of varying scales, addressing both preservation and restoration.

The need for funding for land acquisition was also noted, including the Federal government as a source. The discussion of land protection and funding for land protection has been expanded in the Financing Chapter and the new Critical Lands Protection Chapter. Establishing a citizen's budget oversight committee was recommended as was citizens allocating funding rather than governmental entities. Citizens presently provide input to the allocation of funding through the participation of the chair of the Citizens Advisory





Committee on the Management Committee. This process will continue in the implementation phase, where both governmental and non-governmental entities can provide input in the budgetary process. One commentor stated that \$15 million seemed inadequate for stormwater abatement projects. While a final figure has not yet been determined, the PEP CAC has suggested a figure of \$50 million is a better estimate of stormwater management needs.

One commentor questioned the source of funding for a particular action. In general, where funding for a particular action has been secured, it has been noted in the plan. The funding needs for most recommended actions has estimated but has not yet been secured; in these cases a particular source for the funding is not identified. Tax credits were suggested to help homeowners and businesses make improvements to help improve the region's environment. The CCMP now includes a revised discussion of tax credits and similar incentives. Two commentaries identified the need to better specify the funding necessary to carry out each action and step in the plan. Nearly all actions and steps in the Plan now includes a cost estimate (expressed in work years or in direct dollar figures).

The Financing Chapter has also been revised to recognize the recently enacted Suffolk County 1/4% sales tax program that will provide funding for CCMP implementation and County and local programs for land protection and acquisition. The CCMP now includes an action recommending a selective sales tax be established (on products such as fertilizers and pesticides) to fund environmental management programs. The CCMP also recommends that SRF funding be made available to private entities, and that 0% loans be available for land acquisition.

### **Post-CCMP Management**

One commentor suggested the PEP should have a citizens advisory committee with a budget. The final Plan describes a post-CCMP committee structure that includes a citizens advisory committee. The Management Conference intends to continue to fund CAC activities, consistent with available resources.

Several comments addressed the issue of post-CCMP management structure, suggesting the regional management alternative be considered, that the existing structure be legislatively created, and that the selected structure foster systemwide collaboration and accountability. While one commentor suggested a protected land-type structure, another questioned the advantage to the North Fork of incorporating the Peconic Estuary Program into the Pine Barrens Maritime Reserve Commission as the North Fork does not have pine barrens. The PEP Management Conference considered all these issues and will be continuing the existing management structure. This decision will be revisited during biennial reviews and changed if an alternative structure is determined to be appropriate.

Other comments asked about the final form of the CCMP and how public input in the draft would be shared. The final plan follows a similar format as the draft plan though additional



detail has been added. This document is being prepared to respond to public comments.

This chapter now includes a revised discussion of the PEP Environmental Monitoring Plan and Living Resources Research Plan. The current management structure will be continued during the implementation phase; this decision will be revisited during biennial reviews or as necessary. The chapter also describes the necessary coordination with the Federal Endangered Species Act and national and state historic preservation efforts.

## General Comments

Many general comments were submitted on the draft CCMP. These included comments that the draft CCMP was “great” and “something is actually being done.” One commentor expressed gratitude for the coherent presentation on the plan, and another stated that it was satisfying to see how much progress the program had made. The draft Plan was not without its detractors, however, with comments that the recommendations of the draft Plan were impractical to implement and without revision the plan could easily delay protection of the estuary because of legal battles and a lack of cooperation among stakeholders. One commentor found the draft CCMP too vague and noncommittal.

The Peconic Estuary Program management conference participants were pleased with draft CCMP document. Both the draft and final CCMPs document that a great deal of work has been accomplished, in terms of studying the estuary and its problems and threats and also taking steps to preserve, protect and enhance the estuary and watershed. In preparing the final CCMP, the PEP has attempted to develop specific and practical actions that are implementable, and in particular working with the responsible entities to garner support and commitments so that actions will be carried out. The Peconic Estuary Program expects to move ahead with implementing the CCMP, working cooperatively with all responsible entities and stakeholders. The PEP also recognizes that some mid-course corrections may be necessary during the implementation phase.

Commentors suggested: that the plan needs to be implemented quickly and that there wasn't time to waste, as the bays were being degraded; and that a common sense approach was needed, and that we shouldn't be putting things in the bay that don't belong there. It was also suggested that the CCMP needs to emphasize that protection of the Peconic Estuary in its high quality state is a better option (economically, ecologically, philosophically, etc.) than allowing it to degrade and then cleaning it up. One commentor observed that pollution is the biggest problem in the estuary; another, that finfish and shellfish need to be restored to the bay, and another, how flushing is important to the estuary. Environmental awareness was identified as being very important by one commentor; another stated that adequate financing and education would be cornerstones for enabling the program to succeed, and yet another, that public education and outreach should be worked on right away and that the Citizens Advisory Committee perspective is important.

The PEP and the final CCMP recognizes that the plan needs to be implemented quickly. In





fact, many of the actions are ongoing, meaning that implementation is already taking place to some degree. A common sense approach was taken in crafting many of the actions, which included seeking stakeholder input, and using that information in formulating actions. The CCMP relies heavily on a pollution prevention approach, trying to prevent problems from occurring and maintaining high quality environments where they exist and restoring those that have been degraded. The final Plan recognizes that water quality, habitats, and living resources are inextricably linked and that human impacts (“pollution”) are the greatest problem affecting and threatening the estuary system. The importance of the tidal flushing of the bay is recognized in the Nutrient and Habitat and Living Resources Chapters of the final Plan, in particular, but flushing should not be used as an alternative to reasonable treatment and management of pollutant sources. An effective public education and outreach program is clearly an important part of the plan, and awareness and action by residents, workers and visitors to the estuary is necessary for the success of the program. The Citizens Advisory Committee will continue to play an important role in the implementation phase.

It was suggested that an overall summary should be provided, tying together conclusions and recommendations with respect to water quality issues from all of the chapters so the reader can see the emergence of a coherent theory. It was also noted that some of the graphics were unreadable and many were unlabeled or did not include a key. One commentor provided numerous stylistic recommendations to improve the message that was being conveyed.

The introduction chapter of the Plan has been revised and expanded to provide a better overall summary of the Plan. A separate Public Summary Document will be prepared. Graphics in the Plan have been improved, including readability, labeling, and keys. The overall document was also edited and many stylistic improvements were made throughout the Plan.

One commentor questioned why the draft CCMP stated that expenditures should be split 50/50 between remediation and preservation, as preservation costs are often significantly lower than remediation costs (a significant exception being the purchase of lands or development rights).

The concept that both remediation and preservation initiatives are equally important is introduced in the Nitrogen Chapter, but applies throughout the plan. If restoring degraded resources always takes precedence over preventing problems or conversely, if only preservation efforts are pursued without regard for correcting existing problems, the Plan will not be successful. Clearly, both restoration and protection actions need to be taken in the estuary and its watershed. The presumption is to attempt to split expenditures 50/50 between remediation and protection, recognizing that eligibility requirements of certain programs may limit activities to one or the other.

Other commentors noted that there needs to be more local government activity in the implementation efforts of the Plan and that CCMP implementation should be made a standing agenda item for the East End Supervisors and Mayors Association meetings. Another commentor noted that it seemed that there were instances where the Towns of



Riverhead and Brookhaven need to be included or listed as responsible entities under the management actions, particularly if the Peconic River and its watershed are truly part of the Plan. The important role and responsibility that shoreline property owners have in carrying out the Plan was noted. It was suggested that two committees be created: an Environmental Oversight Committee, comprised of the various concerned environmental organizations, and a Financial Oversight Committee, to examine how public money is spent. One commentor asked about the total list of stakeholders, another suggested that a more diverse group of people should be on the CAC.

The Peconic Estuary Program recognizes the critically important role of local governments in implementing the Plan. The Program has periodically participated in End Supervisors and Mayors Association meetings and expects that this will continue in the future. A key part of the CCMP implementation phase will be involving, engaging, and supporting local government in their role in the CCMP process. The Towns of Riverhead and Brookhaven are important stakeholders, particularly in actions affecting the Peconic River and its watershed. The final Plan better reflects their role. There are numerous sections and actions in the final Plan that note the important role and responsibility that shoreline property owners have carrying out the Plan, for example, in the Plan's strong support for the establishment of Harbor Protection Overlay Districts based on the Town of East Hampton's model. The final Plan does not recommend the establishment of an Environmental Oversight Committee, but rather supports the continuance of the existing structure which includes a Citizens Advisory Committee and Technical Advisory Committee, both of which include representatives from various concerned environmental organizations. The final Plan does not recommend the establishment of a Financial Oversight Committee, but rather continues to rely on the existing Policy and Management Committees to ensure public funding is spent wisely and consistent with applicable laws, regulations and guidelines, with input from the three advisory committees. The final CCMP includes a corrected list of stakeholders as an appendix, including the membership of the Citizens Advisory Committee. The Citizens Advisory Committee remains interested in the participation of new members; interested individuals can get involved by contacting the committee chair or the Program Office.

The need to prioritize the actions, including prioritization by the agencies responsible for their further development and implementation was noted. It was also suggested that a timetable and budgetary analysis be created for the planning and implementation of each action.

The Final Plan includes a total of 79 priority actions. Tracking progress in carrying out these priority actions is an important part of the implementation process, along with making recommendations to the agencies responsible for carrying out those actions. The action plans and tables of the final Plan includes information on timetables for each actions as well as resource needs (both staff and funding) for carrying out each action. A complete accounting of progress in implementing the Plan will occur every three years consistent with EPA National Estuary Program guidance.

Concerns with enforcement and staffing were also expressed, including comments regarding:



how enforcement was incorporated into the plan, as enforcement can be a problem in environmental initiatives; the shortage of staff in enforcing current laws and who and how actions will be enforced; the general need for additional staff to implement the CCMP; and how the CCMP proposes little in the way of new legislation to help with implementation and enforcement mechanisms, without which too little of the CCMP goals and objectives will be accomplished.

The Peconic Estuary Program sees the importance of enforcement and staffing. The final CCMP provides better estimates of these resource needs for each action, both in terms continuing existing staffing levels as well as increasing staffing and enforcement resources as needed. The naming of responsible entities for each action was reviewed and updated in the final Plan. Many actions in the final CCMP rely on existing authorities, but where new authorities are needed, this is explicitly stated. In other instances, further study may be required before new or expanded authorities are called for to assist with implementation and enforcement.

Comments regarding goal setting included the comment that deadlines should be added to the establishment of goals. Another commentor noted that the goals, objectives and actions all be reviewed with an eye on coordination and more appropriate expression. Other comments suggested that the goals and benchmarks for measuring success be clearly identified throughout the CCMP. One commentor suggested that goals be based on optimal conditions for the Peconic Estuary and not to other polluted areas outside of the study area.

The final CCMP now includes measurable goals in each chapter. All goals, objectives and actions in the draft Plan were reviewed and improvements were made that are incorporated into the final Plan. The Environmental Monitoring Plan reflects monitoring efforts necessary to assess progress in achieving the Plan's measurable goals. The measurable goals for each chapter were developed based on the objectives included in each chapter, which were specifically developed for the Peconic Estuary and its watershed.

One commentor noted that bad journalism should be exposed and that the program should set the record straight, when needed, via editorials, and that bad press can be detrimental to the whole program.

The Peconic Estuary Program, including the Citizens Advisory Committee and Public Education and Outreach Coordinator strive to keep in touch with and be accessible to the local media, as described in the final CCMP. They will provide input when requested and will seek to provide corrected information as needed.

One commentor stated that a baseline for the estuary must be established before any water quality measures are taken; another that trends that exist regarding improvements in water quality should be examined, and further that a characterization of positive trends and negative trends would properly orient the reader to the state of the bays. It was also recommended that there should be a systematic survey of the PEP bathymetry by the USCOE's helicopter LIDAR system as well as intensive interviews with long-term local



residents. A hyperspectral imaging spectrometer was also suggested as a potentially useful tool for ecosystem management in the Peconics.

The information collected and assembled for the characterization elements of the CCMP serves as the baseline condition for water quality, habitats, and living resources in the system. Some of these data sets are substantial, other provide some basic but useful information. Information on trends will be presented and shared with the public on a regular basis as described in the Post-CCMP Management Chapter of the final CCMP. Additional work regarding the estuary's bathymetry is planned in 2001 through a cooperative effort between the Peconic Estuary Program and The Nature Conservancy, with the Marine Sciences Research Center at the State University at Stony Brook. Additional data gathering using remote sensing data is planned in the future, for efforts including land cover and determining eelgrass coverages, for example. The Peconic Estuary Program has in the past and will continue in the future to use information from user groups to fill data gaps and improve technical studies.

One commentor was concerned that the County proposition regarding the quarter percent sales tax, had not been well publicized. Other comments of a general technical nature included the observations that

- Water use overlays should be provided for fishing, dragging, shellfish, sailing, high speed boating, aquaculture, mooring, major harbor, and minor harbor areas; and
- There should be septic and point source outfalls and municipal treatment discharge overlays.

The County proposition regarding the extension of the quarter percent sales tax (a portion of the proceeds will be targeted towards the Peconic Estuary) has since passed. A discussion of this revenue source is discussed in the Financing Chapter of the final CCMP. The Peconic Estuary Program has impressive geographic information system (GIS) data layer coverages of the estuary and watershed. The Program hopes to expand the list of existing data layer coverages in the future to include many of the ones suggested by the commentor, to assist in studying and managing the estuary and communicating with the public. Data layer coverages are discussed throughout the final CCMP and in the Post-CCMP Chapter and in the Environmental Monitoring Plan.

While not comments on the draft Plan itself, the Audubon Society expressed interest in any estimates of the economic impact of bird and wildlife viewing. Another commentor expressed appreciation for receiving copies of some graphs that would be used in an elementary school classroom setting.

The Audubon Society and other groups, including teachers, are welcome to the wealth of information that has been gathered by and through the Estuary Program. A list of references is available in the Final CCMP, as is a list of Peconic Estuary Program Library Reports.



### III. Correspondence Sent During the Public Comment Period

#### Government and Universities

- D. Brown, USEPA, January 3, 2000, letter
- J. Heisler, USEPA, December 10, 1999, letter
- S. Hammond, NYSDEC, November 12, 1999, letter
- R. Draper, NYSDEC, November 22, 1999, letter
- V. Palmer, NYSDEC, November 16, 1999, letter
- C. LaPorta, NYSDEC, November 19, 1999, letter
- D. Barnes, NYSDEC, November 18, 1999, letter
- J. Pavacic, NYSDEC, November 12, 1999, letter
- J. Turner, NYS Legislative Commission on Water Resource Needs of New York State and Long Island, December 8, 1999, letter
- F. Thiele, State of NY Assembly, December 13, 1999, letter
- D. Kost, NYSDOT, November 2, 1999, letter
- C. McCaffrey, DOS, August 9, 1999, letter
- J. Pim, SCDHS, October 20, 1999, letter
- E. Cademartori, Town of Brookhaven, November 16, 1999, letter
- J. Weiss, Rutgers University, letter

#### Public Interest Groups/Organizations

- B. Smith, FISH Unlimited, August 9, 1999, e-mail; October 1, 1999, e-mail; October 18, 1999, letter; October 22, 1999, letter
- S. Cullen, STAR Foundation, October 20, 1999, letter
- J. Penny, South Fork Groundwater Task Force, November 17, 1999, letter
- R. Schiano, South Fork Groundwater Task Force, November 15, 1999, letter
- N. Kelley, P. Rabinovitch, The Nature Conservancy, November 10, 1999, letter
- R. DeLuca, Group for the South Fork, November 17, 1999, letter
- K. McAllister, Peconic Baykeeper, November 12, 1999, letter; *Suffolk Life Newspaper* December 1, 1999, article
- J. Evans-Brumm, Friends of Long Island Sound, November 15, 1999, letter
- B. Prentice, North Fork Audubon Society, October 26, 1999, letter
- Accabonac Protection Committee, November 4, 1999, letter
- G. Rivara, Cornell Cooperative Extension, November 15, 1999, letter

#### Commercial

- D. Bavaro, Shellfish Construction and Culture Co., November 15, 1999, letter
- J. Pillus, Aqua Culture Technologies, November 15, 1999, letter
- K. Rivara, Aeros Cultured Oyster Co., November 15, 1999, comment form
- R. Mendelman, Harbor Marina, August 10, 1999, letter

#### Citizens

- R. Tollefsen, *The Southampton Press*, November 11, 1999, article; November 7, 1999, letter
- B. McAlevy, letter
- A. Jones, October 16, 1999, December 2, 1999, letter



T. Sullivan, August 9, 1999, e-mail; November 12, 1999, e-mail;  
November 21, 1999, e-mail  
R. Smith, November 16, 1999, comment form  
P. Stoutenburgh, letter  
J. Murphy, letter  
S. Johnson, November 16, 1999, letter  
C. Garvey, December 1, 1999, letter  
J. Seeman, October 26, 1999, letter  
J. Kelly, November 5, 1999, letter  
B. Hajek, October 24, 1999, letter  
D. Heckman, comment form  
S. Donovan, October 13, 1999, letter  
J. Hellerbach, comment form  
W. Freese, October 8, 1999, letter  
P. Dickerson, comment form  
D. Berson, comment form  
C. Schubert, August 3, 1999, e-mail  
M. Rewinski, November 3, 1999, e-mail; November 11, 1999, comment form;  
November 19, 1999, e-mail  
M. Sanford, December 8, 1999, letter  
T. Rozakis, October 13, 1999, letter  
C. Black, November 15, 1999, letter  
J. Edler, November 3, 1999, letter  
F. Conant, November 12, 1999, letter  
L. Tuthill, November 12, 1999, letter





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